[illegible]: READ & STEVENS, INC. FOR AN UNORTHODOX WELL LOCATION AND NON-STANDARD OIL [illegible] UNIT, LEA COUNTY, NEW MEX.

CASE NO.

6683

APPLICATION,

TRANSCRIPTS,

SMALL EXHIBITS,

ETC.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

LARRY KEHOE
SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

October 31, 1979

Re: CASE NO. 6683
ORDER NO. R-6131

Mr. Sumner G. Buell
Jasper and Buell
Attorneys at Law
Post Office Box 1626
Santa Fe, New Mexico 87501

Applicant:

Read & Stevens, Inc.

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other Tom Kellahin, Roger L. Copple

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 6683
Order No. R-6131

APPLICATION OF READ & STEVENS, INC.
FOR AN UNORTHODOX WELL LOCATION AND
A NON-STANDARD OIL PRORATION UNIT,
LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on October 2, 1979, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 30th day of October, 1979, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Read and Stevens, Inc., seeks approval of an unorthodox oil well location 330 feet from the North line and 100 feet from the West line of Section 6, Township 11 South, Range 37 East, NMPM, to test the Devonian formation, Dickinson-Devonian Pool, Lea County, New Mexico.

(3) That the applicant further seeks approval of a 49.33-acre non-standard oil proration unit comprising Lots 4 and 5 of Section 6, Township 11 South, Range 37 East, NMPM, to be dedicated to said well.

(4) That the entire non-standard proration unit may reasonably be presumed productive of oil from the Dickinson-Devonian Pool and that the entire non-standard oil proration unit can be efficiently and economically drained and developed by the aforesaid well.

(5) That the proposed unorthodox location is projected to be high on a Devonian structure.

(6) That the Dickinson-Devonian Pool is a water drive reservoir.

(7) That a well drilled at the proposed unorthodox location is necessary for the maximum efficient recovery of the hydrocarbons underlying the proposed non-standard proration unit.

(8) That an offset owner with interest in the N/2 of Section 1, Township 11 South, Range 36 East, has objected to the proposed unorthodox location in said Section 6.

(9) That a well at the proposed location is at a standard location relative to the North and South lines of the non-standard proration unit.

(10) That a well at the proposed location is 70 percent closer to the West line of said proration unit than permitted by Division Rules and Regulations.

(11) That a well at the proposed location will have an area of drainage in the Devonian formation which extends 5.9 net acres outside the proration unit more than a well located at a standard location thereon.

(12) That to offset the advantage gained over the protesting offset operator, production from the well at the proposed unorthodox location should be limited from the Devonian formation.

(13) That such limitation should be based upon the variation of the location from a standard location and the 5.9 net-acre encroachment described in Finding No. (11) above, and may best be accomplished by assigning a well at the proposed location a non-standard location penalty factor of 0.72 (100 percent North/South factor plus 30 percent East/West factor plus 85 percent net-acre factor divided by 3).

(14) That approval of the subject application subject to the above limitation will afford the applicant the opportunity to produce its just and equitable share of the oil in the subject pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That an unorthodox oil well location for the Devonian formation is hereby approved for a Read and Stevens, Inc. well to be located at a point 330 feet from the North line and 100 feet from the West line of Section 6, Township 11 South, Range 37 East, NMPM, Dickinson-Devonian Pool, Lea County, New Mexico.

(2) That a 49.33-acre non-standard oil proration unit comprising Lots 4 and 5 of said Section 6 is hereby established and shall be dedicated to the above-described well.

(3) That said well is hereby assigned a non-standard location penalty factor of 0.72 in the Devonian formation, subject to a non-standard acreage factor of 1.23, for a combined allowable factor of 0.89.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

SEAL

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY
Director

fd/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
Oil Conservation Division
State Land Office Bldg.
Santa Fe, New Mexico
2 October 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Read and Stevens, Inc., for an unorthodox well location and non-standard oil proration unit, Lea County, New Mexico.

CASE 6683

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division:	Ernest L. Padilla, Esq. Legal Counsel for the Division State Land Office Bldg. Santa Fe, New Mexico 87503
For Read and Stevens:	Sumner Buell, Esq. JASPER AND BUELL Santa Fe, New Mexico 87501
For Tenneco:	W. Thomas Kellahin, Esq. KELLAHIN & KELLAHIN 500 Don Gaspar Santa Fe, New Mexico 87501

I N D E X

E X H I B I T S

MR. STAMETS: We'll call next Case 6683.

MR. PADILLA: Application of Read and Stevens, Inc., for an unorthodox well location and non-standard oil proration unit, Lea County, New Mexico.

MR. BUELL: Mr. Examiner, I'm Sumner Buell of the firm of Jasper and Buell, appearing on behalf of the applicant.

I will have two witnesses.

MR. STAMETS: Other appearances?

MR. KELLAHIN: Tom Kellahin of Santa Fe, New Mexico, appearing on behalf of Tenneco, and I have one witness.

MR. STAMETS: I s that all the appearances? I'd like to have all the witnesses stand and be sworn at this time, please.

(Witnesses sworn.)

COLIN R. McMILLAN

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. BUELL:

Q Would you state your name, please?

A. Colin R. McMillan.

Q. And, Mr. McMillan, where do you reside?

A. Roswell, New Mexico.

Q. What is your occupation, Mr. McMillan?

A. I'm a consulting geophysicist.

Q. Mr. McMillan, have you previously testified before the Oil Conservation Division or one of its examiners and had your qualifications accepted as a matter of record?

A. No.

Q. Would you briefly outline for the Examiner your educational background?

A. I received a BS in geology from the University of North Carolina in 1957; served in the Engineers in the Marine Corps for three years. At that time I went to work for Texaco, Incorporated, in 1960 in their Roswell Division, or Roswell District, located in Midland, Texas, and moved to -- remained in the Roswell District and moved to New Mexico in 1962, early '62.

And in 1964 I left Texaco and became a consulting geophysicist and have done that to date.

In addition, I am President of Permian Exploration Corporation, which is a geophysical exploration corporation.

Q. And are you familiar with what is sought in this application, 6683?

A. I am.

MR. BUELL: Are the witness' qualifications acceptable?

MR. STAMETS: They are.

Q. (Mr. Buell continuing.) Referring you to what has been marked for identification as Applicant's Exhibit Number One, would you please explain to the Examiner what this exhibit shows?

A. This is a seismic interpretation of the Devonian formation in -- located in north Lea County in Townships 10 and 11 South, Ranges 36 and 37 East, a portion of those townships, showing a 50-foot contour interval, and it's a scale of 1 inch/2000 feet.

Q. And could you identify for the Examiner the proposed location of the well the Applicant seeks to drill in this case?

A. The applicant wishes to drill a well in Section 6, 11 South, Range 37 East, in the extreme northwest corner of that section, 100 feet from the west line and 330 feet from the north line.

Q. And how was this location picked?

A. Well, the location is based on the seismic interpretation I did and is a compilation of several sets of data that I interpreted for my client, Read and Stevens, or for Read and Stevens, and others, I should say.

Q And what data did you use to --

A. Well, the data specifically in the drill site area, I used a seismic line that was done by Dawson Geophysical for Tom Ingram in 1968 and subsequent to that, examining that data and other data, I ran two seismic lines, contracting Teledyne Exploration to run two seismic lines, one noted on the map as LCH No. 1 and the other located -- noted on the map as LCH No. 2.

The data shot in 1968 was shot with dynamite as the energy source. The data shot in 1978, which is the Teledyne data marked LCH 1 and 2, used a vibroseis energy source.

MR. STAMETS: Mr. McMillan, I see Line No. 2, LCH Line 2, starting in Section 5. Could you tell me where Line No. 1, LCH Line No. 1 would be?

A. It starts in Section 7 in the same township.

MR. STAMETS: Okay, I see it, yeah.

A. And it proceeds north through the Gulf Prior in Section 34, 10, 36.

Q. Would you explain to the Examiner the difference in reliability of the 1968 seismic work as opposed to that in 1978?

A. Well, in my opinion, the 1968 data was shot using a technique that we don't use now, at least we don't use in this area, which fourfold common depth point

stack.

Q. What does that mean?

A. Well, that means that there are four recording points and four energy source points and those four different points are added together by use of the computer to have the energy -- have one common depth point as the source -- as the reflecting point. So we have four -- we add four different recording points, four different source points, we add those four together to get one common depth point. Now that's what we did in 1968, or that's what was done in 1968 by Dawson Geophysical.

In 1978 we used twelvefold common depth point, or as we call it, CDP. We had twelve energy sources and twelve recording points, and those twelve points were added together to get the one common depth point.

The purpose of a common depth point stacking is to maximize signal and minimize noise and in my opinion, the twelvefold does a much better job of maximizing the signal and minimizing the noise than does fourfold.

Q. Would it be fair to say that the twelvefold method provides more reliable information?

A. That's my opinion.

Q. And as the bottom line.

A. That is my opinion that the reflection quality is far superior at the Devonian level on the twelvefold

than it is on the fourfold.

Q. Now, based upon your interpretation with the seismic information, did you have an opportunity to correlate the seismic interpretation with any existing wells in the area?

A. We tied to a number of wells. We tied to the specifically, the closest well we tied to was the Gulf No. 1 Crier in Section 34. We tied to the Magnolia Dickenson in Section 33. We tied to the Ingram Well located in Section 1 of 11 South, 36 East.

Q. What -- based upon the contours that have been interpreted here, what is the degree of accuracy of these contours based upon the seismic information?

A. Well, the best answer that I can give you is that the geophysicist likes to think he's plus or minus 50 feet; however, with close well ties and with high quality data, it's my opinion, and this is what I conveyed to my client when I recommended drilling the test, that with the twelvefold data I am predicting a 25-foot, 25 feet would be-- plus or minus, would be as close as you could reasonably hope for.

Q. Why did you recommend this proposed drilling location in Section 6, which would be 100 feet from the west line and 330 feet south of the north line?

A. Because based on the best data, and I want

to emphasis that the twelvefold CPD data, LCH Lines 1 and 2, is the best data, based on the best data that is the optimum location.

Q. And let me ask you why geologically speaking you feel this is the best location.

A. Well, because it's the -- in my opinion, after examining the data and making the picks on the data and adjusting the data for velocity variations, this ends up to be the high point.

Q. In other words, this is the best geological point available.

A. It's the best geophysical point and so further, it's the best geological point.

Q. All right.

A. Since this is a geophysical prospect.

Q. Referring you to what has been marked as Exhibit Number Two -- is there anything else you'd like to add on Exhibit Number One?

A. Not that I can think of.

Q. Would you refer to that and explain to the Examiner what that shows?

A. Well, this is a draw cross section and I'd like to say first, for the record, that this was prepared by Edward K. David in consultation with me, and it is a well log cross section going through the Gulf Crier to the pro-

posed location and south to the Tom Ingram No. 1 Grannie in Section 1. I believe that's 11, 36.

Q. And does that bear out, or tend to correlate your seismic information?

A. Well, this is the information that we had to, in order to make the seismic map.

Q. Mr. McMillan, would you recommend, based upon what information is available to you from correlations with other wells in the area, as well as your seismic information, would you recommend drilling in Section 1 offsetting Section 6 to the west?

A. I think that the optimum location is in Section 6. If you were to drill in Section 1, in my opinion your risk is higher.

Q. Significantly higher?

A. Well, we're talking about having this -- let me go through the reasoning for this.

The high point that I've mapped on the best data has a datum of a -8260. The Gulf Crier Well, which produced something slightly over 155,000 barrels of oil out of the Devonian and then watered out, we would be 34 feet high to that well.

If we had a plus or minus 25 feet limit of error, then we would come into the datum, and let's say we were on the low side, which I might add that's what all

geologists accuse geophysicists of doing, we were to come in on the low side, we'd be 82 -- that's 85, or 9 feet high to the well, to the well that's watered out.

Q. That's the Gulf Crier Well up in Section 34?

A. Yes, and it certainly runs considerable risk by -- even if you came in at that datum you'd run a considerable risk to it tight, because you'd only be 9 feet above the water.

Q. Whereas, you believe that you were in the vicinity in this area of 34 feet above the water?

A. Well, I'm saying -- I'm giving the worst case.

Q. Uh-huh.

A. The worst case is if we missed that 25 feet low we're only going to be 9 feet above the water, so when you're dealing with this kind of thing and you recognize the limit of error of the seismic tool, you've got to drill your best location. You can't spend, and it's my opinion that this well will cost in excess of $700,000 to drill and equip, you can't spend that kind of money without drilling the absolute best location.

Q. Okay.

A. And I might add that when this project -- when I worked on this project, I was very emphatic with my

client that you've got to drill this location. You've got to get up close to that line and drill there or don't do it.

Q. Okay. Mr. McMillan, is it your opinion that the granting of the application would prevent waste, protect correlative rights, and avoid the unnecessary drilling of high risk oil wells?

A. I think the answer is yes.

Q. Were Exhibits One and Two prepared by you or under your supervision at your direction?

A. No, Exhibit Two was prepared in consultation with Mr. David. His office is across the hall from me, and who I've worked on a number of projects with.

Exhibit Number One was prepared by me.

Q. Okay.

MR. BUELL: I would move the admission of Applicant's Exhibits Number One and Two.

MR. STAMETS: Without objection they will be admitted.

MR. BUELL: I have nothing further of this witness.

MR. STAMETS: Are there questions of the witness?

MR. KELLAHIN: Yes, I have some.

MR. STAMETS: Mr. Kellahin.

CROSS EXAMINATION

BY MR. KELLAHIN:

Q. Mr. McMillan, did you prepare the Devonian structure map upon which the seismic information has been composed?

A. Well, I picked all of the points, yes.

Q. The structural contours on the Devonian.

A. Oh, yeah, I contoured the map.

Q. You contoured the map. That's what I wanted to understand. Mr. David didn't contour this map.

A. I don't believe he did. It's been about a year, but I'm almost positive that I -- that I did this. This looks like my --

Q. The information you used, Mr. McMillan, to prepare this exhibit is information compiled up through what period of time?

A. Through 12-5-78. I might say that that little dashed line there that goes around Sections 1 and 6 --

Q. Yes, sir, I'm getting ready to ask you about that line.

A. Yeah, that -- well, that line, I didn't put that one on. Okay?

Q. That's what I'm trying to find out.

A. All right.

Q. What is your understanding of that dashed line? What is that on there to represent?

A. Well, the assumption is made since the Gulf Crier watered out, that that is the oil/water contact.

Q. Let me -- let me clarify that. The Gulf Crier Well watered out at some particular depth.

A. Out of the Devonian, the map you're looking at.

Q. Right, at the Devonian, and that dashed line would represent what could be assumed to be the oil/water contact contoured in Sections One and Six.

A. I think that's a reasonable assumption, yes.

Q. But you didn't do that?

A. No, but I did look at the records of the Gulf Crier and noted that it watered out.

And, you know, that would be --

Q. Do you disagree with that dashed line --

A. Do I disagree?

Q. -- the way it's outlined there?

A. Oh, I think that's about the way I'd put it.

Q. Okay. What did that Gulf Crier produce in its total life from the Devonian, Mr. McMillan?

A. Let's see if I can give you an exact --

let's see, I believe it's on the cross section -- 156,548 barrels of oil. Mr. David added that up but that's about what my memory of it was.

Q. Did you -- that Gulf Crier Well is on the cross section, isn't it?

A. Yes, uh-huh.

Q. How many feet of net pay in the Devonian is attributable to the production from the Gulf Crier Well?

A. Let me see, it looks like it's about 14 feet and I think that at one time I looked over those drill stem tests, and I think it pretty well confirmed that.

Q. All right.

A. Well, it would be -- it would be less than 16 feet because they ran a drill stem test over the zone and they did recover some water, and it -- Mr. David has shown it at about 14 feet, and I -- maybe 13 or something like that.

Q. Okay. What does the porosity show?

A. Well, just looking at the log, looking at the drill stem test information specifically, you'd have to assume good porosity. It flowed 138 barrels of oil in 4 hours. That's pretty good porosity.

Q. What, 7 percent, is it?

A. I cannot calculate porosities. I don't know, but I can tell you that if you flow 138 barrels in 4

hours it's real good.

Q. All right. Have you made any volumetric calculations on the acreage drained by that Gulf Crier Well?

A. The answer is that I have not. There have been some made but I have not.

Q. The hatched circle that we've been talking about --

A. Uh-huh.

Q. -- in Sections 1 and 6, does that represent the Devonian reserves after the Gulf Crier Well had completed producing from the Devonian? That's what it reflects, isn't it?

A. Yeah, I think that's the assumption, that --

Q. Okay.

A. That the Gulf Crier has moved the oil/water contact up so that you can't go in there and drill a well flat to the Gulf Crier and hope to have a commercial producer, or you're going to have to be awfully lucky if you do.

Q. Okay. Now I assume from your testimony that the Dawson seismic information that's platted on -- on the exhibit, you've ignored that information, have you?

A. Oh, no, I haven't ignored it.

Q. That's been included in here.

A. The Dawson Line No. 1, which is shot points

140 through I think it's one-seven -- no, we show one-one on the map, it's included, and certainly is an integral part of the interpretation, but the Dawson data is, as I explained earlier, Mr. Kellahin, is just not the quality of the -- of the Teledyne data.

Q. If you'll bear with me, I would like to go through the LCH Line No. 1 and pick out the shot points.

A. Okay.

Q. We start down there with shot point No. 5, is it?

A. Yes, sir.

Q. And then it goes up to the north to No. 10 and then you get a shot point 15 and then 20 and then 25, and then it goes up into Section 34 to be shot point 30, is that right?

A. Uh-huh.

Q. All right. What is the footage location of shot point 25 from the west and north lines of Section 6, can you tell me that?

A. I don't have an engineer scale so I can't tell you. I can give you a pretty good guess.

Q. Can you approximate what that is?

A. Oh, it looks to me like it's about 700 feet from the west line and about 1000 feet from the north line. I can give you a better answer if -- that's just an eyeball.

Q. Now going from east to west across the plat, if you pick up the LCH line two, we start at that point, with shot point 60. We then hit 55, 50, 45, 40, and then there's a shot point 35.

A. Uh-huh.

Q. What's the location of that shot point?

A. That is about 150 feet from the west line and about 400 feet from the north line. I really need an engineer's scale again to pin it down. I would say 450, probably, if my memory serves me correctly, it's 450.

Q. So the --- you said 450?

A. Yes.

Q. So the proposed unorthodox location is going to be some 50 feet closer to the west line than shot point 35 and some 120 feet farther north than shot point 35.

A. Based on the geology I certainly wouldn't object to 150 feet location and a 450 location.

Q. Do you believe that an unorthodox location at 450 from the north line and 150 from the west line, would put you in about the same position structurally as -- as the requested unorthodox location?

A. Uh-huh.

Q. Where would a standard location in Section 6 put you?

A. Well, it would put you --

Q. A standard location would be 330 out of the corner.

A. Well, I guess it would put -- you see, there's a line 4 that is some other data that -- there is a point on that line 4 that I don't consider very reliable, and that data is data that I checked and do not have -- I haven't been able to recheck, so I'm not putting a lot of faith in that data, but I am putting faith in the data that -- the other data, would look like it would be -- based on my best opinion, I'd say it would be 10 feet low to the location that I suggested.

Q. All right. A standard location, the closest standard location would be 10 feet lower than the 100 foot location, 100 feet from the west line?

A. Correct. Correct.

Q. Okay.

A. And therein lies the problem. If you've got -- if you're 25 feet low, and I think that -- and I feel strongly that this prospect will tie. I probably in retrospect can give you a better answer, but based on my experience, I think that the limit of error is plus or minus 25 feet for this data. If that's the case, then we would be, according to the best of my calculations, we'd be 1 foot low to the Gulf Crier if we drilled there.

Q. At the standard location?

A. Yes. If you drilled a standard location, then you'd be 1 foot low if you mistied on the bottom side of the plus or minus 25 feet.

Q. What would be the boundary of the 49-acre proration unit in Section 6? Do you know what the footage distances are on each side of that?

A. I think Mr. Buell is going to have to answer that question.

Q. My question is, Mr. McMillan, what portion of the requested non-standard proration unit is going to be potentially productive from the Devonian?

A. Boy, I'd have to have an engineer's scale to figure it out.

Q. You've not studied --

A. I guess we could draw one.

Q. You've not studied that specifically to determine what portion of this proration unit is productive?

A. No.

Q. Okay.

MR. STAMETS: Let me ask a question while we're right at that point.

What acreage is proposed to be dedicated to this well? Would it be the west half of the southwest quarter of Section 6, or what would be the southwest quarter of Section 6?

MR. BUELL: I believe it's Lots 4 and 5 and 6, I believe.

A. If this were a standard -- if this were a standard section, it would be the northwest northwest.

MR. STAMETS: Yeah, okay, but basically what we've got is the south half of a section here, so it would be the 49-acre tract that is the northwestmost in the partial section.

MR. BUELL: Correct. And if it's going to become a rectangular shape, it would have a north/south axis.

MR. NUTTER: Dick, there's a little lot up in the extreme northwest corner that's 14.75 acres.

MR. STAMETS: Uh-huh.

MR. NUTTER: And then the lot immediately south of that has 34-something.

MR. STAMETS: So there are two lots --

MR. NUTTER: And they add up together to make 49.33.

MR. STAMETS: Okay.

Q. (Mr. Kellahin continuing.) Mr. McMillan, I'd like to show you what I've marked as Tenneco Exhibit Number One, and ask you if you can identify that?

A. Yeah, this is a report I did in connection with this map.

MR. KELLAHIN: If the Examiner please, I'd like to move the introduction of Tenneco Exhibit One into evidence.

MR. STAMETS: That will be admitted.

Q. If you'll turn to the second page of that report, Mr. McMillan, you've indicated that shot point 35 had approximately 34 feet of additional structure to the Gulf Crier.

A. Correct.

Q. You also go on to recommend that the Devonian test be drilled at a location 450 feet from the north line and 150 feet from the west line. Is that still your testimony?

A. That's what I recommended. Mr. David recommended 100 and 330, and I don't think there's enough difference, as I testified earlier, so I'd go for 150 and 450.

Q. Where would a location in Section 1, 330 out of the north and east corners of that section, where would that place you on the Devonian structure?

A. Well, you know, if you look at the map, and you consider the Dawson data, you'd say you're going to be high, but if you consider the Dawson data is of poor quality, and that you need to rely on the LCH data, which I did, and I think the report -- let me go back to the report, since

you've introduced it, I think I discuss that data quality. The CP on the Dawson, or the CDP, which is common depth point, shot by Dawson is considered good at the Abo and Bough C levels and fair at the Devonian. The data quality of the GSI, which is that stuff further north, or the data further north, and the Teledyne data is considered excellent on all horizons. So I rate the Devonian on the Dawson data as fair and on the LCH lines, or the Teledyne, which are synonymous, as excellent at the Devonian horizon.

And that's what you've got to go back to, is what you think the best data is.

Q. But you used that data in drawing the contour lines for the Devonian structure.

A. That's right, but I didn't use it when I selected the location.

Q. But your structure map shows that the top of the -- this Devonian anomaly is going to be at a depth of 8250.

A. If you believe the Dawson data. If you believe that the -- if I believed that the Dawson data were excellent, which I didn't say in the report, I said it was fair. If you believe the Dawson data were excellent, you would, but you know, I sat down with that data and looked over it and sweated over a location, and said that's where you ought to drill.

Q. And after doing so, Mr. McMillan, then you drew the structure map.

A. No, no. No, no. I drew the structure map, I picked the seismic cross section, drew the structure map, looked at all the data, and said that's the best spot.

Q. At that point you didn't re-draw the structure lines to show the top of this Devonian anomaly to be farther into Section 6.

A. I honored all the data but you see, in any kind of seismic interpretation it's a judgment thing, and my judgment, based on nineteen years of experience, was that's the place you ought to drill.

Q. What is the top of the Devonian anomaly in here? What do you think the depth of that is?

A. Well, the way I have it mapped, and as I pointed out earlier, we're talking about, in my opinion, that we ought to tie within plus or minus 25 feet, I would say that it's probably -8260 at shot point 35.

Q. What percentage of this Devonian anomaly is outside of Section 6, or outside of the 49-acre proration unit?

A. I would say it depends on how you approach the problem. If we're saying that the best data indicates the high point is at 35, then I guess you'd have to do a volumetric study, which I haven't done.

If you just take that line that Mr. David's drawn in there, oh, I'd say about a fourth of it.

Q. A fourth of it is going to be in Section -- in the proration unit.

A. I'd say that's the minimum, but you understand that the high point, in my opinion, based on my examination of the geophysical data, is there at shot point 35, so it -- that may not be the exact numbers. I would guess, if anything, it would be more than that, but that's -- I can't give you a better answer than that.

Q. Based upon your geophysical study of this area, Mr. McMillan, what is going to be the drainage pattern for the proposed well if drilled at the requested location?

A. Well, I haven't qualified myself as an engineer, although I do quite a bit of geological work, so if you'll accept my testimony on that basis, I'll give it to you.

Q. I'd be interested in what your opinion is.

A. Well, I think you're going to drain out of 6 and 34 and 1.

Q. Do you have an estimate of what portion of the production from the proposed well is going to come out of Section 1?

A. I really don't, and I, you know, it would depend on what happened in Section 1. I don't think anybody

can give that answer.

Q. Do you know whether Read and Stevens proposes to drill a well in Section 1?

A. I don't know.

Q. Do you know what the ownership of the Section 1 and Section 6 are?

A. I think that the attorney has that. You know, and I want to give you the most honest answer that I can on whether they'll drill it or not, when I say I don't know, you've got to see how the well performs. Okay?

Q. Let me ask you this. Is not Read and Stevens the majority working interest owner in Section 1?

A. I'm not absolutely familiar with all the numbers. I'd rather the attorney answer that question. He's got them.

Q. Have you recommended to Read and Stevens that they locate a Devonian test in any portion of Section 1?

A. In this kind of prospect you drill your best location and then you look at it and then you go from that.

Q. What does the proposed Devonian test at this location, what's that going to cost, do you know?

A. I have not seen the AFE but based on other experience I have in the area, and also on conversations with Read and Stevens, it's going to cost in excess of $700,000.

Q. And what's the current oil price that the operator will realize from this well?

A. It's either $29.50 or $30.00, somewhere in there, depending on what Congress does to the oil industry. It could reduce that price significantly.

Q. Have you made any calculations to determine what volume of oil production from the Devonian is going to be necessary in order to pay out this well?

A. I don't know what all the royalty burdens are, but I can give you a horseback guess, assuming an 80 percent royalty. You're talking about, oh, probably 30- or 35,000 barrels. That would be with 80 percent royalty.

Q. Okay. Exhibit Number One introduced by Tenneco shows that Mr. David has made some reservoir calculations, some volumetric calculations, and indicates a million barrels of oil to be recovered from thid Devonian anomaly. Do you agree or disagree with that estimate?

A. Well, I told you that earlier.

MR. BUELL: Mr. Examiner, I'm going to object finally. We tendered this witness as a geophysicist for interpretation. He's been asked for geology, reservoir engineering, economics, and prediction of the Federal government, and I think we're going a little far afield.

MR. KELLAHIN: Mr. McMillan has made certain conclusions and he's reached the assumption that a pro-

posed location as requested by the operator is going to be the best one, and I want to determine the extent of his knowledge and upon what he bases those conclusions.

MR. STAMETS: I don't believe that Mr. McMillan is the source for the million barrel figure and I don't believe it is appropriate to cross examine him on that.

Q. (Mr. Kellahin continuing.) I don't believe you've told us where a standard location 330/330 from the north and east lines of Section 1 would place you on this Devonian structure.

A. Well, it would place you between the 8260 datum and the 8285, along that line of traverse on LCH No. 2, assuming that we tied the map.

You see, when you make a seismic interpretation you also, in addition to picking the records, you make a velocity interpretation, and the velocity interpretation was just applied to those points that are shown on the map.

Q. Do you have a recommendation to the Examiner with regards to a penalty factor to be assessed against this well to offset the advantage in location?

A. I certainly wouldn't.

Q. Do you think it protects the correlative rights of the working interest owners and the overriding royalty interest owners in Section 1 to place a well in Sec-

tion 6 100 feet from the section line?

A. Well, let me put it this way. If you were to drill a 330 location from the north and west of Section 1, and I miss that 25 feet limit of error that I've discussed several times, and you got a dry hole because you were one foot low to the Gulf Crier, then nobody is going to benefit and there will never be any other drilling in that vicinity. Just based on my experience in the exploration business, I would say that you got the best chance to find the oil by drilling it. That's the -- that's the spot that I said is the best. So therefore, if you don't drill there, I don't think you ought to drill anywhere.

So I don't --

Q. The closest standard location would be 330 from the north and west lines of Section 6, and you're telling me that a standard location runs a substantial risk of encountering water.

A. I'm saying that your odds are increased by getting 10 feet higher.

Q. A portion, then, of the proposed non-standard proration unit is not going to be productive in the Devonian.

A. Go over that one again, please.

MR. BUELL: I don't understand it.

Q. You're concerned about the oil/water contact in Section 6.

A. Yeah.

Q. You've not scaled out where the 49-acre non-standard proration unit is, and I'm trying to find out where you anticipate that oil/water contact to cut through the non-standard proration unit.

My point is, I want to know how many non-productive acres you're going to dedicate to this well.

A. Well, I'll just have to scale it off. I can give this statement; that most of it, certainly, most of the northwest portion of 6 that would -- is this 49-acre proration unit that we're talking about, would be above the oil/water contact if the map tied the way I've got it mapped.

MR. STAMETS: While we're on this point, with your 25-foot variation, it could easily all be productive, right?

A. That's right. If you were 25 feet higher than the map, then certainly quite a bit more of 6 would be productive.

MR. STAMETS: Do you feel like it would be possible to say with any degree of certainty that any part of the proposed proration unit was not productive?

A. Not with an absolute degree of certainty. If that's the question, the answer is no.

MR. STAMETS: Okay, thank you.

Q. (Mr. Kellahin continuing.) Mr. McMillan, I

have one last question.

How else are the owners in Section 1 going to be able to compensate for the location requested by Read and Stevens except to do -- except to drill a Devonian test 100 feet from the east line and 330 from the north line in Section 1?

A. Well, I -- I would say this. I guess they would have to wait till the well was down before they could make that decision about how they could best protect their -- or get their oil out.

Q. Yep. If the well does produce from the Devonian and confirms your opinion that there is Devonian production, as indicated on your plat, then how are those interest owners going to protect themselves, unless the Commission penalizes the production of the Read and Stevens well? Or an offset well is drilled at a similar location?

A. Well, again, I think I'd almost have to be a petroleum engineer to answer that question for you, and I'd also have to wait until the well was down and evaluate the well, and then I think any decision I would make on that would be after consultation, after examination of the logs and structural position and the seismic, and all the data we got, and after I -- after I did that and sat down with the engineer, then I would decide where to drill, or whether or not to drill.

MR. KELLAHIN: I have nothing further.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. McMillan, in response to one of Mr. Kellahin's questions I believe you said that with a well at the proposed location, and even at your alternate location, there would be drainage into Section 6 from Section 1 and probably Section 34?

A. Well, I'm not a petroleum engineer and I don't want to mislead the Commission, but I think that the answer to that is obvious on its face, and it's yes.

Q. Okay. Now, Mr. McMillan, in the absence of good information as to productive acreage, the Division very often restricts the production or the allowable on wells that have crowded the line, so to speak, by utilizing a formula that assigns an allowable based on kind of a three-phased approach. In one instance they calculate the amount of drainage, additional drainage outside the proration unit resulting from moving the location over. This is just simply done by drawing, in this case, the 40-acre circle on the map and then drawing another 40-acre circle, seeing the additional drainage. And then just a simple numerical calculation how much closer the well is to the line. Thus, if a well in this case, you're not going to be any closer to a line than

you're allowed on the north-south line, so there is no penalty there. You're, let's say you were halfway to the line on the west side, that would be 50 percent factor there, and just for the heck of it, let's say you drain another 10 acres outside your proration unit, that would be a 25 percent penalty there.

You add those three up and divide by 3 and come up with an allowable factor which would be somewhere between 50 percent and 25 percent in this case.

Do you know of a -- can you think of a better formula for penalizing production?

A. Mr. Examiner, I'm just not really familiar with it, honestly not, and I don't know --

Q. Do you have anything better to offer than that, let's say.

A. No, I don't.

Q. Okay.

MR. STAMETS: Are there any other questions of this witness? He may be excused.

Do you have anything further, Mr. Buell?

MR. BUELL: I have one other witness. Call Mr. Richard Gifhorn.

RICHARD GIFHORN

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. BUELL:

Q. Would you please state your name, sir?

A. Richard Gifhorn.

Q. Mr. Gifhorn, by whom are you employed, where and in what capacity?

A. Eastman Whipstock. I'm a Marketing Representative in Midland, Texas.

Q. And you have not previously testified before the Commission --

A. No --

Q. -- or one of its examiners.

A. -- I have not.

Q. Would you explain to the Examiner some of your educational/work background?

A. Okay, I have 96 semester hours in marketing from Stephen F. Austin State University. I have 80 hours of directional drilling classroom training from Eastman Woodstock in Houston. I have 40 hours of directional survey training from Eastman Whipstock in Houston, Texas, and I've been employed by Eastman Whipstock for two years. I'm in

a supervisory capacity over approximately eight directional drillers and three surveyors and supervise their work and also review their work.

Q. Have you proposed a recommended procedure for the proposed well that's the subject matter of this hearing?

A. Yes, sir. I was contacted by Charles Read approximately --

Q. Just a minute.

A. Is that proposed procedure marked as Applicant's Exhibit Number Three?

A. Yes, sir.

Q. Okay, go ahead and explain to the Examiner what that shows.

A. Okay. I was contacted by Mr. Read approximately a month ago and he told me what his situation was in reference to this well, and he gave me a number of offset wells for me to try to obtain their deviation records and from that see what kind of problems they would encounter. Unfortunately I was only able to come up with one deviation record and that was on the Tom Ingram Well. I ran that through our computers and from that I've come up with this procedure.

According to the Ingram deviation records they had an accumulated displacement of 218 feet. That's

assuming if all the angle they had in the hole was going the same direction they would have 218 feet of total accumulative displacement.

Looking at the drilling procedure of Read and Stevens, I recommended that they drill down to 4200 feet, just taking their normal drift indication shots. At any time if their direct indication shot should show a substantial increase over -- over the Ingram well or their cumulative displacement should become more than 100 feet, we would have to run a multi-shot survey.

If not, we would run a gyroscopic multi-shot survey at 4200 feet, a casing point.

Okay. Then I would recommend that they go back with a regular drilling assembly, packed hole assembly, and drill down to approximately 9000 feet with a non-mag drill collar, again taking just their regular drift indication shots where we can calculate an accumulated displacement towards the lease line, and at that point we'd run another multi-shot survey at 9000, roughly 9000 feet, and determine exactly where the bottom hole location was, tying it back into the survey at 4200 feet.

If they didn't encounter any problems of lease line, just go ahead and drill the TD monitoring the well with non-mag drill collar and an R single shot instrument for direction. At that point, when they did reach total

depth, we would run another non-mag multi-shot survey back to tie into the survey at 9000 feet and submit it to the Oil and Gas Commission.

Q. Do you believe that this program would adequately protect and identify the total depth location of this well as keeping it on the east side of the lease line?

A. Yes, sir, according to the New Mexico Oil and Gas Commission, these surveys have to be taken at least 100-foot interval, no more than 100-foot interval, and at that interval you can take surveys every foot but we've found over the years that taking them every 100 feet, that this will give you a true and accurate picture of where your bottom hole location is.

If at some time they should encounter the lease line we could go in with a downhole motor and a bent sub and turn it away from the lease line, get it back to an approximate location under their original drilling site.

Q. Mr. Gifhorn, was Exhibit Three prepared by you or under your supervision?

A. Yes, sir, it was prepared by me.

MR. BUELL: I would move the admission of Exhibit Number Three.

MR. STAMETS: Exhibit Number Three will be admitted.

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CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Gifhorn, is the sole purpose of your proposal here to make sure that the well bottoms under the surface location or just on the lease?

A. Okay. No, when I was talking with Charles Read I asked him about this, because he wasn't clear on it and I wasn't clear on it. When we were talking originally I discussed with him exactly where he wanted his bottom hole location at total depth, and he said within a given target area of 50 feet around this proposed wellbore.

Now, he talked at that time that, you know, they might go across the lease line and then have to kick it back across the lease line back into this section.

I told him at that time I did not know the Oil and Gas Commission's, you know, feelings on that matter, but I know how it is in Texas. They don't particularly like it. They don't like to cross a lease line and then come back. They want you on the lease at all times. Now what the New Mexico Oil and Gas Commission's feelings are, I don't know.

So, but we can -- we can monitor the well to make sure at no time that it crosses the lease line. This -- this will present no undue stress to the operator or

to our company.

MR. KELLAHIN: May you ask a question?

MR. STAMETS: You certainly may.

CROSS EXAMINATION

BY MR. KELLAHIN:

Q. What is the radius of tolerance for hitting that bottom hole location? You said 50 foot?

A. Well, I would assume that they under normal drilling conditions, if you're drilling a well, an uncontrolled well, and you have, like this Tom Ingram Well, you have 211 feet of total or cumulative displacement, roughly. I would assume that you would probably be within 25 feet of your surface location at that point, at your bottom hole location, because at that low an angle, basically you're creating a spiral, you're spiraling down.

Q. So we have a 25 foot radius of tolerance from the surface location?

A. Well, like I said, it's hard to say. It could be as little as 2 feet, because you're going down in a spiral, but I would say that at this depth, 12,500 feet, that with no directional drilling methods at all, you will fall within a 50-foot radius of the surface location; that the maximum you'll be displaced is 50 feet in any direction.

Q. So it's possible that using a surface

location of 100 feet from the west line and 330 from the north line in Section 6 --

A. Uh-huh.

Q. -- that the bottom of this well would be 50 feet from the section line between Section 1 and Section 6.

A. That's possible, but it also could be in the other direction, also. A lot of it depends on structure, if there's any structure problems, dip, things of this matter. I've seen wells that -- two adjacent wells, one went northwest and one went southwest. It's hard to say. You just can't say for sure which way. It might -- it very possibly could go towards the lease line. That's why we were contacted. If it does go towards the lease line they want to turn it back away from the lease line.

Q. To insure that you avoid the lease line, wouldn't it be more prudent to drill at a standard location, 330 from the north and west lines?

MR. BUELL: Mr. Examiner, I'm going to object again. This witness wasn't offered for this type of testimony. He was offered to present a drilling program.

MR. KELLAHIN: This witness has told me where he's going to bottom this well. I want to find out if he starts at a different surface location if he can keep from draining our acreage.

MR. STAMETS: Let's -- let's ask this question. If you were asked to, could you bottom this well within two feet of the surface location?

A. I could bottom it within six inches.

MR. STAMETS: Okay, that answers --

MR. KELLAHIN: Can we have that in the order?

MR. STAMETS: That answers your question, I believe, Mr. Kellahin.

A. If I could just say one other thing for the Commission's -- when Mr. Read first contacted me, he contacted me about drilling this as a directional hole and with the surface location of, I believe, 330, standard location, but bottoming out at this 330 from the north and 100 foot from the west line. And I told him at that time that yes, we could do that, but the cost of doing that is much greater than if we went in and monitored the well and even if we had to turn the well back from the lease line, it would still be cheaper than controlling it as a directional hole.

MR. STAMETS: Any other questions for this witness? He may be excused.

Do you have anything further on direct, Sumner?

MR. BUELL: We might have one other witness.

I doubt it, but if we do it will be a short one.

MR. STAMETS: We'll take about a fifteen minute recess.

(Thereupon a recess was taken.)

MR. STAMETS: The hearing will please come to order.

Mr. Kellahin, do you have some direct testimony you would like to put on?

MR. KELLAHIN: I'd like to move at this point to dismiss the Applicant's application in this case. It's my opinion and argument that Mr. Buell has failed to prove a prima facie case with three points in mind.

One, there has been no testimony that Read and Stevens is going to be the operator of this well.

He's not, second of all, provided us testimony to show what the ownership of the non-standard proration unit is going to be.

And thirdly, he's failed to establish that the proposed unorthodox location is the preferred location. Mr. McMillan's testimony was that a location 450 feet from the north line and 150 feet from the west line was a comparable location, and that is confirmed by his report to

Read and Stevens in December of '78, and for those three reasons we move that the application be dismissed.

MR. BUELL: If the Examiner please, I of course will oppose the motion by Mr. Kellahin.

Starting with his last point first, that we have not proven that the 330/100 foot location is the preferred location. I think Mr. McMillan has said several times that it was; that based upon his interpretation of the geophysical data that was the best place to drill this wildcat well under the circumstances.

As far as the ownership question is concerned, it is contained in the application. The allegation is there. It has not been controverted by any response from Tenneco.

And finally, as to the ownership, I believe that is also contained in the exhibits to the application, showing various offset owners and owners of interest, and I believe that is on file with the Commission, and I would ask the Commission and the Examiner to take administrative notice that those matters are contained in this file.

MR. STAMETS: The motion is denied.

MR. KELLAHIN: I'd call Mr. Bill Dixon.

WILLIAM H. DIXON

being called as a witness and having been duly sworn upon

his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Dixon, would you please state your name, by whom you're employed, and in what capacity?

A. William H. Dixon and I am employed by Tenneco Oil Company in San Antonio, Texas, as the Division Geologic Engineer.

Q. Mr. Dixon, have you previously testified before the Oil Conservation Division?

A. No, I have not.

Q. Would you state for the Examiner when and where you obtained your degree?

A. I obtained a Bachelor of Science in geology from the University of Michigan in 1958 and a Master of Science in geology from the University of Michigan in 1959.

Q. Subsequent to graduation where have you been employed and in what capacity?

A. I've worked for Marathon Oil Company for approximately eleven years in the Research Division in Littleton, Colorado, doing production geology, exploration geology, production development, production engineering, and have been five years with Tenneco in their Mid-Continent

Division, and also in Midland, and currently in San Antonio.

Q. Does the area of responsibility in the San Antonio office of Tenneco include the subject matter of this application?

A. Yes, it does.

Q. Mr. Dixon, have you made a study of and are you familiar with the engineering and geological facts surrounding this particular application?

A. Yes, I have.

MR. KELLAHIN: We tender Mr. Dixon as an expert witness.

MR. STAMETS: The witness is considered qualified.

Q. (Mr. Kellahin continuing.) Mr. Dixon, would you commence by telling us what, if any, interest Tenneco Oil Company has in Section 1?

A. Tenneco Oil has 46.56 mineral acres in Section 1, which are unleased.

Q. What portion of Section 1 -- I'm sorry. How many acres are contained in all of Section 1?

A. I believe about 388.

Q. So what percentage of interest in Section 1 does Tenneco have?

A. I haven't calculated it but it would be approximately an eighth.

Q. Approximately twelve, twelve and a half percent?

A. A little less than that; probably ten.

Q. Do you know who the other working interest owners are in Section 1?

A. Yes. I believe those were submitted with the application to the Commission, also.

Q. Apart from Tenneco's twelve, twelve and a half percent interest in Section 1, which operator controls the balance of that section?

MR. BUELL: I believe that the witness testified it was something less than ten percent that they owned.

MR. KELLAHIN: He said they had an eighth.

MR. BUELL: I thought he said it was less than that.

A. It may be somewhat less than an eighth. It's 388 acres. I haven't calculated it out but we have 46, almost 47 acres, out of that.

Q. Apart from Tenneco's interest in Section 1 what other operator controls the balance of that section?

A. I believe that it's Read and Stevens.

Q. Does Tenneco have any interest in Section 6?

A. No, sir.

Q I show you what I've marked as Tenneco Exhibit Number Two and ask you if you can identify that?

A. Yes. This is the material that was sent to Mr. Struthers, Production Manager for Tenneco in San Antonio, the reports by Mr. David and a geophysical report by Mr. McMillan was also submitted. They were interested at this particular time in obtaining support for their test in Section 6.

Q Have you made a study of the information presented to you by Read and Stevens in Exhibit Number Two?

A. Yes.

MR. KELLAHIN: If the Examiner please, we'd move the introduction of Tenneco Exhibit Two.

MR. BUELL: I would object to the introduction. There's been no indication that this man has prepared this document, other than the fact that he's reviewed it, and I don't think that he is qualified to testify as to its accuracy, credibility, or any other matters until he's personally participated in its preparation or the supervision of its preparation.

MR. KELLAHIN: If the Examiner please, Mr. Buell misunderstands the rules of evidence. We are introducing this as an admission by the applicant of how they evaluated this particular prospect. It's certainly not our testimony. It comes from the files of Read and Stevens, and

as an admission by the applicant, it certainly is admissable.

MR. BUELL: Mr. Examiner --

MR. STAMETS: Let me ask Mr. Kellahin one question.

Were these copies of records from Tenneco's files?

MR. KELLAHIN: Copies of records from Tenneco's files that had been given to them by Read and Stevens in correspondence.

MR. STAMETS: Mr. Buell?

MR. BUELL: I believe that I perhaps misunderstand the rules of evidence, but I don't feel alone on that path in this circumstance.

I believe that this is being offered by way of impeachment and if Mr. Kellahin wishes to impeach one of the applicants' witnesses, the material should have been presented to the applicants' witness, not independent of his own witness.

I don't believe it's proper impeachment material at all under these circumstances.

MR. STAMETS: Where are you going with this information, Mr Kellahin?

MR. KELLAHIN: I'm going to demonstrate to you that their own geologist has made some calculations of the reserves involved, the volumetric calculations and the

information used to make those calculations, the structure maps and geology that Read and Stevens used and tendered to Tenneco in order to try to persuade Tenneco that they ought to join or to waive any protest of this particular well.

MR. STAMETS: And Mr. Dixon will be simply testifying as to Tenneco's position in evaluation of the material which was furnished to them?

MR. KELLAHIN: That's right.

MR. STAMETS: By Read and Stevens.

MR. KELLAHIN: That's right.

MR. STAMETS: We will allow that.

Q. (Mr. Kellahin continuing.) Now, Mr. Dixon, would you please refer to what I've marked as Tenneco Exhibit Number Three and identify that exhibit for us?

A. This exhibit is strictly a blowup of Read and Stevens structure map.

Q. I'm sorry, I can't hear you, Mr. Dixon.

A. It's a blowup or an enlargement of Read and Stevens structure map so that we could perhaps see a little better what is happening in this area.

Q. What structure map did you blow up?

A. This is the Devonian structure map which was contoured. We did not add the geophysics on here; it cluttered it up, but we did contour from the geophysics in these ten foot contours.

Q. What portion or what pages from Tenneco's Exhibit Number Two were used to make Exhibit Number Three?

A. It would be the third page.

Q. What, if any, other information have you added to that exhibit, to Exhibit Number Three?

A. Simply put in ten foot contours, which are the black lines rather than the blue lines, the small black lines. Also added the legal 330/330 location and the excepted location.

Q. Are there any other Devonian wells in this area?

A. Yes. The Gulf Crier, I believe, as stated previously, it produced over 166,000 barrels.

Q. What's the current status of that well?

A. It's plugged.

Q. Have you examined the volumetric calculations that Mr. David used in Tenneco Exhibit Number Two?

A. Yes.

Q. Do you agree or disagree with the volumetric calculations used by Mr. David?

A. Assuming that the map is correct, I would have to agree, and that may be a conservative number rather than an optimistic number.

Q. Based upon your study, Mr. Dixon, do you have an opinion as to the amount of oil remaining that can

be produced from this Devonian anomaly?

A. We would estimate that the well -- a well drilled here could make as much as 200,000 barrels.

Q. At which location?

A. Well, at a location, hopefully, in Section 1 would be a better location than in Section 6, if the map is correct.

Q. You misunderstand me. The 200,000 barrels of oil --

A. Right.

Q. -- is the potential production from a well at what location?

A. I still am misunderstanding.

Q. All right, let me ask you this. Do you have an opinion with regards to the producable reserves from the Devonian formation from a well to be drilled by the operator at the proposed unorthodox location?

A. It could be as high as 200,000 barrels.

Q. Do you know or have you been informed by Read and Stevens what the anticipated cost of this Devonian test will be?

A. I don't believe so.

MR. STAMETS: I'm getting a little confused here. Let's go back to the reserves calculations done by Mr. David. He indicated on this that there might be 1.168

million barrels of oil remaining to be recovered from the crest of the Devonian seismic closure, and you indicated that you felt there might even be more than that.

A. Yes, sir, there may be.

MR. STAMETS: Okay, and the proposed unorthodox location is pretty near the crest of this Devonian seismic closure, and yet you say that well will only get 200,000 barrels.

A. That's assuming it won't drain the entire structure.

MR. STAMETS: Okay. All right, and --

A. It could make a million barrels.

MR. STAMETS: -- on what basis do you make the assumption that it would not drain the entire structure?

A. Well, if the structure is as mapped, you would drill more than one well in the structure.

MR. STAMETS: And Mr. David did not make any calculations as to how many wells might be required on the crest.

A. No, sir.

MR. STAMETS: However, there's not room for very many wells on the crest. How many do you feel could be drilled there?

A. Two.

MR. STAMETS: And this well is only going

to get 200,000 --

A. It may.

MR. STAMETS: -- and yet you expect to see more than a million recovered from the crest.

A. I should have said at least 200,000.

MR. STAMETS: Okay, very good.

A. Okay.

Q. (Mr. Kellahin continuing.) Do you have an opinion, Mr. Dixon, as to the direction of drainage of the oil to be produced by the proposed well at that location?

A. Well, I would have to agree with the previous witness that the drainage will be from Section 1 as well as 6 and 34.

Q. What if any effects will the proposed location have upon Tenneco's correlative rights?

A. It certainly will drain us.

MR. BUELL: I'm sorry, I didn't hear the answer.

A. It certainly will drain us.

MR. BUELL: Thank you, Mr. Dixon.

Q. Do you have an opinion as to how Tenneco's interests and correlative rights can be protected?

A. We would suggest either a legal location or a really severe penalty for drilling that close to the lease line.

Q If the Commission approves the requested location, do you have a recommendation as to what the penalty factor might be?

A Well, assuming that the well -- let's make a couple of assumptions.

Let's assume that the map is correct and the well is high on the structure. If no other well is drilled, it could drain the entire structure. I think we will agree with the drainage. Therefore, if you'll notice on the map, the outside black contour is essentially the oil/water contact. If we assume that the map is correct, then I would suggest that approximately 20 to 30 percent of the reservoir is in Section 6 and the remainder is in Sections 1 and 34, and that the well should be penalized to that extent.

Q Do you have a specific percentage recommendation with regards to a penalty factor based upon those assumptions?

A Well, I haven't planimetered the map to find out what the ratios are, but by eyeball, I would say they might have as much as 30 percent of the reservoir and therefore they should be allowed a 30 percent of their production.

Q Have you made a study of the production and the logs on the Gulf Crier Well in Section 34?

A. Yes, I have.

Q. Have you examined the cross section introduced by the applicant in this case?

A. Yes, sir, I have.

Q. And what, if any, volumetric calculations have you made with regards to the Gulf Crier Well?

A. The Gulf Crier Well is rather difficult to get porosity on. The log porosity is essentially zero. As a matter of fact, you probably wouldn't normally complete in the Devonian had they not hit the top of the Devonian with DST. If you assume a porosity of 4 percent and a water saturation of 30 percent, bottom hole temperature 168 degrees, and a pressure of 6144, also use a formation volume factor of 1.3, which would give you a 500 GOR, the oil in place would be approximately 167 stock tank barrels per acre foot. The drainage area of the Crier No. 1 would be 3190 feet -- 90 acre feet, I'm sorry.

MR. STAMETS: How many feet?

A. 3,190 acre feet. If we assume an average thickness of 9 feet, then the drainage area would have been 354 acres.

If you assume that it was 18 feet, you would have drained 177 acres.

Q. Based upon that information and those calculations, Mr. Dixon, do you have an opinion as to whether

or not Read and Stevens could drill at a standard location in Section 6, 330 feet from the north and west lines, and obtain an economic well?

A. I believe they could. Again, I have to go back to the maps that we're supplied and say that if you contour in the 10-foot contours, you may have as much as 35 feet at a standard location as shown by the green dot and the contours.

Q. 35 feet of what?

A. Above the oil/water contact, assuming that that oil/water contact is currently at the top of the Crier No. 1 perforations.

Q. What, if any, other factors have you used to reach your conclusion that a well could be drilled at a standard location in Section 6?

A. I'm sorry, I didn't hear you.

Q. What, if any, other factors have you used to determine your opinion that a well could be drilled at a standard location in Section 6 and still be --

A. I'm afraid I don't understand the question, Mr. Kellahin.

Q. All right, let me ask you this.

Would you tell me what factors you have used to reach your conclusion that a well at a standard location in Section 6, 330 out of the corner, would still be an

economic Devonian well?

A. Well, I'm assuming that the map is correct.

Q. All right.

A. And he has already testified that the map could be off as much as 25 feet. It could be plus or minus, by the way.

Q. Let me ask you this. Do you concur in Mr. McMillan's opinion that there is a variable of 25 feet plus or minus?

A. Yes, I have to; however, I'd also like to state, and I'm not a geophysicist, although we work with them all the time, that with a well as close as the Crier No. 1 is, I would feel a lot better about my geophysical data than I would if I was, say, four miles away from the tie well.

Q. Do you have an opinion as to where you estimate the oil/water contact to be in Sections 1, 6, and 34?

A. You have to assume that the structure is as mapped and assume that the oil/water is the same as it would be in the Crier No. 1, would be the top perforation.

Q. Have you examined the log in the Gulf Crier Well?

A. Yes.

Q. Do you have any information or factors

that would lead you to believe that the oil/water contact is other than as depicted on the Read and Stevens Exhibit Number One?

A. No, sir.

Q. In your opinion, Mr. Dixon, where would you place the first well in this area to test the Devonian anomaly?

A. I believe if the map is correct, that I would place it at a legal location in Section 1 with a second well, possibly, in Section 6.

Q. Was Exhibit Number Three prepared by you directly or under your direction and supervision?

A. Yes.

MR. KELLAHIN: We'd move the introduction of Exhibit Number Three.

MR. BUELL: I would object to Exhibit Number Three introduced. He's testified several times that he didn't prepare the contours or anything else and that he's just assumed somebody else did something correctly, and he hasn't prepared this exhibit other than to put one yellow and one green dot on it.

MR. KELLAHIN: He prepared that exhibit based upon the applicant's structure map.

MR. BUELL: Then it's based on hearsay, Mr. Examiner.

MR. STAMETS: The exhibit speaks for itself and it will be admitted.

MR. KELLAHIN: I have no further questions of Mr. Dixon.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Dixon, one question. Looking at Exhibit Number Three, and looking only at Section 6, does the yellow dot provide the owners in Section 6 the greatest opportunity to recover most oil under that tract? Or the greater, I should say, you have two locations.

A. Greater, perhaps. The hazard with the well in its present location is that if the structure is as drawn currently on the map, you're going to leave oil without drilling in Section 1.

Q. Okay, but considering only Section 6, now, I'm not going into Section 1.

A. All right. It certainly enhances the -- the well to move it over to the lease line and quote up-structure.

Q. Now does Tenneco have the right to drill in Section 1?

A. No, sir.

Q. Who does have?

A. Read and Stevens has the leasehold.

Q. And your interest there does not allow you to drill?

A. No, sir, not with 12 percent, or less.

Q. Well, now you say it does not. Is it just the fact that Tenneco chooses not to drill?

A. Let me put it another way. It wouldn't be feasible for us to drill a well in Section 1, or economic for us.

Q. The acreage that you talked about, the 46.56 acres, is that an undivided interest --

A. Yes, sir.

Q. -- in Section 1?

A. Yes, sir.

Q. Okay.

MR. STAMETS: Are there other questions of this witness?

MR. BUELL: Yes, sir.

CROSS EXAMINATION

BY MR. BUELL:

Q. Mr. Dixon, is it not a fact that you could obtain a well in Section 1 if you felt that that was a good prospect, by several remedies?

A. Such as?

Q. Such as compulsory pooling? If you felt it was a worthwhile prospect?

A. It's possible to do it through compulsory pooling, yes, sir.

Q. In fact, the well drilled at the proposed location would either prove or disprove the acreage in Section 1, wouldn't it?

A. It probably will.

Q. So it's really to your advantage to have that well there, as far as that angle is concerned.

A. From proving or disproving whether it's there or not.

Q. And whether Tenneco wants to put money into this or sit back and ride.

A. I think that, sir, you're alluding to the fact that you all requested a dry hole contribution or a contribution to this well from Tenneco?

Q. I don't know.

A. Well, you have, and company policy is such that we can't do anything on a development well which is not drilled on our acreage. That's a fact.

Q. So it's company policy that prevents you from moving --

A. That's correct.

Q. You've chainedyourself, really, just by the

policy.

A. Well, we cannot consider wells that are essentially a development well, although I'll admit this is wild, but you're developing off a well that's produced a bunch of oil.

Q. Uh-huh, and I want to get it in the record one more time that it is your opinion that the proposed unorthodox location in this application is the optimum location to drill on Section 6 for a wildcat well.

A. You want to call it a "develocat"?

Q. Whatever you want to call it, it is an optimum location.

A. It is an optimal location in Section 6, yes, sir.

Q. And it's preferable to Section -- to drilling one in an orthodox location.

A. Yes, sir.

Q. When you -- how did you draw in those black lines on this map? Freehand? Just followed the contours?

A. No.

Q. What did you use for a control?

A. I used the seismic points from his other map, which I stated.

Q. Did you take into consideration all the

seismic points that were contained on the exhibit that was supplied to you by Read and Stevens?

A. I believe I did.

Q. Now how much of the drainage do you feel will be coming -- presuming that the -- or assuming that the Commission grants the unorthodox location -- how much drainage did you say you felt was coming out of Section 1?

A. If that's the only well in there you may drain the entire portion of Section 1.

Q. And how speculative is that?

A. That's about as speculative as your thinking that you won't drain it.

Q. I don't understand the answer. You're speculating right now, aren't you?

A. No.

Q. All right, what do you base that on?

A. Well, if the Crier drained as much as it did --

Q. And how much did it drain?

A. It drained, depending on how thick you want to make the reservoir, as large as 354 acres or as small as 177 acres.

Q. Uh-huh, and it watered out.

A. Yes, sir, eventually it watered out.

Q. And how much acreage do you think is over

in Section 1 that's drainable?

A. Anything inside that first black line is drainable. We are talking about a water-drive reservoir.

Q. Uh-huh.

A. So it is drainable.

Q. And what was the porosity factor you used looked at our log?

A. 4 percent.

Q. Hasn't there been previous testimony here that the log showed 7 percent?

A. I believe the question was asked was it 7 percent. I don't believe the witness said that it was 7 percent.

Q. It was in that area.

A. If you'd like to look at the logs, we can.

Q. They're available.

How much drainage also occurs -- might conceivably occur over in Section 1 would depend on the thickness of this anomaly, won't it?

A. Yes, sir, thickness and porosity and permeability.

Q. And do you know how thick it is at the various places?

A. No, sir.

Q. As I recall, we've got the contours on the

top, isn't that correct?

A. That's correct.

Q. So we don't know how thick it is.

A. That's right. You can guess, however, that it will be approximately either somewhere in the order of 10 feet, based on the Crier Well.

Q. Have you made any independent examination on your own or on behalf of Tenneco or any of Tenneco's staff to verify the information contained on this map that is, I believe, Tenneco's Exhibit Number Two, is that correct? Three? Other than to look at the Crier log?

A. Yes, sir.

Q. Independent examination by Tenneco, not information supplied to you by Read and Stevens?

A. Yes, sir.

Q. And what was the nature of that examination? Or investigation?

A. This was done under my direction by Mr. Ken Marco (sic) in March of 1979. We have a structure map at the time. We also have a record of all DST's and dry holes in the Crier Well, production, what other zones produced in the area, what the offset field is, the San Andres, the Dickinson -- I guess it's an F-69 Field -- what those -- what production was from the area, and that was based strictly on a letter from Read and Stevens. We had none of your data

at the time.

We also have the production in each of the wells.

Q. I don't understand. You gathered that information based upon a letter from Read and Stevens?

A. Requesting participation in the well.

Q. And did Mr. Marco draw any conclusions?

A. Yes, he did.

Q. And what conclusions did he draw?

A. That the well could easily make 200,000 barrels of oil, would be a realistic ultimate recovery from the well drilled for the zone. "A well not drilled on Tenneco acreage should not gain the right to develop reserves on Tenneco acreage."

"It's my recommendation that Tenneco not farm out the requested acreage and monitor the area for future potential."

Q. And do what?

A. Monitor the area for potential future drilling.

Q. So it's Tenneco's position that you just want to sit by and ride --

MR. KELLAHIN: Objection. That's a mis-statement of what the witness said.

MR. STAMETS: Sustained.

Q. When you drew these contours on this map, did you make allowances for the 25 feet error that could exist?

A. No, sir, I used the data as it is.

Q. So you didn't make that allowance?

A. No. Neither did the people that drew the original map make any allowance for 25 feet.

Q. I believe the testimony has been here several times today, unless you dispute it, that Mr. McMillan says that he considers there to be a 25 foot plus or minus error in his information.

A. But his contours follow the data as presented.

Q. But he recognizes the possible error; you don't.

A. No, I didn't say I didn't. I say that there is possible error and it can be as high as 25 feet. I've already testified to that, sir.

Q. But it is your testimony you think an optimal location for this type of well is the proposed unorthodox location.

A. That is an optimal location in Section 6, yes, sir.

MR. BUELL: I have nothing else.

MR. STAMETS: Mr. Kellahin?

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REDIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Dixon, at what location, either the proposed unorthodox location or the standard location 330 out of the corner, at which location does Read and Stevens proposed Devonian well pose the greatest damage to Tenneco's correlative rights?

A. Obviously, 100 feet from the lease line, is much worse than 330 feet from the lease line.

Q. And what is your recommendation for a penalty factor to be assessed against Read and Stevens as operator for that well in Section 6?

A. I recommend that they be penalized to the extent that they be granted an allowable of only 30 percent of their production.

MR. KELLAHIN: I have nothing further.

RECROSS EXAMINATION

BY MR. BUELL:

Q. If Tenneco wants a 30 --

MR. BUELL: Did you want a 30 percent penalty?

A. No, 30 percent allowable.

Q. 30 percent allowable?

A. Yes, sir.

Q. But there are no other protesters and Tenneco owns, depending on what it works out, somewhere between 10 and 12 percent of Section 1, would you want to make an adjustment in that penalty for what Tenneco is being drained, or allegedly drained, to reflect your actual interest?

A. I don't think that that would serve the purpose here.

Q. You're the only one objecting. Please answer the question.

MR. KELLAHIN: He answered your question.

MR. STAMETS: I agree, he answered the question and he answered it no.

MR. BUELL: Okay. I have nothing else.

MR. STAMETS: Any other questions of this witness? He may be excused.

Anything further in this case? Mr. Kellahin?

Mr. Buell, did you have anything further you wish to add in this case?

MR. BUELL: Nothing else.

MR. STAMETS: The case will be taken under advisement.

(Hearing concluded.)

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, a court reporter, DO HEREBY CERTIFY that the foregoing and attached transcript of Hearing beforethe Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability from my notes taken at the time of the hearing.

Sally W. Boyc, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. _____, heard by me on _____ 19____.

_____, Examiner
Oil Conservation Division

SALLY WALTON BOYD
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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
Oil Conservation Division
State Land Office Bldg.
Santa Fe, New Mexico
2 October 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Read and Stevens, Inc., for an unorthodox well location and non-standard oil proration unit, Lea County, New Mexico. CASE 6683

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
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For Read and Stevens: Sumner Buell, Esq.
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I N D E X

E X H I B I T S

MR. STAMETS: We'll call next Case 6683.

MR. PADILLA: Application of Read and Stevens, Inc., for an unorthodox well location and non-standard oil proration unit, Lea County, New Mexico.

MR. BUELL: Mr. Examiner, I'm Sumner Buell of the firm of Jasper and Buell, appearing on behalf of the applicant.

I will have two witnesses.

MR. STAMETS: Other appearances?

MR. KELLAHIN: Tom Kellahin of Santa Fe, New Mexico, appearing on behalf of Tenneco, and I have one witness.

MR. STAMETS: I s that all the appearances? I'd like to have all the witnesses stand and be sworn at this time, please.

(Witnesses sworn.)

COLIN R. McMILLAN

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. BUELL:

Q. Would you state your name, please?

A. Colin R. McMillan.

Q. And, Mr. McMillan, where do you reside?

A. Roswell, New Mexico.

Q. What is your occupation, Mr. McMillan?

A. I'm a consulting geophysicist.

Q. Mr. McMillan, have you previously testified before the Oil Conservation Division or one of its examiners and had your qualifications accepted as a matter of record?

A. No.

Q. Would you briefly outline for the Examiner your educational background?

A. I received a BS in geology from the University of North Carolina in 1957; served in the Engineers in the Marine Corps for three years. At that time I went to work for Texaco, Incorporated, in 1960 in their Roswell Division, or Roswell District, located in Midland, Texas, and moved to -- remained in the Roswell District and moved to New Mexico in 1962, early '62.

And in 1964 I left Texaco and became a consulting geophysicist and have done that to date.

In addition, I am President of Permian Exploration Corporation, which is a geophysical exploration corporation.

Q. And are you familiar with what is sought in this application, 6683?

A. I am.

MR. BUELL: Are the witness' qualifications acceptable?

MR. STAMETS: They are.

Q. (Mr. Buell continuing.) Referring you to what has been marked for identification as Applicant's Exhibit Number One, would you please explain to the Examiner what this exhibit shows?

A. This is a seismic interpretation of the Devonian formation in -- located in north Lea County in Townships 10 and 11 South, Ranges 36 and 37 East, a portion of those townships, showing a 50-foot contour interval, and it's a scale of 1 inch/2000 feet.

Q. And could you identify for the Examiner the proposed location of the well the Applicant seeks to drill in this case?

A. The applicant wishes to drill a well in Section 6, 11 South, Range 37 East, in the extreme northwest corner of that section, 100 feet from the west line and 330 feet from the north line.

Q. And how was this location picked?

A. Well, the location is based on the seismic interpretation I did and is a compilation of several sets of data that I interpreted for my client, Read and Stevens, or for Read and Stevens, and others, I should say.

Q. And what data did you use to --

A. Well, the data specifically in the drill site area, I used a seismic line that was done by Dawson Geophysical for Tom Ingram in 1968 and subsequent to that, examining that data and other data, I ran two seismic lines, contracting Teledyne Exploration to run two seismic lines, one noted on the map as LCH No. 1 and the other located -- noted on the map as LCH No. 2.

The data shot in 1968 was shot with dynamite as the energy source. The data shot in 1978, which is the Teledyne data marked LCH 1 and 2, used a vibroseis energy source.

MR. STAMETS: Mr. McMillan, I see Line No. 2, LCH Line 2, starting in Section 5. Could you tell me where Line No. 1, LCH Line No. 1 would be?

A. It starts in Section 7 in the same township.

MR. STAMETS: Okay, I see it, yeah.

A. And it proceeds north through the Gulf Prior in Section 34, 10, 36.

Q. Would you explain to the Examiner the difference in reliability of the 1968 seismic work as opposed to that in 1978?

A. Well, in my opinion, the 1968 data was shot using a technique that we don't use now, at least we don't use in this area, which fourfold common depth point

stack.

Q. What does that mean?

A. Well, that means that there are four recording points and four energy source points and those four different points are added together by use of the computer to have the energy -- have one common depth point as the source -- as the reflecting point. So we have four -- we add four different recording points, four different source points, we add those four together to get one common depth point. Now that's what we did in 1968, or that's what was done in 1968 by Dawson Geophysical.

In 1978 we used twelvefold common depth point, or as we call it, CDP. We had twelve energy sources and twelve recording points, and those twelve points were added together to get the one common depth point.

The purpose of a common depth point stacking is to maximize signal and minimize noise and in my opinion, the twelvefold does a much better job of maximizing the signal and minimizing the noise than does fourfold.

Q. Would it be fair to say that the twelvefold method provides more reliable information?

A. That's my opinion.

Q. And as the bottom line.

A. That is my opinion that the reflection quality is far superior at the Devonian level on the twelvefold

than it is on the fourfold.

Q. Now, based upon your interpretation with the seismic information, did you have an opportunity to correlate the seismic interpretation with any existing wells in the area?

A. We tied to a number of wells. We tied to the specifically, the closest well we tied to was the Gulf No. 1 Crier in Section 34. We tied to the Magnolia Dickenson in Section 33. We tied to the Ingram Well located in Section 1 of 11 South, 36 East.

Q. What -- based upon the contours that have been interpreted here, what is the degree of accuracy of these contours based upon the seismic information?

A. Well, the best answer that I can give you is that the geophysicist likes to think he's plus or minus 50 feet; however, with close well ties and with high quality data, it's my opinion, and this is what I conveyed to my client when I recommended drilling the test, that with the twelvefold data I am predicting a 25-foot, 25 feet would be--plus or minus, would be as close as you could reasonably hope for.

Q. Why did you recommend this proposed drilling location in Section 6, which would be 100 feet from the west line and 330 feet south of the north line?

A. Because based on the best data, and I want

to emphasis that the twelvefold CPD data, LCH Lines 1 and 2, is the best data, based on the best data that is the optimum location.

Q. And let me ask you why geologically speaking you feel this is the best location.

A. Well, because it's the -- in my opinion, after examining the data and making the picks on the data and adjusting the data for velocity variations, this ends up to be the high point.

Q. In other words, this is the best geological point available.

A. It's the best geophysical point and so further, it's the best geological point.

Q. All right.

A. Since this is a geophysical prospect.

Q. Referring you to what has been marked as Exhibit Number Two -- is there anything else you'd like to add on Exhibit Number One?

A. Not that I can think of.

Q. Would you refer to that and explain to the Examiner what that shows?

A. Well, this is a draw cross section and I'd like to say first, for the record, that this was prepared by Edward K. David in consultation with me, and it is a well log cross section going through the Gulf Crier to the pro-

posed location and south to the Tom Ingram No. 1 Grannie in Section 1. I believe that's 11, 36.

Q. And does that bear out, or tend to correlate your seismic information?

A. Well, this is the information that we had to, in order to make the seismic map.

Q. Mr. McMillan, would you recommend, based upon what information is available to you from correlations with other wells in the area, as well as your seismic information, would you recommend drilling in Section 1 offsetting Section 6 to the west?

A. I think that the optimum location is in Section 6. If you were to drill in Section 1, in my opinion your risk is higher.

Q. Significantly higher?

A. Well, we're talking about having this -- let me go through the reasoning for this.

The high point that I've mapped on the best data has a datum of a -8260. The Gulf Crier Well, which produced something slightly over 155,000 barrels of oil out of the Devonian and then watered out, we would be 34 feet high to that well.

If we had a plus or minus 25 feet limit of error, then we would come into the datum, and let's say we were on the low side, which I might add that's what all

geologists accuse geophysicists of doing, we were to come in on the low side, we'd be 82 -- that's 85, or 9 feet high to the well, to the well that's watered out.

Q. That's the Gulf Crier Well up in Section 34?

A. Yes, and it certainly runs considerable risk by -- even if you came in at that datum you'd run a considerable risk to it tight, because you'd only be 9 feet above the water.

Q. Whereas, you believe that you were in the vicinity in this area of 34 feet above the water?

A. Well, I'm saying -- I'm giving the worst case.

Q. Uh-huh.

A. The worst case is if we missed that 25 feet low we're only going to be 9 feet above the water, so when you're dealing with this kind of thing and you recognize the limit of error of the seismic tool, you've got to drill your best location. You can't spend, and it's my opinion that this well will cost in excess of $700,000 to drill and equip, you can't spend that kind of money without drilling the absolute best location.

Q. Okay.

A. And I might add that when this project -- when I worked on this project, I was very emphatic with my

client that you've got to drill this location. You've got to get up close to that line and drill there or don't do it.

Q. Okay. Mr. McMillan, is it your opinion that the granting of the application would prevent waste, protect correlative rights, and avoid the unnecessary drilling of high risk oil wells?

A. I think the answer is yes.

Q. Were Exhibits One and Two prepared by you or under your supervision at your direction?

A. No, Exhibit Two was prepared in consultation with Mr. David. His office is across the hall from me, and who I've worked on a number of projects with.

Exhibit Number One was prepared by me.

Q. Okay.

MR. BUELL: I would move the admission of Applicant's Exhibits Number One and Two.

MR. STAMETS: Without objection they will be admitted.

MR. BUELL: I have nothing further of this witness.

MR. STAMETS: Are there questions of the witness?

MR. KELLAHIN: Yes, I have some.

MR. STAMETS: Mr. Kellahin.

CROSS EXAMINATION

BY MR. KELLAHIN:

Q. Mr. McMillan, did you prepare the Devonian structure map upon which the seismic information has been composed?

A. Well, I picked all of the points, yes.

Q. The structural contours on the Devonian.

A. Oh, yeah, I contoured the map.

Q. You contoured the map. That's what I wanted to understand. Mr. David didn't contour this map.

A. I don't believe he did. It's been about a year, but I'm almost positive that I -- that I did this. This looks like my --

Q. The information you used, Mr. McMillan, to prepare this exhibit is information compiled up through what period of time?

A. Through 12-5-78. I might say that that little dashed line there that goes around Sections 1 and 6 --

Q. Yes, sir, I'm getting ready to ask you about that line.

A. Yeah, that -- well, that line, I didn't put that one on. Okay?

Q. That's what I'm trying to find out.

A. All right.

Q. What is your understanding of that dashed line? What is that on there to represent?

A. Well, the assumption is made since the Gulf Crier watered out, that that is the oil/water contact.

Q. Let me -- let me clarify that. The Gulf Crier Well watered out at some particular depth.

A. Out of the Devonian, the map you're looking at.

Q. Right, at the Devonian, and that dashed line would represent what could be assumed to be the oil/water contact contoured in Sections One and Six.

A. I think that's a reasonable assumption, yes.

Q. But you didn't do that?

A. No, but I did look at the records of the Gulf Crier and noted that it watered out.

And, you know, that would be --

Q. Do you disagree with that dashed line --

A. Do I disagree?

Q. -- the way it's outlined there?

A. Oh, I think that's about the way I'd put it.

Q. Okay. What did that Gulf Crier produce in its total life from the Devonian, Mr. McMillan?

A. Let's see if I can give you an exact --

let's see, I believe it's on the cross section -- 156,548 barrels of oil. Mr. David added that up but that's about what my memory of it was.

Q. Did you -- that Gulf Crier Well is on the cross section, isn't it?

A. Yes, uh-huh.

Q. How many feet of net pay in the Devonian is attributable to the production from the Gulf Crier Well?

A. Let me see, it looks like it's about 14 feet and I think that at one time I looked over those drill stem tests, and I think it pretty well confirmed that.

Q. All right.

A. Well, it would be -- it would be less than 16 feet because they ran a drill stem test over the zone and they did recover some water, and it -- Mr. David has shown it at about 14 feet, and I -- maybe 13 or something like that.

Q. Okay. What does the porosity show?

A. Well, just looking at the log, looking at the drill stem test information specifically, you'd have to assume good porosity. It flowed 138 barrels of oil in 4 hours. That's pretty good porosity.

Q. What, 7 percent, is it?

A. I cannot calculate porosities. I don't know, but I can tell you that if you flow 138 barrels in 4

hours it's real good.

Q. All right. Have you made any volumetric calculations on the acreage drained by that Gulf Crier Well?

A. The answer is that I have not. There have been some made but I have not.

Q. The hatched circle that we've been talking about --

A. Uh-huh.

Q. -- in Sections 1 and 6, does that represent the Devonian reserves after the Gulf Crier Well had completed producing from the Devonian? That's what it reflects, isn't it?

A. Yeah, I think that's the assumption, that --

Q. Okay.

A. That the Gulf Crier has moved the oil/water contact up so that you can't go in there and drill a well flat to the Gulf Crier and hope to have a commercial producer, or you're going to have to be awfully lucky if you do.

Q. Okay. Now I assume from your testimony that the Dawson seismic information that's platted on -- on the exhibit, you've ignored that information, have you?

A. Oh, no, I haven't ignored it.

Q. That's been included in here.

A. The Dawson Line No. 1, which is shot points

140 through I think it's one-seven -- no, we show one-one on the map, it's included, and certainly is an integral part of the interpretation, but the Dawson data is, as I explained earlier, Mr. Kellahin, is just not the quality of the -- of the Teledyne data.

Q. If you'll bear with me, I would like to go through the LCH Line No. 1 and pick out the shot points.

A. Okay.

Q. We start down there with shot point No. 5, is it?

A. Yes, sir.

Q. And then it goes up to the north to No. 10 and then you get a shot point 15 and then 20 and then 25, and then it goes up into Section 34 to be shot point 30, is that right?

A. Uh-huh.

Q. All right. What is the footage location of shot point 25 from the west and north lines of Section 6, can you tell me that?

A. I don't have an engineer scale so I can't tell you. I can give you a pretty good guess.

Q. Can you approximate what that is?

A. Oh, it looks to me like it's about 700 feet from the west line and about 1000 feet from the north line. I can give you a better answer if -- that's just an eyeball.

Q. Now going from east to west across the plat, if you pick up the LCH line two, we start at that point, with shot point 60. We then hit 55, 50, 45, 40, and then there's a shot point 35.

A. Uh-huh.

Q. What's the location of that shot point?

A. That is about 150 feet from the west line and about 400 feet from the north line. I really need an engineer's scale again to pin it down. I would say 450, probably, if my memory serves me correctly, it's 450.

Q. So the -- you said 450?

A. Yes.

Q. So the proposed unorthodox location is going to be some 50 feet closer to the west line than shot point 35 and some 120 feet farther north than shot point 35.

A. Based on the geology I certainly wouldn't object to 150 feet location and a 450 location.

Q. Do you believe that an unorthodox location at 450 from the north line and 150 from the west line, would put you in about the same position structurally as -- as the requested unorthodox location?

A. Uh-huh.

Q. Where would a standard location in Section 6 put you?

A. Well, it would put you --

Q. A standard location would be 330 out of the corner.

A. Well, I guess it would put -- you see, there's a line 4 that is some other data that -- there is a point on that line 4 that I don't consider very reliable, and that data is data that I checked and do not have -- I haven't been able to recheck, so I'm not putting a lot of faith in that data, but I am putting faith in the data that -- the other data, would look like it would be -- based on my best opinion, I'd say it would be 10 feet low to the location that I suggested.

Q. All right. A standard location, the closest standard location would be 10 feet lower than the 100 foot location, 100 feet from the west line?

A. Correct. Correct.

Q. Okay.

A. And therein lies the problem. If you've got -- if you're 25 feet low, and I think that -- and I feel strongly that this prospect will tie. I probably in retrospect can give you a better answer, but based on my experience, I think that the limit of error is plus or minus 25 feet for this data. If that's the case, then we would be, according to the best of my calculations, we'd be 1 foot low to the Gulf Crier if we drilled there.

Q. At the standard location?

A. Yes. If you drilled a standard location, then you'd be 1 foot low if you mistied on the bottom side of the plus or minus 25 feet.

Q. What would be the boundary of the 49-acre proration unit in Section 6? Do you know what the footage distances are on each side of that?

A. I think Mr. Buell is going to have to answer that question.

Q. My question is, Mr. McMillan, what portion of the requested non-standard proration unit is going to be potentially productive from the Devonian?

A. Boy, I'd have to have an engineer's scale to figure it out.

Q. You've not studied --

A. I guess we could draw one.

Q. You've not studied that specifically to determine what portion of this proration unit is productive?

A. No.

Q. Okay.

MR. STAMETS: Let me ask a question while we're right at that point.

What acreage is proposed to be dedicated to this well? Would it be the west half of the southwest quarter of Section 6, or what would be the southwest quarter of Section 6?

MR. BUELL: I believe it's Lots 4 and 5 and 6, I believe.

A. If this were a standard -- if this were a standard section, it would be the northwest northwest.

MR. STAMETS: Yeah, okay, but basically what we've got is the south half of a section here, so it would be the 49-acre tract that is the northwestmost in the partial section.

MR. BUELL: Correct. And if it's going to become a rectangular shape, it would have a north/south axis.

MR. NUTTER: Dick, there's a little lot up in the extreme northwest corner that's 14.75 acres.

MR. STAMETS: Uh-huh.

MR. NUTTER: And then the lot immediately south of that has 34-something.

MR. STAMETS: So there are two lots --

MR. NUTTER: And they add up together to make 49.33.

MR. STAMETS: Okay.

Q. (Mr. Kellahin continuing.) Mr. McMillan, I'd like to show you what I've marked as Tenneco Exhibit Number One, and ask you if you can identify that?

A. Yeah, this is a report I did in connection with this map.

MR. KELLAHIN: If the Examiner please, I'd like to move the introduction of Tenneco Exhibit One into evidence.

MR. STAMETS: That will be admitted.

Q. If you'll turn to the second page of that report, Mr. McMillan, you've indicated that shot point 35 had approximately 34 feet of additional structure to the Gulf Crier.

A. Correct.

Q. You also go on to recommend that the Devonian test be drilled at a location 450 feet from the north line and 150 feet from the west line. Is that still your testimony?

A. That's what I recommended. Mr. David recommended 100 and 330, and I don't think there's enough difference, as I testified earlier, so I'd go for 150 and 450.

Q. Where would a location in Section 1, 330 out of the north and east corners of that section, where would that place you on the Devonian structure?

A. Well, you know, if you look at the map, and you consider the Dawson data, you'd say you're going to be high, but if you consider the Dawson data is of poor quality, and that you need to rely on the LCH data, which I did, and I think the report -- let me go back to the report, since

you've introduced it, I think I discuss that data quality. The CP on the Dawson, or the CDP, which is common depth point, shot by Dawson is considered good at the Abo and Bough C levels and fair at the Devonian. The data quality of the GSI, which is that stuff further north, or the data further north, and the Teledyne data is considered excellent on all horizons. So I rate the Devonian on the Dawson data as fair and on the LCH lines, or the Teledyne, which are synonymous, as excellent at the Devonian horizon.

And that's what you've got to go back to, is what you think the best data is.

Q. But you used that data in drawing the contour lines for the Devonian structure.

A. That's right, but I didn't use it when I selected the location.

Q. But your structure map shows that the top of the -- this Devonian anomaly is going to be at a depth of 8250.

A. If you believe the Dawson data. If you believe that the -- if I believed that the Dawson data were excellent, which I didn't say in the report, I said it was fair. If you believe the Dawson data were excellent, you would, but you know, I sat down with that data and looked over it and sweated over a location, and said that's where you ought to drill.

Q. And after doing so, Mr. McMillan, then you drew the structure map.

A. No, no. No, no. I drew the structure map, I picked the seismic cross section, drew the structure map, looked at all the data, and said that's the best spot.

Q. At that point you didn't re-draw the structure lines to show the top of this Devonian anomaly to be farther into Section 6.

A. I honored all the data but you see, in any kind of seismic interpretation it's a judgment thing, and my judgment, based on nineteen years of experience, was that's the place you ought to drill.

Q. What is the top of the Devonian anomaly in here? What do you think the depth of that is?

A. Well, the way I have it mapped, and as I pointed out earlier, we're talking about, in my opinion, that we ought to tie within plus or minus 25 feet, I would say that it's probably -8260 at shot point 35.

Q. What percentage of this Devonian anomaly is outside of Section 6, or outside of the 49-acre proration unit?

A. I would say it depends on how you approach the problem. If we're saying that the best data indicates the high point is at 35, then I guess you'd have to do a volumetric study, which I haven't done.

If you just take that line that Mr. David's drawn in there, oh, I'd say about a fourth of it.

Q. A fourth of it is going to be in Section -- in the proration unit.

A. I'd say that's the minimum, but you understand that the high point, in my opinion, based on my examination of the geophysical data, is there at shot point 35, so it -- that may not be the exact numbers. I would guess, if anything, it would be more than that, but that's -- I can't give you a better answer than that.

Q. Based upon your geophysical study of this area, Mr. McMillan, what is going to be the drainage pattern for the proposed well if drilled at the requested location?

A. Well, I haven't qualified myself as an engineer, although I do quite a bit of geological work, so if you'll accept my testimony on that basis, I'll give it to you.

Q. I'd be interested in what your opinion is.

A. Well, I think you're going to drain out of 6 and 34 and 1.

Q. Do you have an estimate of what portion of the production from the proposed well is going to come out of Section 1?

A. I really don't, and I, you know, it would depend on what happened in Section 1. I don't think anybody

can give that answer.

Q. Do you know whether Read and Stevens proposes to drill a well in Section 1?

A. I don't know.

Q. Do you know what the ownership of the Section 1 and Section 6 are?

A. I think that the attorney has that. You know, and I want to give you the most honest answer that I can on whether they'll drill it or not, when I say I don't know, you've got to see how the well performs. Okay?

Q. Let me ask you this. Is not Read and Stevens the majority working interest owner in Section 1?

A. I'm not absolutely familiar with all the numbers. I'd rather the attorney answer that question. He's got them.

Q. Have you recommended to Read and Stevens that they locate a Devonian test in any portion of Section 1?

A. In this kind of prospect you drill your best location and then you look at it and then you go from that.

Q. What does the proposed Devonian test at this location, what's that going to cost, do you know?

A. I have not seen the AFE but based on other experience I have in the area, and also on conversations with Read and Stevens, it's going to cost in excess of $700,000.

Q. And what's the current oil price that the operator will realize from this well?

A. It's either $29.50 or $30.00, somewhere in there, depending on what Congress does to the oil industry. It could reduce that price significantly.

Q. Have you made any calculations to determine what volume of oil production from the Devonian is going to be necessary in order to pay out this well?

A. I don't know what all the royalty burdens are, but I can give you a horseback guess, assuming an 80 percent royalty. You're talking about, oh, probably 30- or 35,000 barrels. That would be with 80 percent royalty.

Q. Okay. Exhibit Number One introduced by Tenneco shows that Mr. David has made some reservoir calculations, some volumetric calculations, and indicates a million barrels of oil to be recovered from thid Devonian anomaly. Do you agree or disagree with that estimate?

A. Well, I told you that earlier.

MR. BUELL: Mr. Examiner, I'm going to object finally. We tendered this witness as a geophysicist for interpretation. He's been asked for geology, reservoir engineering, economics, and prediction of the Federal government, and I think we're going a little far afield.

MR. KELLAHIN: Mr. McMillan has made certain conclusions and he's reached the assumption that a pro-

posed location as requested by the operator is going to be the best one, and I want to determine the extent of his knowledge and upon what he bases those conclusions.

MR. STAMETS: I don't believe that Mr. McMillan is the source for the million barrel figure and I don't believe it is appropriate to cross examine him on that.

Q. (Mr. Kellahin continuing.) I don't believe you've told us where a standard location 330/330 from the north and east lines of Section 1 would place you on this Devonian structure.

A. Well, it would place you between the 8260 datum and the 8285, along that line of traverse on LCH No. 2, assuming that we tied the map.

You see, when you make a seismic interpretation you also, in addition to picking the records, you make a velocity interpretation, and the velocity interpretation was just applied to those points that are shown on the map.

Q. Do you have a recommendation to the Examiner with regards to a penalty factor to be assessed against this well to offset the advantage in location?

A. I certainly wouldn't.

Q. Do you think it protects the correlative rights of the working interest owners and the overriding royalty interest owners in Section 1 to place a well in Sec-

tion 6 100 feet from the section line?

A. Well, let me put it this way. If you were to drill a 330 location from the north and west of Section 1, and I miss that 25 feet limit of error that I've discussed several times, and you got a dry hole because you were one foot low to the Gulf Crier, then nobody is going to benefit and there will never be any other drilling in that vicinity. Just based on my experience in the exploration business, I would say that you got the best chance to find the oil by drilling it. That's the -- that's the spot that I said is the best. So therefore, if you don't drill there, I don't think you ought to drill anywhere.

So I don't --

Q. The closest standard location would be 330 from the north and west lines of Section 6, and you're telling me that a standard location runs a substantial risk of encountering water.

A. I'm saying that your odds are increased by getting 10 feet higher.

Q. A portion, then, of the proposed non-standard proration unit is not going to be productive in the Devonian.

A. Go over that one again, please.

MR. BUELL: I don't understand it.

Q. You're concerned about the oil/water contact in Section 6.

A. Yeah.

Q. You've not scaled out where the 49-acre non-standard proration unit is, and I'm trying to find out where you anticipate that oil/water contact to cut through the non-standard proration unit.

My point is, I want to know how many non-productive acres you're going to dedicate to this well.

A. Well, I'll just have to scale it off. I can give this statement; that most of it, certainly, most of the northwest portion of 6 that would -- is this 49-acre proration unit that we're talking about, would be above the oil/water contact if the map tied the way I've got it mapped.

MR. STAMETS: While we're on this point, with your 25-foot variation, it could easily all be productive, right?

A. That's right. If you were 25 feet higher than the map, then certainly quite a bit more of 6 would be productive.

MR. STAMETS: Do you feel like it would be possible to say with any degree of certainty that any part of the proposed proration unit was not productive?

A. Not with an absolute degree of certainty. If that's the question, the answer is no.

MR. STAMETS: Okay, thank you.

Q. (Mr. Kellahin continuing.) Mr. McMillan, I

have one last question.

How else are the owners in Section 1 going to be able to compensate for the location requested by Read and Stevens except to do -- except to drill a Devonian test 100 feet from the east line and 330 from the north line in Section 1?

A. Well, I -- I would say this. I guess they would have to wait till the well was down before they could make that decision about how they could best protect their -- or get their oil out.

Q. Yep. If the well does produce from the Devonian and confirms your opinion that there is Devonian production, as indicated on your plat, then how are those interest owners going to protect themselves, unless the Commission penalizes the production of the Read and Stevens well? Or an offset well is drilled at a similar location?

A. Well, again, I think I'd almost have to be a petroleum engineer to answer that question for you, and I'd also have to wait until the well was down and evaluate the well, and then I think any decision I would make on that would be after consultation, after examination of the logs and structural position and the seismic, and all the data we got, and after I -- after I did that and sat down with the engineer, then I would decide where to drill, or whether or not to drill.

MR. KELLAHIN: I have nothing further.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. McMillan, in response to one of Mr. Kellahin's questions I believe you said that with a well at the proposed location, and even at your alternate location, there would be drainage into Section 6 from Section 1 and probably Section 34?

A. Well, I'm not a petroleum engineer and I don't want to mislead the Commission, but I think that the answer to that is obvious on its face, and it's yes.

Q. Okay. Now, Mr. McMillan, in the absence of good information as to productive acreage, the Division very often restricts the production or the allowable on wells that have crowded the line, so to speak, by utilizing a formula that assigns an allowable based on kind of a three-phased approach. In one instance they calculate the amount of drainage, additional drainage outside the proration unit resulting from moving the location over. This is just simply done by drawing, in this case, the 40-acre circle on the map and then drawing another 40-acre circle, seeing the additional drainage. And then just a simple numerical calculation how much closer the well is to the line. Thus, if a well in this case, you're not going to be any closer to a line than

you're allowed on the north-south line, so there is no penalty there. You're, let's say you were halfway to the line on the west side, that would be 50 percent factor there, and just for the heck of it, let's say you drain another 10 acres outside your proration unit, that would be a 25 percent penalty there.

You add those three up and divide by 3 and come up with an allowable factor which would be somewhere between 50 percent and 25 percent in this case.

Do you know of a -- can you think of a better formula for penalizing production?

A. Mr. Examiner, I'm just not really familiar with it, honestly not, and I don't know --

Q. Do you have anything better to offer than that, let's say.

A. No, I don't.

Q. Okay.

MR. STAMETS: Are there any other questions of this witness? He may be excused.

Do you have anything further, Mr. Buell?

MR. BUELL: I have one other witness. Call Mr. Richard Gifhorn.

RICHARD GIFHORN

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. BUELL:

Q. Would you please state your name, sir?

A. Richard Gifhorn.

Q. Mr. Gifhorn, by whom are you employed, where and in what capacity?

A. Eastman Whipstock. I'm a Marketing Representative in Midland, Texas.

Q. And you have not previously testified before the Commission --

A. No --

Q. -- or one of its examiners.

A. -- I have not.

Q. Would you explain to the Examiner some of your educational/work background?

A. Okay, I have 96 semester hours in marketing from Stephen F. Austin State University. I have 80 hours of directional drilling classroom training from Eastman Woodstock in Houston. I have 40 hours of directional survey training from Eastman Whipstock in Houston, Texas, and I've been employed by Eastman Whipstock for two years. I'm in

a supervisory capacity over approximately eight directional drillers and three surveyors and supervise their work and also review their work.

Q. Have you proposed a recommended procedure for the proposed well that's the subject matter of this hearing?

A. Yes, sir. I was contacted by Charles Read approximately --

Q. Just a minute.

A. Is that proposed procedure marked as Applicant's Exhibit Number Three?

A. Yes, sir.

Q. Okay, go ahead and explain to the Examiner what that shows.

A. Okay. I was contacted by Mr. Read approximately a month ago and he told me what his situation was in reference to this well, and he gave me a number of offset wells for me to try to obtain their deviation records and from that see what kind of problems they would encounter. Unfortunately I was only able to come up with one deviation record and that was on the Tom Ingram Well. I ran that through our computers and from that I've come up with this procedure..

According to the Ingram deviation records they had an accumulated displacement of 218 feet. That's

assuming if all the angle they had in the hole was going the same direction they would have 218 feet of total accumulative displacement.

Looking at the drilling procedure of Read and Stevens, I recommended that they drill down to 4200 feet, just taking their normal drift indication shots. At any time if their direct indication shot should show a substantial increase over -- over the Ingram well or their cumulative displacement should become more than 100 feet, we would have to run a multi-shot survey.

If not, we would run a gyroscopic multi-shot survey at 4200 feet, a casing point.

Okay. Then I would recommend that they go back with a regular drilling assembly, packed hole assembly, and drill down to approximately 9000 feet with a non-mag drill collar, again taking just their regular drift indication shots where we can calculate an accumulated displacement towards the lease line, and at that point we'd run another multi-shot survey at 9000, roughly 9000 feet, and determine exactly where the bottom hole location was, tying it back into the survey at 4200 feet.

If they didn't encounter any problems of lease line, just go ahead and drill the TD monitoring the well with non-mag drill collar and an R single shot instrument for direction. At that point, when they did reach total

depth, we would run another non-mag multi-shot survey back to tie into the survey at 9000 feet and submit it to the Oil and Gas Commission.

Q. Do you believe that this program would adequately protect and identify the total depth location of this well as keeping it on the east side of the lease line?

A. Yes, sir, according to the New Mexico Oil and Gas Commission, these surveys have to be taken at least 100-foot interval, no more than 100-foot interval, and at that interval you can take surveys every foot but we've found over the years that taking them every 100 feet, that this will give you a true and accurate picture of where your bottom hole location is.

If at some time they should encounter the lease line we could go in with a downhole motor and a bent sub and turn it away from the lease line, get it back to an approximate location under their original drilling site.

Q. Mr. Gifhorn, was Exhibit Three prepared by you or under your supervision?

A. Yes, sir, it was prepared by me.

MR. BUELL: I would move the admission of Exhibit Number Three.

MR. STAMETS: Exhibit Number Three will be admitted.

SALLY WALTON BOYD
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CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Gifhorn, is the sole purpose of your proposal here to make sure that the well bottoms under the surface location or just on the lease?

A. Okay. No, when I was talking with Charles Read I asked him about this, because he wasn't clear on it and I wasn't clear on it. When we were talking originally I discussed with him exactly where he wanted his bottom hole location at total depth, and he said within a given target area of 50 feet around this proposed wellbore.

Now, he talked at that time that, you know, they might go across the lease line and then have to kick it back across the lease line back into this section.

I told him at that time I did not know the Oil and Gas Commission's, you know, feelings on that matter, but I know how it is in Texas. They don't particularly like it. They don't like to cross a lease line and then come back. They want you on the lease at all times. Now what the New Mexico Oil and Gas Commission's feelings are, I don't know.

So, but we can -- we can monitor the well to make sure at no time that it crosses the lease line. This -- this will present no undue stress to the operator or

to our company.

MR. KELLAHIN: May you ask a question?

MR. STAMETS: You certainly may.

CROSS EXAMINATION

BY MR. KELLAHIN:

Q. What is the radius of tolerance for hitting that bottom hole location? You said 50 foot?

A. Well, I would assume that they under normal drilling conditions, if you're drilling a well, an uncontrolled well, and you have, like this Tom Ingram Well, you have 211 feet of total or cumulative displacement, roughly. I would assume that you would probably be within 25 feet of your surface location at that point, at your bottom hole location, because at that low an angle, basically you're creating a spiral, you're spiraling down.

Q. So we have a 25 foot radius of tolerance from the surface location?

A. Well, like I said, it's hard to say. It could be as little as 2 feet, because you're going down in a spiral, but I would say that at this depth, 12,500 feet, that with no directional drilling methods at all, you will fall within a 50-foot radius of the surface location; that the maximum you'll be displaced is 50 feet in any direction.

Q. So it's possible that using a surface

location of 100 feet from the west line and 330 from the north line in Section 6 --

A. Uh-huh.

Q. -- that the bottom of this well would be 50 feet from the section line between Section 1 and Section 6.

A. That's possible, but it also could be in the other direction, also. A lot of it depends on structure, if there's any structure problems, dip, things of this matter. I've seen wells that -- two adjacent wells, one went northwest and one went southwest. It's hard to say. You just can't say for sure which way. It might -- it very possibly could go towards the lease line. That's why we were contacted. If it does go towards the lease line they want to turn it back away from the lease line.

Q. To insure that you avoid the lease line, wouldn't it be more prudent to drill at a standard location, 330 from the north and west lines?

MR. BUELL: Mr. Examiner, I'm going to object again. This witness wasn't offered for this type of testimony. He was offered to present a drilling program.

MR. KELLAHIN: This witness has told me where he's going to bottom this well. I want to find out if he starts at a different surface location if he can keep from draining our acreage.

MR. STAMETS: Let's -- let's ask this question. If you were asked to, could you bottom this well within two feet of the surface location?

A. I could bottom it within six inches.

MR. STAMETS: Okay, that answers --

MR. KELLAHIN: Can we have that in the order?

MR. STAMETS: That answers your question, I believe, Mr. Kellahin.

A. If I could just say one other thing for the Commission's -- when Mr. Read first contacted me, he contacted me about drilling this as a directional hole and with the surface location of, I believe, 330, standard location, but bottoming out at this 330 from the north and 100 foot from the west line. And I told him at that time that yes, we could do that, but the cost of doing that is much greater than if we went in and monitored the well and even if we had to turn the well back from the lease line, it would still be cheaper than controlling it as a directional hole.

MR. STAMETS: Any other questions for this witness? He may be excused.

Do you have anything further on direct, Sumner?

MR. BUELL: We might have one other witness.

I doubt it, but if we do it will be a short one.

MR. STAMETS: We'll take about a fifteen minute recess.

(Thereupon a recess was taken.)

MR. STAMETS: The hearing will please come to order.

Mr. Kellahin, do you have some direct testimony you would like to put on?

MR. KELLAHIN: I'd like to move at this point to dismiss the Applicant's application in this case. It's my opinion and argument that Mr. Buell has failed to prove a prima facie case with three points in mind.

One, there has been no testimony that Read and Stevens is going to be the operator of this well.

He's not, second of all, provided us testimony to show what the ownership of the non-standard proration unit is going to be.

And thirdly, he's failed to establish that the proposed unorthodox location is the preferred location. Mr. McMillan's testimony was that a location 450 feet from the north line and 150 feet from the west line was a comparable location, and that is confirmed by his report to

Read and Stevens in December of '78, and for those three reasons we move that the application be dismissed.

MR. BUELL: If the Examiner please, I of course will oppose the motion by Mr. Kellahin.

Starting with his last point first, that we have not proven that the 330/100 foot location is the preferred location. I think Mr. McMillan has said several times that it was; that based upon his interpretation of the geophysical data that was the best place to drill this wildcat well under the circumstances.

As far as the ownership question is concerned, it is contained in the application. The allegation is there. It has not been controverted by any response from Tenneco.

And finally, as to the ownership, I believe that is also contained in the exhibits to the application, showing various offset owners and owners of interest, and I believe that is on file with the Commission, and I would ask the Commission and the Examiner to take administrative notice that those matters are contained in this file.

MR. STAMETS: The motion is denied.

MR. KELLAHIN: I'd call Mr. Bill Dixon.

WILLIAM H. DIXON

being called as a witness and having been duly sworn upon

his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Dixon, would you please state your name, by whom you're employed, and in what capacity?

A. William H. Dixon and I am employed by Tenneco Oil Company in San Antonio, Texas, as the Division Geologic Engineer.

Q. Mr. Dixon, have you previously testified before the Oil Conservation Division?

A. No, I have not.

Q. Would you state for the Examiner when and where you obtained your degree?

A. I obtained a Bachelor of Science in geology from the University of Michigan in 1958 and a Master of Science in geology from the University of Michigan in 1959.

Q. Subsequent to graduation where have you been employed and in what capacity?

A. I've worked for Marathon Oil Company for approximately eleven years in the Research Division in Littleton, Colorado, doing production geology, exploration geology, production development, production engineering, and have been five years with Tenneco in their Mid-Continent

Division, and also in Midland, and currently in San Antonio.

Q. Does the area of responsibility in the San Antonio office of Tenneco include the subject matter of this application?

A. Yes, it does.

Q. Mr. Dixon, have you made a study of and are you familiar with the engineering and geological facts surrounding this particular application?

A. Yes, I have.

MR. KELLAHIN: We tender Mr. Dixon as an expert witness.

MR. STAMETS: The witness is considered qualified.

Q. (Mr. Kellahin continuing.) Mr. Dixon, would you commence by telling us what, if any, interest Tenneco Oil Company has in Section 1?

A. Tenneco Oil has 46.56 mineral acres in Section 1, which are unleased.

Q. What portion of Section 1 -- I'm sorry. How many acres are contained in all of Section 1?

A. I believe about 388.

Q. So what percentage of interest in Section 1 does Tenneco have?

A. I haven't calculated it but it would be approximately an eighth.

Q. Approximately twelve, twelve and a half percent?

A. A little less than that; probably ten.

Q. Do you know who the other working interest owners are in Section 1?

A. Yes. I believe those were submitted with the application to the Commission, also.

Q. Apart from Tenneco's twelve, twelve and a half percent interest in Section 1, which operator controls the balance of that section?

MR. BUELL: I believe that the witness testified it was something less than ten percent that they owned.

MR. KELLAHIN: He said they had an eighth.

MR. BUELL: I thought he said it was less than that.

A. It may be somewhat less than an eighth. It's 388 acres. I haven't calculated it out but we have 46, almost 47 acres, out of that.

Q. Apart from Tenneco's interest in Section 1 what other operator controls the balance of that section?

A. I believe that it's Read and Stevens.

Q. Does Tenneco have any interest in Section 6?

A. No, sir.

Q. I show you what I've marked as Tenneco Exhibit Number Two and ask you if you can identify that?

A. Yes. This is the material that was sent to Mr. Struthers, Production Manager for Tenneco in San Antonio, the reports by Mr. David and a geophysical report by Mr. McMillan was also submitted. They were interested at this particular time in obtaining support for their test in Section 6.

Q. Have you made a study of the information presented to you by Read and Stevens in Exhibit Number Two?

A. Yes.

MR. KELLAHIN: If the Examiner please, we'd move the introduction of Tenneco Exhibit Two.

MR. BUELL: I would object to the introduction. There's been no indication that this man has prepared this document, other than the fact that he's reviewed it, and I don't think that he is qualified to testify as to its accuracy, credibility, or any other matters until he's personally participated in its preparation or the supervision of its preparation.

MR. KELLAHIN: If the Examiner please, Mr. Buell misunderstands the rules of evidence. We are introducing this as an admission by the applicant of how they evaluated this particular prospect. It's certainly not our testimony. It comes from the files of Read and Stevens, and

as an admission by the applicant, it certainly is admissable.

MR. BUELL: Mr. Examiner --

MR. STAMETS: Let me ask Mr. Kellahin one question.

Were these copies of records from Tenneco's files?

MR. KELLAHIN: Copies of records from Tenneco's files that had been given to them by Read and Stevens in correspondence.

MR. STAMETS: Mr. Buell?

MR. BUELL: I believe that I perhaps misunderstand the rules of evidence, but I don't feel alone on that path in this circumstance.

I believe that this is being offered by way of impeachment and if Mr. Kellahin wishes to impeach one of the applicants' witnesses, the material should have been presented to the applicants' witness, not independent of his own witness.

I don't believe it's proper impeachment material at all under these circumstances.

MR. STAMETS: Where are you going with this information, Mr. Kellahin?

MR. KELLAHIN: I'm going to demonstrate to you that their own geologist has made some calculations of the reserves involved, the volumetric calculations and the

information used to make those calculations, the structure maps and geology that Read and Stevens used and tendered to Tenneco in order to try to persuade Tenneco that they ought to join or to waive any protest of this particular well.

MR. STAMETS: And Mr. Dixon will be simply testifying as to Tenneco's position in evaluation of the material which was furnished to them?

MR. KELLAHIN: That's right.

MR. STAMETS: By Read and Stevens.

MR. KELLAHIN: That's right.

MR. STAMETS: We will allow that.

Q. (Mr. Kellahin continuing.) Now, Mr. Dixon, would you please refer to what I've marked as Tenneco Exhibit Number Three and identify that exhibit for us?

A. This exhibit is strictly a blowup of Read and Stevens structure map.

Q. I'm sorry, I can't hear you, Mr. Dixon.

A. It's a blowup or an enlargement of Read and Stevens structure map so that we could perhaps see a little better what is happening in this area.

Q. What structure map did you blow up?

A. This is the Devonian structure map which was contoured. We did not add the geophysics on here; it cluttered it up, but we did contour from the geophysics in these ten foot contours.

Q. What portion or what pages from Tenneco's Exhibit Number Two were used to make Exhibit Number Three?

A. It would be the third page.

Q. What, if any, other information have you added to that exhibit, to Exhibit Number Three?

A. Simply put in ten foot contours, which are the black lines rather than the blue lines, the small black lines. Also added the legal 330/330 location and the excepted location.

Q. Are there any other Devonian wells in this area?

A. Yes. The Gulf Crier, I believe, as stated previously, it produced over 166,000 barrels.

Q. What's the current status of that well?

A. It's plugged.

Q. Have you examined the volumetric calculations that Mr. David used in Tenneco Exhibit Number Two?

A. Yes.

Q. Do you agree or disagree with the volumetric calculations used by Mr. David?

A. Assuming that the map is correct, I would have to agree, and that may be a conservative number rather than an optimistic number.

Q. Based upon your study, Mr. Dixon, do you have an opinion as to the amount of oil remaining that can

be produced from this Devonian anomaly?

A. We would estimate that the well -- a well drilled here could make as much as 200,000 barrels.

Q. At which location?

A. Well, at a location, hopefully, in Section 1 would be a better location than in Section 6, if the map is correct.

Q. You misunderstand me. The 200,000 barrels of oil --

A. Right.

Q. -- is the potential production from a well at what location?

A. I still am misunderstanding.

Q. All right, let me ask you this. Do you have an opinion with regards to the producable reserves from the Devonian formation from a well to be drilled by the operator at the proposed unorthodox location?

A. It could be as high as 200,000 barrels.

Q. Do you know or have you been informed by Read and Stevens what the anticipated cost of this Devonian test will be?

A. I don't believe so.

MR. STAMETS: I'm getting a little confused here. Let's go back to the reserves calculations done by Mr. David. He indicated on this that there might be 1.168

million barrels of oil remaining to be recovered from the crest of the Devonian seismic closure, and you indicated that you felt there might even be more than that.

A. Yes, sir, there may be.

MR. STAMETS: Okay, and the proposed unorthodox location is pretty near the crest of this Devonian seismic closure, and yet you say that well will only get 200,000 barrels.

A. That's assuming it won't drain the entire structure.

MR. STAMETS: Okay. All right, and --

A. It could make a million barrels.

MR. STAMETS: -- on what basis do you make the assumption that it would not drain the entire structure?

A. Well, if the structure is as mapped, you would drill more than one well in the structure.

MR. STAMETS: And Mr. David did not make any calculations as to how many wells might be required on the crest.

A. No, sir.

MR. STAMETS: However, there's not room for very many wells on the crest. How many do you feel could be drilled there?

A. Two.

MR. STAMETS: And this well is only going

to get 200,000 --

A. It may.

MR. STAMETS: -- and yet you expect to see more than a million recovered from the crest.

A. I should have said at least 200,000.

MR. STAMETS: Okay, very good.

A. Okay.

Q. (Mr. Kellahin continuing.) Do you have an opinion, Mr. Dixon, as to the direction of drainage of the oil to be produced by the proposed well at that location?

A. Well, I would have to agree with the previous witness that the drainage will be from Section 1 as well as 6 and 34.

Q. What if any effects will the proposed location have upon Tenneco's correlative rights?

A. It certainly will drain us.

MR. BUELL: I'm sorry, I didn't hear the answer.

A. It certainly will drain us.

MR. BUELL: Thank you, Mr. Dixon.

Q. Do you have an opinion as to how Tenneco's interests and correlative rights can be protected?

A. We would suggest either a legal location or a really severe penalty for drilling that close to the lease line.

Q. If the Commission approves the requested location, do you have a recommendation as to what the penalty factor might be?

A. Well, assuming that the well -- let's make a couple of assumptions.

Let's assume that the map is correct and the well is high on the structure. If no other well is drilled, it could drain the entire structure. I think we will agree with the drainage. Therefore, if you'll notice on the map, the outside black contour is essentially the oil/water contact. If we assume that the map is correct, then I would suggest that approximately 20 to 30 percent of the reservoir is in Section 6 and the remainder is in Sections 1 and 34, and that the well should be penalized to that extent.

Q. Do you have a specific percentage recommendation with regards to a penalty factor based upon those assumptions?

A. Well, I haven't planimetered the map to find out what the ratios are, but by eyeball, I would say they might have as much as 30 percent of the reservoir and therefore they should be allowed a 30 percent of their production.

Q. Have you made a study of the production and the logs on the Gulf Crier Well in Section 34?

A. Yes, I have.

Q. Have you examined the cross section introduced by the applicant in this case?

A. Yes, sir, I have.

Q. And what, if any, volumetric calculations have you made with regards to the Gulf Crier Well?

A. The Gulf Crier Well is rather difficult to get porosity on. The log porosity is essentially zero. As a matter of fact, you probably wouldn't normally complete in the Devonian had they not hit the top of the Devonian with DST. If you assume a porosity of 4 percent and a water saturation of 30 percent, bottom hole temperature 168 degrees, and a pressure of 6144, also use a formation volume factor of 1.3, which would give you a 500 GOR, the oil in place would be approximately 167 stock tank barrels per acre foot. The drainage area of the Crier No. 1 would be 3190 feet -- 90 acre feet, I'm sorry.

MR. STAMETS: How many feet?

A. 3,190 acre feet. If we assume an average thickness of 9 feet, then the drainage area would have been 354 acres.

If you assume that it was 18 feet, you would have drained 177 acres.

Q. Based upon that information and those calculations, Mr. Dixon, do you have an opinion as to whether

or not Read and Stevens could drill at a standard location in Section 6, 330 feet from the north and west lines, and obtain an economic well?

A. I believe they could. Again, I have to go back to the maps that we're supplied and say that if you contour in the 10-foot contours, you may have as much as 35 feet at a standard location as shown by the green dot and the contours.

Q. 35 feet of what?

A. Above the oil/water contact, assuming that that oil/water contact is currently at the top of the Crier No. 1 perforations.

Q. What, if any, other factors have you used to reach your conclusion that a well could be drilled at a standard location in Section 6?

A. I'm sorry, I didn't hear you.

Q. What, if any, other factors have you used to determine your opinion that a well could be drilled at a standard location in Section 6 and still be --

A. I'm afraid I don't understand the question, Mr. Kellahin.

Q. All right, let me ask you this.

Would you tell me what factors you have used to reach your conclusion that a well at a standard location in Section 6, 330 out of the corner, would still be an

economic Devonian well?

A. Well, I'm assuming that the map is correct.

Q. All right.

A. And he has already testified that the map could be off as much as 25 feet. It could be plus or minus, by the way.

Q. Let me ask you this. Do you concur in Mr. McMillan's opinion that there is a variable of 25 feet plus or minus?

A. Yes, I have to; however, I'd also like to state, and I'm not a geophysicist, although we work with them all the time, that with a well as close as the Crier No. 1 is, I would feel a lot better about my geophysical data than I would if I was, say, four miles away from the tie well.

Q. Do you have an opinion as to where you estimate the oil/water contact to be in Sections 1, 6, and 34?

A. You have to assume that the structure is as mapped and assume that the oil/water is the same as it would be in the Crier No. 1, would be the top perforation.

Q. Have you examined the log in the Gulf Crier Well?

A. Yes.

Q. Do you have any information or factors

that would lead you to believe that the oil/water contact is other than as depicted on the Read and Stevens Exhibit Number One?

A. No, sir.

Q. In your opinion, Mr. Dixon, where would you place the first well in this area to test the Devonian anomaly?

A. I believe if the map is correct, that I would place it at a legal location in Section 1 with a second well, possibly, in Section 6.

Q. Was Exhibit Number Three prepared by you directly or under your direction and supervision?

A. Yes.

MR. KELLAHIN: We'd move the introduction of Exhibit Number Three.

MR. BUELL: I would object to Exhibit Number Three introduced. He's testified several times that he didn't prepare the contours or anything else and that he's just assumed somebody else did something correctly, and he hasn't prepared this exhibit other than to put one yellow and one green dot on it.

MR. KELLAHIN: He prepared that exhibit based upon the applicant's structure map.

MR. BUELL: Then it's based on hearsay, Mr. Examiner.

MR. STAMETS: The exhibit speaks for itself and it will be admitted.

MR. KELLAHIN: I have no further questions of Mr. Dixon.

CROSS EXAMINATION

BY MR. STAMETS:

Q. Mr. Dixon, one question. Looking at Exhibit Number Three, and looking only at Section 6, does the yellow dot provide the owners in Section 6 the greatest opportunity to recover most oil under that tract? Or the greater, I should say, you have two locations.

A. Greater, perhaps. The hazard with the well in its present location is that if the structure is as drawn currently on the map, you're going to leave oil without drilling in Section 1.

Q. Okay, but considering only Section 6, now, I'm not going into Section 1.

A. All right. It certainly enhances the -- the well to move it over to the lease line and quote up-structure.

Q. Now does Tenneco have the right to drill in Section 1?

A. No, sir.

Q. Who does have?

A. Read and Stevens has the leasehold.

Q. And your interest there does not allow you to drill?

A. No, sir, not with 12 percent, or less.

Q. Well, now you say it does not. Is it just the fact that Tenneco chooses not to drill?

A. Let me put it another way. It wouldn't be feasible for us to drill a well in Section 1, or economic for us.

Q. The acreage that you talked about, the 46.56 acres, is that an undivided interest --

A. Yes, sir.

Q. -- in Section 1?

A. Yes, sir.

Q. Okay.

MR. STAMETS: Are there other questions of this witness?

MR. BUELL: Yes, sir.

CROSS EXAMINATION

BY MR. BUELL:

Q. Mr. Dixon, is it not a fact that you could obtain a well in Section 1 if you felt that that was a good prospect, by several remedies?

A. Such as?

Q. Such as compulsory pooling? If you felt it was a worthwhile prospect?

A. It's possible to do it through compulsory pooling, yes, sir.

Q. In fact, the well drilled at the proposed location would either prove or disprove the acreage in Section 1, wouldn't it?

A. It probably will.

Q. So it's really to your advantage to have that well there, as far as that angle is concerned.

A. From proving or disproving whether it's there or not.

Q. And whether Tenneco wants to put money into this or sit back and ride.

A. I think that, sir, you're alluding to the fact that you all requested a dry hole contribution or a contribution to this well from Tenneco?

Q. I don't know.

A. Well, you have, and company policy is such that we can't do anything on a development well which is not drilled on our acreage. That's a fact.

Q. So it's company policy that prevents you from moving --

A. That's correct.

Q. You've chainedyourself, really, just by the

policy.

A. Well, we cannot consider wells that are essentially a development well, although I'll admit this is wild, but you're developing off a well that's produced a bunch of oil.

Q. Uh-huh, and I want to get it in the record one more time that it is your opinion that the proposed unorthodox location in this application is the optimum location to drill on Section 6 for a wildcat well.

A. You want to call it a "develocat"?

Q. Whatever you want to call it, it is an optimum location.

A. It is an optimal location in Section 6, yes, sir.

Q. And it's preferable to Section -- to drilling one in an orthodox location.

A. Yes, sir.

Q. When you -- how did you draw in those black lines on this map? Freehand? Just followed the contours?

A. No.

Q. What did you use for a control?

A. I used the seismic points from his other map, which I stated.

Q. Did you take into consideration all the

seismic points that were contained on the exhibit that was supplied to you by Read and Stevens?

A. I believe I did.

Q. Now how much of the drainage do you feel will be coming -- presuming that the -- or assuming that the Commission grants the unorthodox location -- how much drainage did you say you felt was coming out of Section 1?

A. If that's the only well in there you may drain the entire portion of Section 1.

Q. And how speculative is that?

A. That's about as speculative as your thinking that you won't drain it.

Q. I don't understand the answer. You're speculating right now, aren't you?

A. No.

Q. All right, what do you base that on?

A. Well, if the Crier drained as much as it did --

Q. And how much did it drain?

A. It drained, depending on how thick you want to make the reservoir, as large as 354 acres or as small as 177 acres.

Q. Uh-huh, and it watered out.

A. Yes, sir, eventually it watered out.

Q. And how much acreage do you think is over

in Section 1 that's drainable?

A. Anything inside that first black line is drainable. We are talking about a water-drive reservoir.

Q. Uh-huh.

A. So it is drainable.

Q. And what was the porosity factor you used looked at our log?

A. 4 percent.

Q. Hasn't there been previous testimony here that the log showed 7 percent?

A. I believe the question was asked was it 7 percent. I don't believe the witness said that it was 7 percent.

Q. It was in that area.

A. If you'd like to look at the logs, we can.

Q. They're available.

How much drainage also occurs -- might conceivably occur over in Section 1 would depend on the thickness of this anomaly, won't it?

A. Yes, sir, thickness and porosity and permeability.

Q. And do you know how thick it is at the various places?

A. No, sir.

Q. As I recall, we've got the contours on the

top, isn't that correct?

A. That's correct.

Q. So we don't know how thick it is.

A. That's right. You can guess, however, that it will be approximately either somewhere in the order of 10 feet, based on the Crier Well.

Q. Have you made any independent examination on your own or on behalf of Tenneco or any of Tenneco's staff to verify the information contained on this map that is, I believe, Tenneco's Exhibit Number Two, is that correct? Three? Other than to look at the Crier log?

A. Yes, sir.

Q. Independent examination by Tenneco, not information supplied to you by Read and Stevens?

A. Yes, sir.

Q. And what was the nature of that examination? Or investigation?

A. This was done under my direction by Mr. Ken Marco (sic) in March of 1979. We have a structure map at the time. We also have a record of all DST's and dry holes in the Crier Well, production, what other zones produced in the area, what the offset field is, the San Andres, the Dickinson -- I guess it's an F-69 Field -- what those -- what production was from the area, and that was based strictly on a letter from Read and Stevens. We had none of your data

at the time.

We also have the production in each of the wells.

Q. I don't understand. You gathered that information based upon a letter from Read and Stevens?

A. Requesting participation in the well.

Q. And did Mr. Marco draw any conclusions?

A. Yes, he did.

Q. And what conclusions did he draw?

A. That the well could easily make 200,000 barrels of oil, would be a realistic ultimate recovery from the well drilled for the zone. "A well not drilled on Tenneco acreage should not gain the right to develop reserves on Tenneco acreage."

"It's my recommendation that Tenneco not farm out the requested acreage and monitor the area for future potential."

Q. And do what?

A. Monitor the area for potential future drilling.

Q. So it's Tenneco's position that you just want to sit by and ride --

MR. KELLAHIN: Objection. That's a mis-statement of what the witness said.

MR. STAMETS: Sustained.

Q. When you drew these contours on this map, did you make allowances for the 25 feet error that could exist?

A. No, sir, I used the data as it is.

Q. So you didn't make that allowance?

A. No. Neither did the people that drew the original map make any allowance for 25 feet.

Q. I believe the testimony has been here several times today, unless you dispute it, that Mr. McMillan says that he considers there to be a 25 foot plus or minus error in his information.

A. But his contours follow the data as presented.

Q. But he recognizes the possible error; you don't.

A. No, I didn't say I didn't. I say that there is possible error and it can be as high as 25 feet. I've already testified to that, sir.

Q. But it is your testimony you think an optimal location for this type of well is the proposed unorthodox location.

A. That is an optimal location in Section 6, yes, sir.

MR. BUELL: I have nothing else.

MR. STAMETS: Mr. Kellahin?

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
3010 Plaza Blanca (505) 471-2462
Santa Fe, New Mexico 87501

REDIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Dixon, at what location, either the proposed unorthodox location or the standard location 330 out of the corner, at which location does Read and Stevens proposed Devonian well pose the greatest damage to Tenneco's correlative rights?

A. Obviously, 100 feet from the lease line, is much worse than 330 feet from the lease line.

Q. And what is your recommendation for a penalty factor to be assessed against Read and Stevens as operator for that well in Section 6?

A. I recommend that they be penalized to the extent that they be granted an allowable of only 30 percent of their production.

MR. KELLAHIN: I have nothing further.

RECROSS EXAMINATION

BY MR. BUELL:

Q. If Tenneco wants a 30 --

MR. BUELL: Did you want a 30 percent penalty?

A. No, 30 percent allowable.

Q. 30 percent allowable?

A. Yes, sir.

Q. But there are no other protesters and Tenneco owns, depending on what it works out, somewhere between 10 and 12 percent of Section 1, would you want to make an adjustment in that penalty for what Tenneco is being drained, or allegedly drained, to reflect your actual interest?

A. I don't think that that would serve the purpose here.

Q. You're the only one objecting. Please answer the question.

MR. KELLAHIN: He answered your question.

MR. STAMETS: I agree, he answered the question and he answered it no.

MR. BUELL: Okay. I have nothing else.

MR. STAMETS: Any other questions of this witness? He may be excused.

Anything further in this case? Mr. Kellahin?

Mr. Buell, did you have anything further you wish to add in this case?

MR. BUELL: Nothing else.

MR. STAMETS: The case will be taken under advisement.

(Hearing concluded.)

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
3010 Plaza Blanca (505) 471-2462
Santa Fe, New Mexico 87501

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, a court reporter, DO HEREBY CERTIFY that the foregoing and attached transcript of Hearing beforethe Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability from my notes taken at the time of the hearing.

Sally W. Boyd C.S.R.
Sally W. Boyc, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6683, heard by me on 10-2 1979.

Richard L. Stamets, Examiner
Oil Conservation Division

XS drainage outside proration unit

Drainage at unorthodox location 27.9
Drainage at Standard location 22.0
5.9

Drainage factor

$\frac{5.9}{40} = 14.75\%$

100.00
14.75
85.25 %

Distance factors

North - South = 100%

East - West $\frac{100}{330} = 30.30\%$

Total Recovery Table Factor

85.25
100.00
30.30
215.55

$\frac{215.55}{3} = 71.85$

Factor = 72%
Penalty = 28%

allowable Calculation

$\frac{49.33}{40} = 1.23$

410
1.23
504 bbls top

504
72
363 top penalized allowable

1

ROGER L. COPPLE
ATTORNEY AT LAW
209 EAST MARCY - P. O. BOX 40
SANTA FE, NEW MEXICO 87501
(505) 982-2515

October 9, 1979

Oil Conservation Division
New Mexico Energy and Minerals Dept.
P.O. Box 2088
Santa Fe, New Mexico 87503

RLS

Re: Case No. 6683
Application of Read & Stevens, Inc. for Unorthodox Well Location in Section 6, Township 11 South, Range 37 East, N.M.P.M., Lea County, New Mexico.
New Mexico Oil and Gas Lease No. LG-5613

Gentlemen:

The captioned case was heard on October 2, 1979; and subsequent to that date I received and enclose for filing with other papers in the case the Waiver of Objection and Consent to Order for Unorthodox Well Location executed by Exxon Corporation on October 4, 1979.

Sincerely yours,

ROGER L. COPPLE

RLC/jp
w/encl.

cc: Read & Stevens, Inc.
P.O. Box 1518
Roswell, New Mexico 88201
Attn: John L. Anderson, Jr.

Sumner G. Buell
Jasper & Buell
Attorneys at Law
P.O. Box 1626
Santa Fe, New Mexico 87501

WAIVER OF OBJECTION
AND
CONSENT TO ORDER FOR
UNORTHODOX WELL LOCATION

The undersigned, an offsetting operator named in Exhibit D to the Application for Approval of Unorthodox Well Location of Read & Stevens, Inc. for Order approving drilling of a projected 12,300 foot well located 330 feet from the North line and 100 feet from the West line of Section 6, Township 11 South, Range 37 East, N.M.P.M., to explore and produce from the Devonian formation, does hereby:

1. Acknowledge receipt of the Application for Approval of Unorthodox Well Location described above; and

2. Waive objection to entry of the Order requested in said Application without further notice to the undersigned.

DATED: October 4, 1979.

EXXON CORPORATION

JASPER and BUELL
Attorneys

121 East Palace Avenue
Post Office Box 1626
Santa Fe, New Mexico 87501
505: 988-2841

John G. Jasper
Sumner G. Buell

October 3, 1979

Oil Conservation Division
New Mexico Energy & Minerals Department
Post Office Box 2088
Santa Fe, New Mexico 87503

Re: Application No. 6683
Application of Read & Stevens for Unorthodox Well Location

Gentlemen:

Enclosed for filing with the above application is a Waiver of Objection and Consent to Order for Unorthodox Well Location executed on behalf of Tom L. Ingram, an offset interest owner. According to our information Mr. Ingram owns a 17.2334 percent interest in Lots 1, 2, 3 and 4, Section 1, T. 11 S., R. 36 E., N.M.P.M.

Very truly yours,

SUMNER G. BUELL

SGB/jc

Enclosure as noted

cc: Read & Stevens

WAIVER OF OBJECTION
AND
CONSENT TO ORDER FOR
UNORTHODOX WELL LOCATION

The undersigned, an offsetting operator named in Exhibit D to the Application for Approval of Unorthodox Well Location of Read & Stevens, Inc. for Order approving drilling of a projected 12,300 foot well located 330 feet from the North line and 100 feet from the West line of Section 6, Township 11 South, Range 37 East, N.M.P.M., to explore and produce from the Devonian formation, does hereby:

1. Acknowledge receipt of the Application for Approval of Unorthodox Well Location described above; and

2. Waive objection to entry of the Order requested in said Application without further notice to the undersigned.

DATED: September 28, 1979.

Joyce L. Ingram

TOM L. INGRAM

Eastman Whipstock
A PETROLANE COMPANY

P. O. Box 5577/Midland, Texas 79701/(915) 563-0511
TWX 910-881-5066/Cable: EASTCO

September 28, 1979

Read & Stevens,
Roswell, New Mexico
Charles Read

1 Dickenson State
Lea County, New Mexico

RECOMMENDED PROCEDURES

1. Drill and set pipe at 4200 feet. Run Gyro Survey on wire line to 4200' while WOC.

2. Go back in hole with packed hole assembly and take regular Drift Inclination Survey and report these surveys to Eastman Whipstock, Run a Magnetic Multiple Shot Survey at 9000 feet and continue to monitor well to T.D.

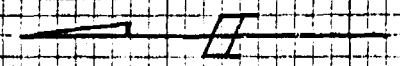
3. If well is going toward lease line, well should be turned using a downhole mud motor and $1\frac{1}{2}^{o}$ or 2^{o} bent sub. After well is turned away from known lease line, go back to drilling with packed hole assembly, non-magnetic drill collar, and single shot instrument. Pictures will need to be taken every 100 feet.

4. When well is T.D. a Magnetic Multiple Shot Survey will need to be performed and tied into other surveys already performed on well and a copy submitted to New Mexico Oil & Gas Commission.

R. W. Giffhorn
Sales Representative

RWG:dj

READ AND STEVENS, INC.
DICKENSON STATE WELL NO. 1
LEA COUNTY, NEW MEXICO
SCALE: 1" = 50'



1

330' FNL 100' FWL SEC 6-11-37

46 0700

K&E 10 X 10 TO THE INCH • 7 X 10 INCHES
KEUFFEL & ESSER CO. MADE IN U.S.A.

READ AND STEVENS, INC.
DICKENSON STATE WELL NO. 1
LEA COUNTY, NEW MEXICO

SCALE: 1" = 50'

46 0700

10 X 10 TO THE INCH • 7 X 10 INCHES
KEUFFEL & ESSER CO. MADE IN U.S.A.

314 SECURITY NATIONAL BANK BUILDING

PHONE 505 623-3770

CHARLES B. READ
PRESIDENT

NORMAN L. STEVENS, JR.
VICE-PRESIDENT

JOHN L. ANDERSON, JR.
EXPLORATION MANAGER

Read & Stevens, Inc.
Oil Producers
P. O. Box 1518
Roswell, New Mexico 88201

March 2, 1979

Read & Stevens, Inc.
South Crossroads Prospect
Lea County, New Mexico

Mr. Jim G. Strother, Production Mgr.
Tenneco Oil Company
6800 Park Ten Blvd.
Suite 200 North
San Antonio, Texas 78213

Dear Jim:

Enclosed is a copy of our letter of February 23, 1979 pertaining to the above captioned.

Also, enclosed you will find a copy of the geological report by E. K. David dated November 29, 1978 and the Colin McMillan geophysical report dated December 5, 1978. Our records would indicate that you have a 46.56 interest in Section 1-11S-36E. The purpose of this letter is to gain support for this test. We would be interested in either gaining an option to drill on your acreage after reaching total depth on our test or if Tenneco would be interested in participating in our test, this is also an alternative.

Read & Stevens, Inc. would be interested in farming out or selling a portion of this interest whereby it would be reimbursed for the total costs which are estimated at $91,152.14 to date and a 1/8 override back in for 1/2 interest after payout of all bonus, drilling, completion and operating costs in the first well or Read & Stevens, Inc. to receive all of the costs incurred to date and reserve a 1/16 overriding royalty interest and back in for a 40% working interest after recovery of all bonus costs, drilling and completion costs and operating costs on all wells.

We have approximately 1, 364.493 surface acres and approximately 899.934 net acres under lease.

After you have had an opportunity to review the enclosed information and if you think Tenneco would be sufficiently interested in either supporting or participating in the test, we would like the opportunity to discuss the area with you at length.

Again, many thanks for the courtesies extended to Mr. Loveless, Mr. Schlicker and myself during our brief visit.

Very truly yours,

READ & STEVENS, INC.

NLS:at

Norman L. Stevens, Jr.

CROSSROADS SOUTH AREA

Lea County, New Mexico

For

Read & Stevens, Inc.

COLIN McMILLAN - CONSULTING GEOPHYSICIST

714 PETROLEUM BUILDING • PHONE 505 623-1225 • ROSWELL, NEW MEXICO 88201

December 5, 1978

Read & Stevens, Inc.
P.O. Box 1518
Roswell, New Mexico 88201

Crossroads South Area
Lea County, New Mexico

Gentlemen:

The following report and three maps represent the results of a seismic review of the above area. The Abo, Bough C and Devonian were mapped and are included.

Geology

This area is located in northern Lea County in the north end of the Tatum Basin. It is located in the vicinity of the Gulf Cryer (Section 34, T10S-R36E). The Gulf Cryer produced 156,000 BO in spite of having only 14 feet of pay above the oil water contact at the Devonian level.

Other potential pays in the area include the Atoka and San Andres.

Field and Computing Techniques

The data shown with large arrows and numbered lines 1 through 5 are 12 fold Vibroseis CDP recorded and played back digitally by G.S.I. The two lines described as 1-13 through 1-40 and 2-13 through 2-46 are six fold digital dynamite data shot by Dawson. Line LCH 1 and LCH 2 are 24 fold Vibroseis recorded and played back digitally by Teledyne. The data with the E prefix on the shot point numbers were shot by Empire Geophysical in 1952 using split spreads, a single hole about 100 feet deep, and a 35 pound dynamite charge. The data with the U prefix were shot by United Geophysical in 1953 using approximately the same shooting parameters. All data were computed to a datum of 3800 feet above sea level using an 8000 feet per second subweathering velocity.

Data Quality

The CDP shot by Dawson is considered good at the Abo and Bough C levels and fair at the Devonian. The data quality on the G.S.I. and Teledyne data is considered excellent on all horizons. The data quality on the non-CDP is considered good at the Abo and Bough C and fair at the Devonian.

Velocity

All horizons were adjusted for velocity variations using regional velocity

control and well ties.

Results

The seismic indicates that it is possible to get approximately 34 feet high to the Gulf Cryer at shot point 35 on line LCM 2. In view of the performance of the Gulf Cryer well, the Devonian appears to be highly prospective at that location. Volumetric reserve calculations done by Mr. E.E. David indicate that there are more than one million barrels of oil to be recovered from this Devonian anomaly.

Recommendations

It is recommended that a Devonian test be drilled 450 feet from the north line and 150 feet from the west line of Section 6, T11S-R37E to test the Devonian formation. In view of the structural configuration of this anomaly, it is essential that this well be drilled at this location.

Very truly yours,

Colin McMillan

Eastman Whipstock
A PETROLANE COMPANY

P. O. Box 5577 / Midland, Texas 79701 / (915) 563-0511
TWX 910-881-5066 / Cable: EASTCO

September 28, 1979

Read & Stevens,
Roswell, New Mexico
Charles Read

1 Dickenson State
Lea County, New Mexico

RECOMMENDED PROCEDURES

1. Drill and set pipe at 4200 feet. Run Gyro Survey on wire line to 4200' while WOC.

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4. When well is T.D. a Magnetic Multiple Shot Survey will need to be performed and tied into other surveys already performed on well and a copy submitted to New Mexico Oil & Gas Commission.

R. W. Giffhorn
R. W. Giffhorn
Sales Representative

RWG:dj

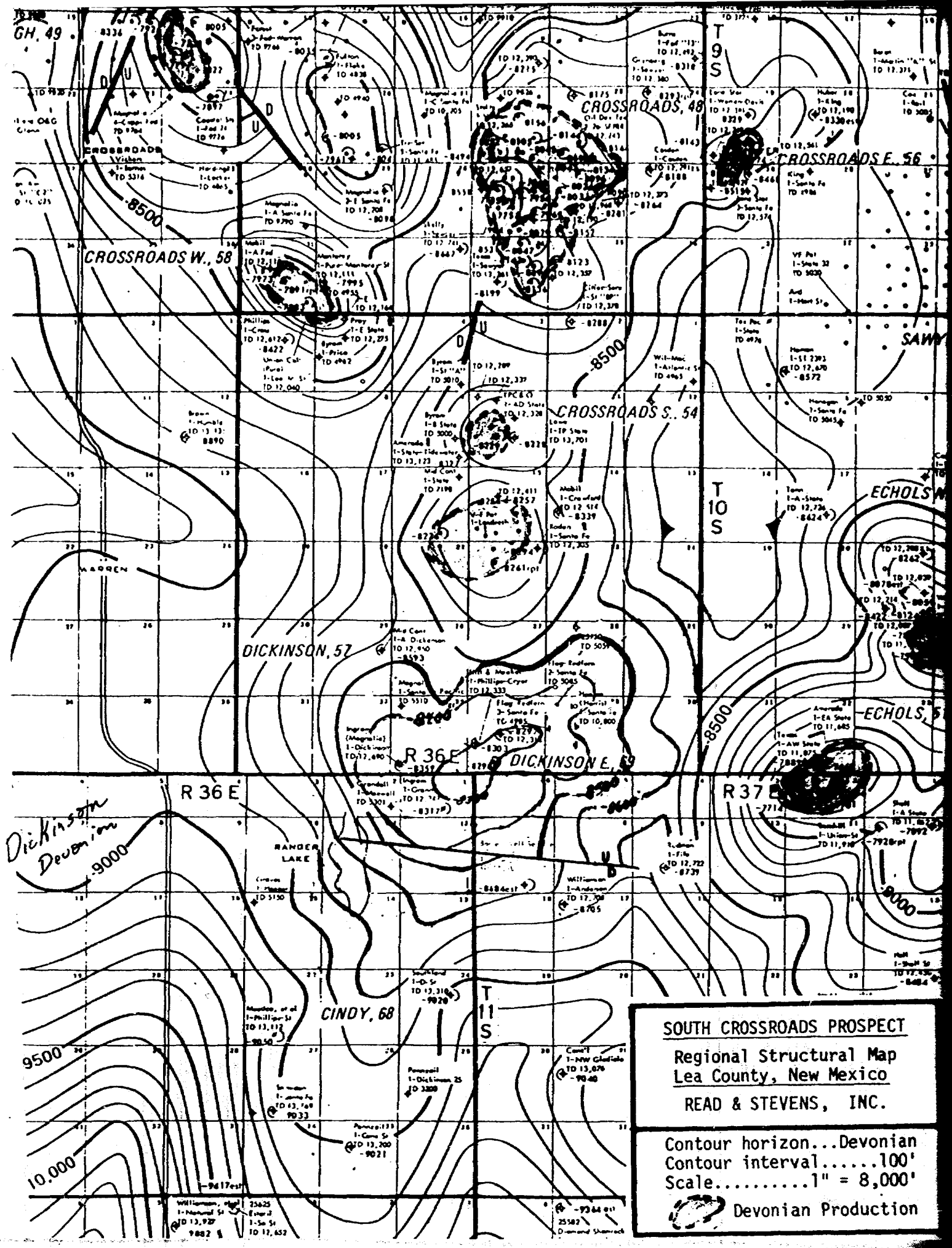
BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
Appl. EXHIBIT NO. 3
CASE NO. 6683
Submitted by applicant
Hearing Date 10-2-79

READ & STEVENS, INC.

SOUTH CROSSROADS PROSPECT

Lea County, New Mexico

BEFORE EXAMINER STAMETS
OIL CONSERVATION DIVISION
Terneco EXHIBIT NO. 2
CASE NO. 6683
Submitted by
Hearing Date 20 Oct 79



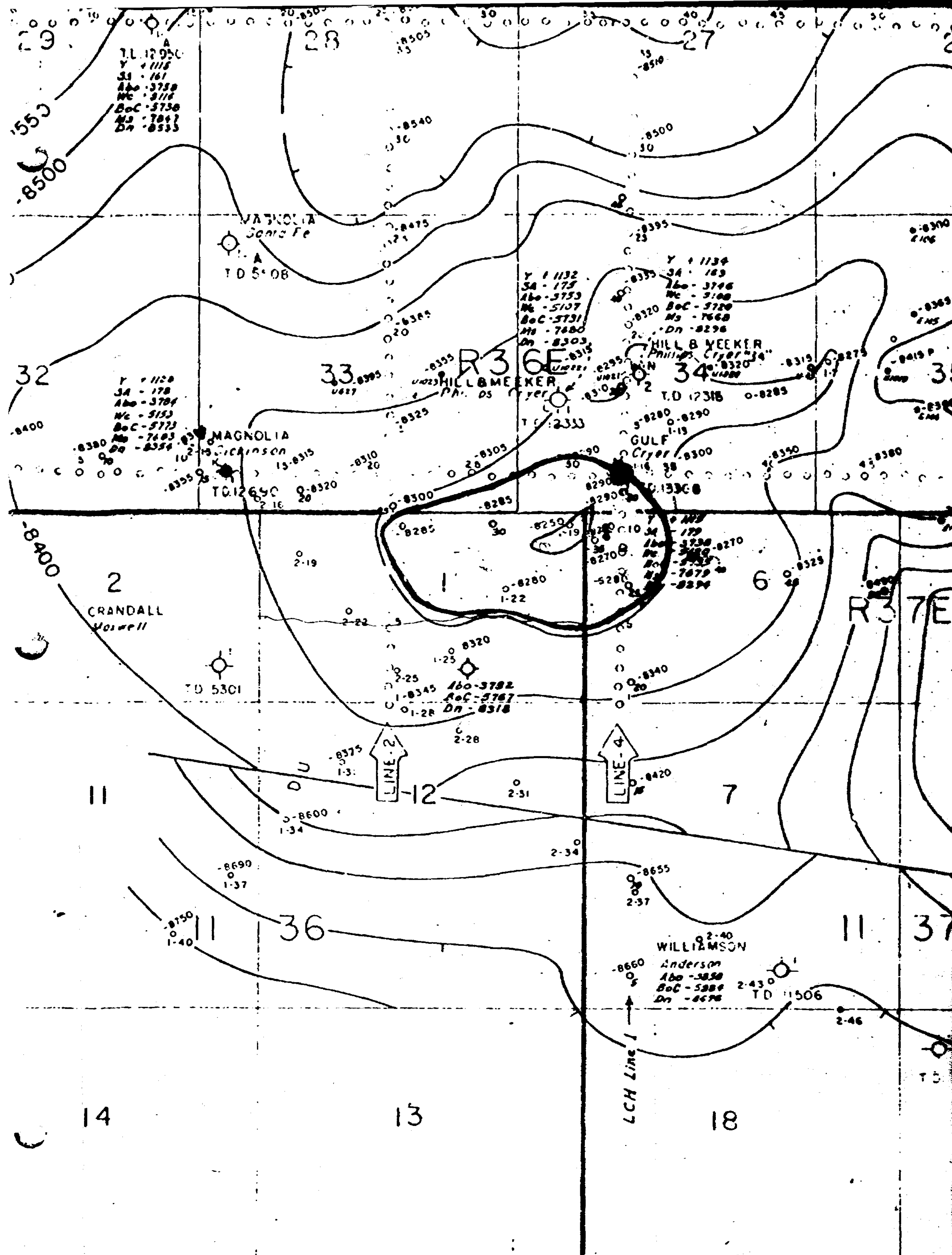
SOUTH CROSSROADS PROSPECT

Regional Structural Map
Lea County, New Mexico

READ & STEVENS, INC.

Contour horizon...Devonian
Contour interval.....100'
Scale.....1" = 8,000'

Devonian Production


R36E
R37E
MAGNOLIA
Santa Fe
T.D. 5108
MAGNOLIA
Dickinson
T.D. 12690
HILL & MEEKER
HILL & MEEKER
GULF
T.D. 12318
T.D. 12333
CRANDALL
Roswell
T.D. 5301
WILLIAMSON
Anderson
T.D. 11506
LINE-2
LINE-4
LCH Line 1
29
28
27
32
33
34
2
1
6
11
12
7
36
37
14
13
18

EDWARD K. DAVID
CONSULTING GEOLOGIST
ROSWELL, NEW MEXICO 88201

731 PETROLEUM BUILDING

OFF.: 505/622-8850
RES.: 505/622-5267

November 29, 1978

South Crossroads Prospect
12,300' Devonian Test
Dickinson Field Well
330' FNL & 100' FWL
Sec 6 - T 11S - R 37E
Lea County, New Mexico.

Read & Stevens, Inc.
P. O. Box 1518
Roswell, New Mexico 88201

Gentlemen:

It is recommended that Read & Stevens, Inc. drill a 12,300' Devonian test at the proposed location. This exceptionally attractive development location has the potential of having a high rate of return on your investment. It is interpreted to be on the crest of a sizable Devonian structure which is flanked by an abandoned Devonian oil well. The proposed location is expected to drain the remaining portion of this structure which is calculated to have over 1.1 million barrels of recoverable oil remaining in it.

STRUCTURE

This general area is marked by north-south aligned Devonian structural trends as shown on the enclosed regional structural map. The subject prospect is located on a local closure on the pronounced Crossroads structural trend. Nearby structural reservoirs result in excellent production. The extensive Crossroads Field (Sec 34 - T 9S - R 36E), 7 miles north, has produced over 38 million BO. The South Crossroads Field (Sec 22 - T 10S - R 36E), 3 miles north, has produced over 2.9 million BO from 12 wells. The Echols Field (Sec 2 - T 11S - R 37E), 4 miles east, has a cumulative production of over 4½ million BO from 9 wells. The proposed location is interpreted to be structurally high to the offsetting one-well Dickinson Field (Sec 34) which produced over 156,000 BO.

The South Crossroads Prospect is interpreted to cover 228 acres on the crest of a structure which has yet to be drained. This field was discovered by the Gulf #1 Cryer which produced over 156,000 BO in spite of only having 14' of pay above the oil-water contact. Seismic data shows that the Gulf well is on the northeast flank of the structure's crest. The proposed well, on the crest of this seismic feature, is expected to encounter the Devonian at 12,280' (-8260') which is 34' high to the Gulf offset and 50' above the original oil-water contact of -8310'. The drilling of the proposed well is expected to result in an excellent top allowable water-free completion.

RESERVES

Volumetric reserve calculations indicate 1,168,000 BO remain to be recovered from the crest of the Devonian seismic closure (outlined in red) immediately to the southwest of the Gulf #1 Cryer. It was assumed the current oil-water contact is -8294' which coincides with the top of the pay in the Gulf #1 Cryer. However, the current oil-water contact is probably lower being between -8294' and the original oil-water contact of -8310'. Other assumptions used in the volumetric calculations included: (1) porosity of 7%, (2) recovery factor of 60%, (3) saturation factor of 75%, and (4) 4,780 acre feet of pay.

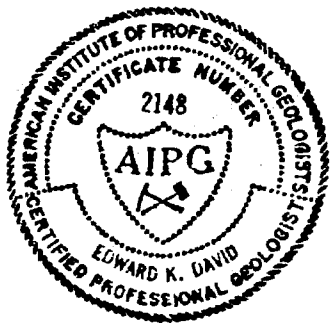
OTHER POTENTIAL PAYS

The 11,000' Atoka formation has at least three different sands which have produced or had shows of oil and gas. The lowermost of these Atoka sands resulted in an oil completion in the Tom Ingram #1 Granny (Sec 1 - T 11S - R 36E), shown as Well A-5 on the enclosed cross section. Oil and gas were recovered on completion attempts from three sands in the Hill & Meeker #1-34 Phillips Cryer (Sec 34 - T 10S R 36E), shown as Well A-1 on the cross section. These sands could provide oil and gas reserves which would be highly suitable for remedial operations after depletion of the Devonian oil pay.

The 4,980' San Andres is a potential oil pay in this area. The San Andres produces in the East Dickinson field (Sec 35 - T 10S - R 36E) 1 mile to the northeast. Although formation water was recovered on a drillstem test in the Gulf #1 Cryer, this zone could still be productive on this structure due to the erratic nature of the San Andres.

CONCLUSION

The South Crossroads prospect is considered a good sound close-in drilling venture. A favorable return on your investment is likely on this low-risk prospect. Therefore, it is recommended that Read & Stevens, Inc. undertake the drilling of this oil venture.



Very truly yours,

Edward K. David

Edward K. David
Certified Professional Geologist #2148

EKD/jg

Enclosures

Memo

From

ERNEST L. PADILLA
GENERAL COUNSEL

To File:

Doug Simmons called indicating that Tenneco will contest this application.

EP

OIL CONSERVATION DIVISION SANTA FE

CASE 6682: (This case will be dismissed.)

Application of Yates Petroleum Corporation for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp-Mississippian formations underlying the N/2 of Section 28, Township 18 South, Range 29 East, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6683: Application of Read & Stevens, Inc. for an unorthodox well location and non-standard oil proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a Devonian test well to be located 330 feet from the North line and 100 feet from the West line of Section 6, Township 11 South, Range 37 East, Lots 5 and 6 of said Section 6 to be dedicated to the well as a non-standard 49.33-acre proration unit.

CASE 6684: Application of CO_2-In-Action, Inc. for creation of a new carbon dioxide gas pool and special pool rules, Harding County, New Mexico. Applicant, in the above-styled cause, seeks the creation of the North Bueyeros-Santa Rosa CO_2 Gas Pool and the promulgation of special pool rules therefor, including a provision for 40-acre spacing and proration units. Said pool would comprise all or parts of Sections 1 thru 4, Township 20 North, Range 30 East, and Sections 8, 9, 10, 15, 16, 17, 20, 21, 22, 27, 28, 32, 33 and 34, Township 21 North, Range 30 East.

CASE 6685: Application of ARCO Oil and Gas Company for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Blinebry and Drinkard production in the wellbore of its J. R. Cone A Well No. 2 located in Unit L of Section 26, Township 21 South, Range 37 East.

CASE 6686: Application of Mesa Petroleum Company for an exception to Order No. R-111-A, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the casing-cementing rules of Order No. R-111-A to permit a well to be drilled in Unit F of Section 6, Township 20 South, Range 31 East, without a salt protection string and to circulate cement on the production string. Applicant also seeks the same exception for a possible future well in Unit E of said Section 6.

****

Docket No. 39-79

DOCKET: COMMISSION HEARING - WEDNESDAY - OCTOBER 3, 1979

OIL CONSERVATION COMMISSION - 9 A.M. - ROOM 205
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

CASE 6652: (Continued from September 19, 1979, Examiner Hearing)

Application of Shell Oil Company for statutory unitization, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order unitizing, for the purpose of a pressure maintenance project, all mineral interests in the North Hobbs Grayburg-San Andres Unit encompassing 10,650 acres, more or less, underlying all or portions of the following lands in Lea County, New Mexico: Sections 13, 14, 23, 24, 25, 26, and 36, Township 18 South, Range 37 East; Sections 17 through 21 and 27 through 34, Township 18 South, Range 38 East.

The unitized interval would be the Grayburg-San Andres Formation between the depths of 3,698 feet and 4,500 feet in Shell's State A Well No. 7, located in Unit H of Section 32, Township 18 South, Range 38 East.

Among the matters to be considered at the hearing will be the necessity of unit operations; the designation of a unit operator; the determination of the horizontal and vertical limits of the unit area; the determination of a fair, reasonable, and equitable allocation of production and costs of production, including capital investment, to each of the various tracts in the unit area; the determination of credits and charges to be made among the various owners in the unit area for their investment in wells and equipment; and such other matters as may be necessary and appropriate for carrying on efficient unit operations, including, but not necessarily limited to, unit voting procedures, selection, removal, or substitution of unit operator, and time of commencement and termination of unit operations.

Memo

From

MELBA CARPENTER

To Ernie

Dan:

Melba said something about having to include a couple of lots involved in this application due to the fact that a long section is involved??!

EJ

OIL CONSERVATION COMMISSION-HOBBS

OIL CONSERVATION DIVISION
ENERGY AND MINERALS DEPARTMENT
STATE OF NEW MEXICO

CASE NO. 6683

APPLICATION FOR APPROVAL
OF
UNORTHODOX WELL LOCATION

Read & Stevens, Inc., a New Mexico corporation whose address is 314 Security National Bank Building, P.O. Box 1518, Roswell, New Mexico, 88201, requests the Division Director to refer this application to an Examiner for hearing on October 3, 1979; and after hearing and report enter an Order approving the drilling of a projected 12,300 foot well located 330 feet from the north line and 100 feet from the west line of Section 6, Township 11 South, Range 37 East, N.M.P.M., Lea County, New Mexico, to explore and produce from the Devonian formation; and in support of this application Applicant States:

1. Applicant maintains an approved blanket plugging bond running to the State of New Mexico.

2. For a Permit to Drill, Applicant has filed Form C-101 & 102 simultaneously with the filing of this Application. A copy of said form is attached as Exhibit A.

3. The land upon which the proposed well is to be drilled is in New Mexico Oil and Gas Lease No. LG-5613. A copy of said lease is attached as Exhibit B.

4. Applicant has the right to acquire operating rights to the oil and gas lease described in paragraph 3 above from the lessee; and the lessee has approved entry of the requested Order.

5. Applicant is informed and believes that there is no well within one mile of the requested location which presently produces from the Devonian formation.

6. Applicant is informed and believes that the only wells within one mile of the requested location which have been drilled to the Devonian formation are:

(a) The Hill & Meeker "Phillips - Cryer 34" which was drilled to 12,315 feet in the NE¼ SW¼ Section 34, Township 10 South, Range 36 East, N.M.P.M., and was a dry hole. Said well is marked as "1" on Exhibit C attached.

(b) The Hill & Meeker "Phillips - Cryer" which was drilled to 12,333 feet in the NW¼ SW¼ Section 34, Township 10 South, Range 36 East, N.M.P.M., and was a dry hole. Said well is marked as "2" on Exhibit C attached.

(c) The Gulf Oil Corporation "Cryer" which was drilled to 13,368 feet in the SE¼ SW¼ Section 34, Township 10 South, Range 36 East, N.M.P.M., and depleted the Devonian formation and has been plugged and abandoned. Said well is marked as "3" on Exhibit C attached.

7. The only Devonian well drilled and completed in the "Dickinson Field" is the well described in paragraph 6(c) above; and any special field or pool rules which exist by reason of such well should be waived or deemed of no further effect to permit Applicant to drill a wildcat well at the requested location which is marked as "Requested Location" on Exhibit C attached.

8. The Requested Location is based upon seismic interpretation which indicates that a well drilled on a regular spacing location might fail to produce or fully recover available oil which could otherwise be obtained from the proration unit.

9. Applicant is informed and believes that the only owners of unleased mineral interests and the only operators under valid oil and gas leases which are not held by or for Applicant and may cover proration or spacing units which offset the unit for which this application for unorthodox location is made are those named in Exhibit D attached. By certified mail - return receipt requested, Applicant has mailed a copy of this application to all owners and all operators, except Applicant, named in Exhibit D attached.

10. Entry of the Order applied for will inure to the benefit of the State of New Mexico, conserve resources, and prevent under-

ground waste.

DATED: September 6, 1979.

ROGER L. COPPLE
Attorney at Law
P.O. Box 40
Santa Fe, New Mexico 87501
Telephone: 505-982-2515
Attorney for Applicant

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LAND OFFICE	
OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION

RECEIVED
SEP 13 1979
OIL CONSERVATION DIVISION
SANTA FE

Form C-101
Revised 1-1-65

5a. Indicate Type of Lease: STATE [X] FEE [ ]

5b. State Oil & Gas Lease No.: LG-5613

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work

DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. Type of Well

OIL WELL [X] GAS WELL [ ] OTHER SINGLE ZONE [X] MULTIPLE ZONE [ ]

7. Unit Agreement Name: ---

8. Farm or Lease Name: Dickinson State

2. Name of Operator: Read & Stevens, Inc.

9. Well No.: 1

3. Address of Operator: P. O. Box 1518, Roswell, New Mexico 88201

10. Field and Pool, or Wildcat: UNDESIGNATED

4. Location of Well: UNIT LETTER D LOCATED 330 FEET FROM THE North LINE AND 100 FEET FROM THE West LINE OF SEC. 6 TWP. 11-S RGE. 37-E NMPM

12. County: Lea

19. Proposed Depth: 12,300'

19A. Formation: Devonian

20. Rotary or C.T.: Rotary

21. Elevations (Show whether DF, RT, etc.): ---

21A. Kind & Status Plug. Bond: Statewide

21B. Drilling Contractor: ---

22. Approx. Date Work will start: October 20, 1979

23.

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
17½"	13 3/8"	54.5#	400'	400 sx.	Circulated
11"	8 5/8"	24#	4200'	1200 sx.	Circulated
7 7/8"	4½"	11.6# & 13.5#	12300'	700 sx.	

We propose to drill and test the Devonian and intermediate formations. Approximately 400' of surface casing will be set to protect fresh water sands, and 8 5/8" intermediate casing will be set into the top of the San Andres. Both strings will be circulated. If commercial, 4½" casing will be run and cemented to cover the pay zone with at least 600' of cement.

Mud Program - FW gel to 4200', water to above Abo, KCL-Starch-Drispak to top of Strawn, KCL-Flosal-Drispak to total depth.

BOP Program - BOP's & hydril on 8 5/8" casing and tested, pipe rams tested daily, blind rams tested on trips.

Gas acreage is not dedicated.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed John R. Anderson Jr. Title Agent Date 8-27-79

(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

EXHIBIT A
Page 1

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-1
Effective 1-1-

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
Read & Stevens, Inc.	Dickinson State	1

Unit Letter	Section	Township	Range	County
D	6	11-South	37-East	Lea

Actual Footage Location of Well:
330 feet from the North line and 100 feet from the West line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
----	Devonian	Wildcat	49.33 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

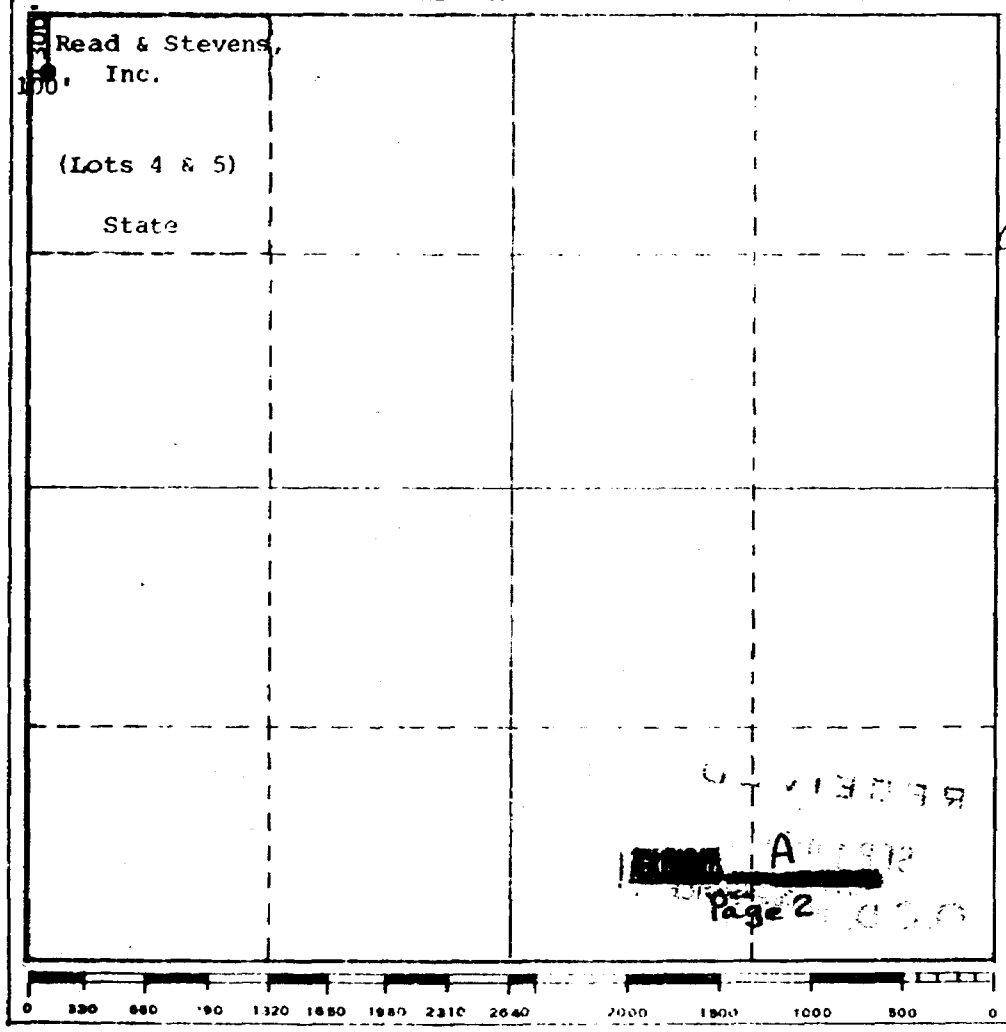
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name: John L. Anderson, Jr.

Position: Agent

Company: Read & Stevens, Inc.

Date: 8-27-79

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

Certificate No.

OIL CONSERVATION DIVISION
SANTA FE
SEP 13 1979
RECEIVED

Page 2

FORM 72 - COPY

LEASE NO. LG-5613 APPLICATION NO. LG-5613

OIL AND GAS LEASE

THIS AGREEMENT, dated this the 1ST day of AUGUST, A.D., 19 78, made and entered into by and between the state of New Mexico, acting by and through the undersigned, its commissioner of public lands, thereunto duly authorized, party of the first part and hereinafter called the "Lessor", and

CARL A. SCHELLINGER

P. O. BOX 447 ROSWELL, NEW MEXICO 88201

party of the second part, hereinafter called the "Lessee", whether one or more,

RECEIVED
SEP 13 1979
OIL CONSERVATION DIVISION
SANTA FE

WITNESSETH:

WHEREAS, the said lessee has filed in the office of the commissioner of public lands an application for an oil and gas lease covering the lands hereinafter described and has tendered therewith the required first payment being not less than the amount required by law and by the rules and regulations of the New Mexico State Land Office, and

WHEREAS, all of the requirements of law relative to said application and tender have been duly complied with and said application has been approved and allowed by the commissioner of public lands;

THEREFORE, for and in consideration of the premises as well as the sum of FORTY THOUSAND AND NO/100---------- ($ 40,000.00) Dollars, the same being the amount of the tender above mentioned, paid in cash, and evidenced by official receipt no. _____ and of the further sum of $ 10.00 filing fee, and of the covenants and agreements hereinafter contained on the part of the lessee to be paid, kept and performed, the said lessor has granted and demised, leased and let, and by these presents does grant, demise, lease and let unto the said lessee, exclusively, for the sole and only purpose of exploration, development and production of oil or gas, or both thereon and therefrom with the right to own all oil and gas so produced and saved therefrom and not reserved as royalty by the lessor under the terms of this lease, together with rights-of-way, easements and servitudes for pipelines, telephones and telegraph lines, tanks, power houses, stations, gasoline plants, and fixtures for producing, treating and caring for such products, and housing and boarding employees, and any and all rights and privileges necessary, incident to or convenient for the economical operation of said land, for oil and gas, with right for such purposes to the free use of oil, gas, casing-head gas, or water from said lands, but not from lessor's water wells, and with the rights of removing either during or after the term hereof, all and any improvements placed or erected on the premises by the lessee, including the right to pull all casing, subject, however, to the conditions hereinafter set out, the following described land situated in the county of LEA, state of New Mexico, and more particularly described as follows:

ne	SUBDIVISION	Sec.	Twp.	Rge.	Acres	Institution
1	LOTS 1(17.18),2(17.15),3(17.11), 4(14.75),5(34.58),6(34.62),E½SW¼,SE¼	6	11S	37E	375.39	O.D.& B.
2						
3						
4						
5						
6						
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Page 1

Reserving to the Lessor a continuing option to purchase [illegible] at the market price prevailing in the area on the date of purchase, [illegible] will be produced from the lands covered by [illegible]

Reserving to the Lessor the right to [illegible] thereon; the right to sell or dispose of the [illegible] rights of way and easements [illegible]

Said lands having been awarded to lessee and designated as Tract No. **0-6** at a public sale held by the commissioner of public lands on **7/18** 19 **78** (To be filled in only where lands are offered at public sale.)

To have and to hold said land, and all the rights and privileges granted hereunder, to and unto the lessee for a primary term of five years from the date hereof, and as long thereafter as oil and gas in paying quantities, or either of them is produced from said land by the lessee, subject to all of the terms and conditions as hereinafter set forth.

In consideration of the premises the parties covenant and agree as follows:

1. Subject to the free use without royalty, as hereinbefore provided, the lessee shall pay the lessor as royalty one eighth part of the oil produced and saved from the leased premises or the cash value thereof, at the option of the lessor, such value to be the price prevailing the day oil is run into a pipeline, if the oil be run into a pipeline, or into storage tanks, if the oil be stored.

2. Subject to the free use without royalty, as hereinbefore provided, at the option of the lessor at any time and from time to time, the lessee shall pay the lessor as royalty one eighth part of the gas produced and saved from the leased premises, including casing head gas. Unless said option is exercised by lessor the lessee shall pay the lessor as royalty one eighth of the cash value of the gas, including casing-head gas, produced and saved from the leased premises and marketed or utilized, such value to be equal to the greater of the following amounts:

(a) the net proceeds derived from the sale of such gas in the field, or

(b) five cents ($0.05) per thousand cubic feet (m.c.f.) the volume of gas for such purposes to be computed on a pressure basis of 10 ounces above an assumed atmospheric pressure of 14.4 pounds per square inch, or 15.025 pounds per square inch absolute, at 60° Fahrenheit, and pursuant to appropriate regulations of the commissioner of public lands which may provide, among other things, for a flowing temperature of 60° Fahrenheit to be assumed and applied in volume computation in all cases where a recording thermometer is not employed by the lessee in gas measurement, and for specific gravity tests at the lessee's expense at intervals not greater than one year in all cases where a recording gravitometer is not employed by the lessee in gas measurement; provided, however, the cash value for royalty purposes of carbon dioxide gas and of hydrocarbon gas delivered to a gasoline plant for extraction of liquid hydrocarbons shall be equal to the net proceeds derived from the sale of such gas, including any liquid hydrocarbons recovered therefrom.

Notwithstanding the foregoing provisions, the lessor, acting by its commissioner of public lands may require the payment of royalty for all or any part of the gas produced and saved under this lease and marketed or utilized at a price per m.c.f. equal to the maximum price being paid for gas of like kind and quality and under like conditions in the same field or area or may reduce the royalty value of any such gas (to any amount not less than the net proceeds of sale thereof in the field) if the commissioner of public lands shall determine such action to be necessary to the successful operation of the lands for oil or gas purposes or to encouragement of the greatest ultimate recovery of oil or gas or to the promotion of conservation of oil or gas.

This lease shall not expire at the end of either the primary or secondary term hereof if there is a well capable of producing gas in paying quantities located upon some part of the lands embraced herein where such well is shut in due to the inability of the lessee to obtain a pipeline connection or to market the gas therefrom; provided, however, the owner of this lease as to the lands upon which such well is located shall pay an annual royalty equal to the annual rental payable by such owner under the terms of this lease but not less than one hundred dollars ($100) per well per year, said royalty to be paid on or before the annual rental paying date next ensuing after the expiration of ninety days from the date said well was shut in and on or before said rental date thereafter. The payment of said annual royalty shall be considered for all purposes the same as if gas were being produced in paying quantities and upon the commencement of marketing of gas from said well or wells the royalty paid for the lease year in which the gas is first marketed shall be credited upon the royalty payable hereunder to the lessor for such year. The provisions of this section shall also apply where gas is being marketed from said leasehold premises and through no fault of the lessee, the pipeline connection or market is lost or ceases, in which case this lease shall not expire so long as said annual royalty is paid as herein provided. Notwithstanding the provisions of this section to the contrary, this lease shall not be continued after ten years from the date hereof for any period of more than five years by the payment of said annual royalty.

3. Lessee agrees to make full settlement on the 20th day of each month for all royalties due the lessor for the preceding month, under this lease, and to permit the lessor or its agents, at all reasonable hours, to examine lessee's books relating to the production and disposition of oil and gas produced. Lessee further agrees to submit to lessor annually upon forms furnished by lessor, verified reports showing lessee's operations for the preceding year.

4. It is expressly agreed that the consideration hereinbefore specified is a good, valid and substantial consideration and sufficient in all respects to support each and every covenant herein, including specifically the option granted the lessee to prevent the termination of this lease from year to year, by the payment or tender of the further rental hereinafter provided for.

An annual rental at the rate of **25¢** per acre shall become due and payable to the lessor by the lessee, or by any transferee or assignee of the same, or any part hereof, where such transferee or assignee has been recognized, and such transfer or assignment approved by the lessor as hereinafter provided, upon each acre of the land above described and then claimed by such lessee, transferee or assignee hereunder, and the same shall be due and payable in advance to the lessor on the successive anniversary dates of this lease, but the annual rental on any assignment shall in no event be less than six dollars ($6.00).

In the event the lessee shall elect to surrender any or all of said acreage, he shall deliver to the commissioner a duly executed release thereof and in event said lease has been recorded, then he shall upon request furnish and deliver to said commissioner a certified copy of a duly recorded release.

5. The lessee may at any time by paying to the state of New Mexico, acting by its commissioner of public lands, or other authorized officer, all amounts then due as provided herein and the further sum of ten dollars ($10.00), surrender and cancel this lease insofar as the same covers all or any portion of the lands herein leased and be relieved from further obligations or liability hereunder, in the manner as hereinbefore provided. Provided, this surrender clause and the option herein reserved to the lessee shall cease and become absolutely inoperative immediately and concurrently with the institution of any suit in any court of law or equity by the lessee, lessor, or any assignee, to enforce this lease, or any of its terms expressed or implied.

6. All payments due hereunder shall be made on or before the day such payment is due, in cash or by certified exchange at the office of the commissioner of public lands in Santa Fe, New Mexico.

7. The lessee with the consent of the lessor, shall have the rights to assign this lease in whole or in part. Provided, however, that no assignment of an undivided interest in the lease or in any part thereof nor any assignment of less than a legal subdivision shall be recognized or approved by the lessor. Upon approval in writing by the lessor of an assignment, the assignor shall stand relieved from all obligations to the lessor with respect to the lands embraced in the assignment and the lessor shall likewise be relieved from all obligations to the assignor as to such tracts, and the assignee shall succeed to all of the rights and privileges of the assignor with respect to such tracts and shall be held to have assumed all of the duties and obligations of the assignor to the lessor as to such tracts.

8. In the event a well or wells producing oil or gas in paying quantities should be brought in on adjacent land draining the leased premises, lessee shall drill such offset well or wells as a reasonably prudent operator would drill under the same or similar circumstances.

9. The lessee agrees to notify the lessor of the location of each well before commencing drilling thereon, to keep a complete and accurate log of each well drilled and to furnish a copy thereof, verified by some person having actual knowledge of the facts, to the lessor upon the completion of any well, and to furnish the log of any unfinished well at any time when requested to do so by the lessor.

If any lands embraced in this lease shall be included in any deed or contract of purchase outstanding and subsisting issued pursuant to any sale made of the surface of such lands prior to the date of this lease, it is agreed and understood that no drilling operation shall be commenced on any such lands so sold unless and until the lessee or his assignee shall have filed a good and sufficient bond with the lessor as required by law, to secure the payment for such damage to the livestock, range, water, crops or tangible improvements on such lands as may be suffered by the purchaser holding such deed or contract of purchase, or his successors, by reason of the developments, use and occupation of such lands by such lessee. Provided, however, that no such bond shall be required if such purchaser shall waive the right to require such bond to be given in the manner provided by law.

10. In drilling wells all water bearing strata shall be noted in the log, and the lessor reserves the right to require that all or any part of the casing shall be left in any nonproductive well when lessor deems it to the interest of the state of New Mexico to maintain said well or wells for water. For such casing so left in wells the lessor shall pay to the lessee the reasonable value thereof.

11. Lessee shall be liable and agree to pay for all damages to the range, livestock, growing crops or improvements caused by lessee's operations on said lands. When requested by the lessor, the lessee shall bury pipe lines below plow depth.

12. The lessee shall not remove any machinery or fixtures placed on said premises, nor draw the casing from any well unless and until all payments and obligations due the lessor under the terms of this agreement shall have been paid or satisfied. The lessee's right to remove the casing is subject to the provision of Paragraph 10 above.

13. Upon failure or default of the lessee or any assignee to comply with any of the provisions or covenants hereof, the lessor is hereby authorized to cancel this lease and such cancellation shall extend to and include all rights hereunder as to the whole of the tract so claimed, or possessed by the lessee or assignee so defaulting, but shall not extend to nor affect the rights of any other lessee or assignee claiming any portion of the lands upon which no default has been made; provided, however, that before any such cancellation shall be made, the lessor shall mail to the lessee, or assignee so defaulting, by registered or certified mail, addressed to the post office address of such lessee or assignee as shown by the records of the state land office, a notice of intention of cancellation specifying the default for which cancellation is to be made, and if within thirty days from the date of mailing said notice the said lessee or assignee shall remedy the default [illegible] in said notice cancellation shall not be made.

[illegible] B

Page 2

14. All the terms of this agreement shall extend to and be binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

15. If the lessee shall have failed to make discovery of oil or gas in paying quantities during the primary term hereof, or if such discovery shall have been made and production shall have ceased before the expiration of the primary term, the lessee may continue this lease in full force and effect for an additional term of five years and as long thereafter as oil and gas in paying quantities, or either of them is produced from the leased premises by paying each year in advance, as herein provided, double the rental provided for in the primary term, or the highest rental prevailing at the commencement of the secondary term in any rental district or districts in which the lands, or any part thereof, may be situated, if it be greater than double the rental provided for the primary term; provided, however, such rental shall be paid within the time provided by Section 13 hereof, and provided, further, that if oil or gas in paying quantities should be discovered during the secondary term hereof but production should cease, this lease shall continue for the remainder of said secondary term of five years so long as said rental is paid, and if oil or gas in paying quantities is being produced at the end of the secondary term of five years so long thereafter as oil and gas in paying quantities or either of them is produced from the leased premises.

16. If this lease shall have been maintained in accordance with the provisions hereof and if at the expiration of the secondary term provided for herein oil or gas is not being produced on said land but lessee or his assignee is then engaged in bona fide drilling or reworking operations thereon, this lease shall remain in full force and effect so long as such operations are diligently prosecuted and, if they result in the production of oil or gas, so long thereafter as oil and gas in paying quantities, or either of them, is produced from said land; provided, however, such operations extending beyond the secondary term shall be approved by the lessor upon written application filed with the lessor on or before the expiration of said term, and a report of the status of all of such operations shall be made by the lessee to the lessor every thirty days and a cessation of such operations for more than twenty consecutive days shall be considered as an abandonment of such operations and thereupon the provisions hereof shall be of no further force or effect.

If during the drilling or reworking of any well under the section lessee [illegible] the hole or well and after diligent efforts in good faith is unable to complete said operations, then within twenty days after the abandonment of said operations, lessee may commence another well within three hundred thirty feet of the lost or junked hole or well and drill the same with due diligence. Operations commenced and continued as herein provided shall extend this lease as to all lands as to which the same is in full force and effect as of the time said drilling operations are commenced; provided, however, this lease shall be subject to cancellation in accordance with Section 13 hereof for failure to pay rentals or file reports which may become due while operations are being conducted hereunder.

17. Should production of oil or gas or either of them in paying quantities be obtained while this lease is in force and effect and should thereafter cease from any cause after the expiration of ten years from the date hereof this lease shall not terminate if lessee commences additional drilling or reworking operations within sixty days after the cessation of such production and shall remain in full force and effect so long as such operations are prosecuted in good faith with no cessation of more than twenty consecutive days, and if such operations result in the production of oil or gas in paying quantities, so long thereafter as oil or gas in paying quantities is produced from said land; provided, however, written notice of intention to commence such operations shall be filed with the lessor within thirty days after the cessation of such production, and a report of the status of such operations shall be made by the lessee to the lessor every thirty days, and the cessation of such operations for more than twenty consecutive days shall be considered as an abandonment of such operations and the lease shall thereupon terminate.

18. Lessees including their heirs, assigns, agents [illegible] shall at their own expense fully comply with all laws, regulations, rules, ordinances, and requirements of the city, county, state, federal authorities and agencies, in all matters and things affecting the premises and operations thereon which may be enacted or promulgated under the governmental police powers pertaining to public health and welfare, including but not limited to conservation, sanitation, aesthetics, pollution, cultural properties, fire, and ecology. Such agencies are not to be deemed third party beneficiaries hereunder; however, this clause is enforceable by the grantor in any manner provided in this contract or by law.

In witness whereof, the party of the first part has hereunto signed and caused its name to be signed by its Commissioner of Public Lands thereunto duly authorized, with the seal of his office affixed, and the lessee has signed this agreement the day and year first above written.

STATE OF NEW MEXICO

By ______________________
Commissioner of Public Lands, Lessor

______________________ (Seal)
Lessee

Distributed this 18 day of JUL 1978 19

(PERSONAL ACKNOWLEDGMENT)

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

The foregoing instrument was acknowledged before me this [illegible] day of August, 1978, by CARL A. SCHELLINGER

My commission expires [illegible] 11, [illegible] ______________ Notary Public

(ACKNOWLEDGMENT BY ATTORNEY IN FACT)

STATE OF)
) ss.
COUNTY OF)

The foregoing instrument was acknowledged before me this ______ day of ______, 19____, by ______________ as attorney in fact in behalf of ______________

My commission expires ______________ Notary Public

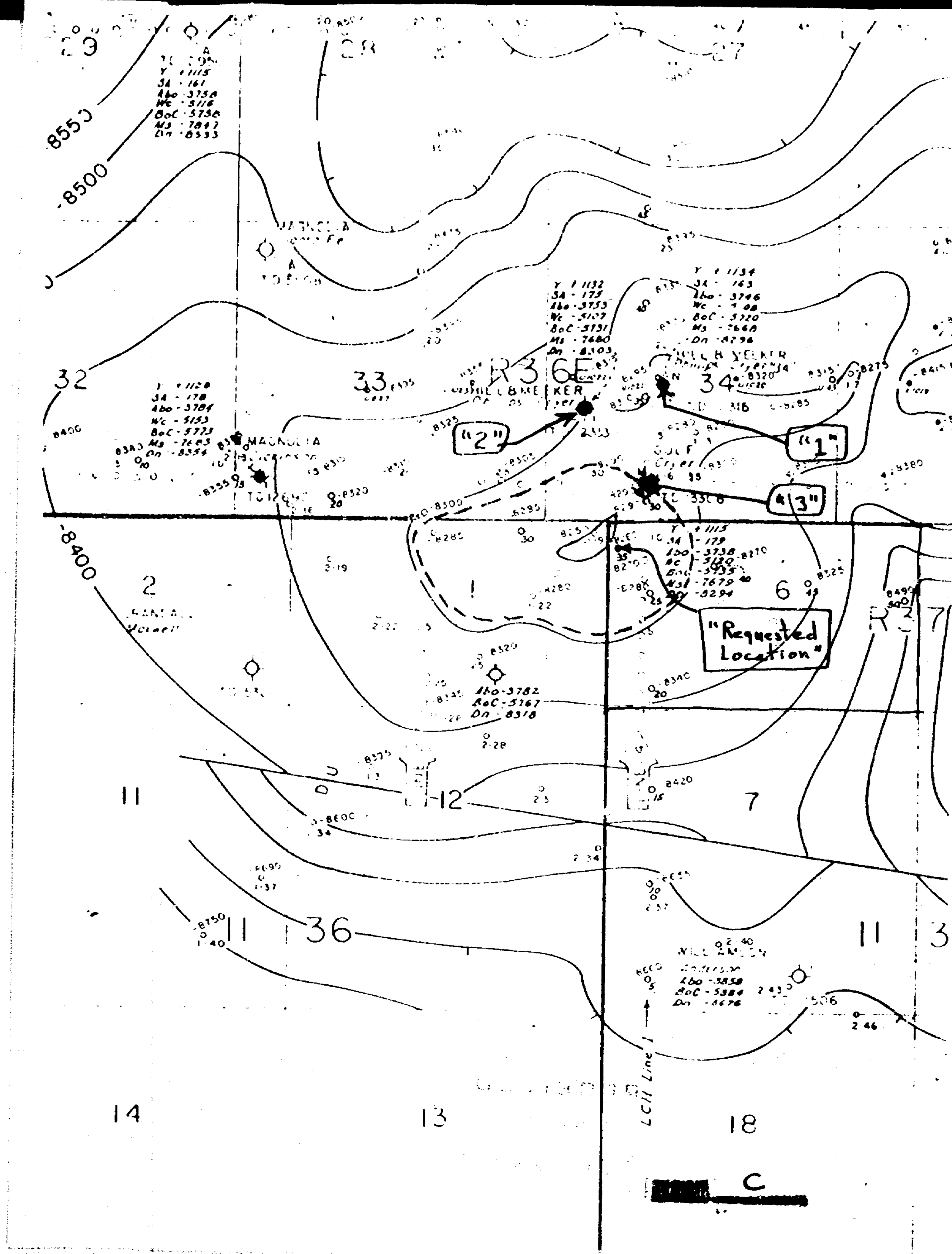
(ACKNOWLEDGMENT BY CORPORATION)

STATE OF)
) ss.
COUNTY OF)

The foregoing instrument was acknowledged before me this ______ day of ______, 19____, by B

Page 3

My commission expires



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BoC -5167
Dn -8318
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EXHIBIT D
Read & Stevens, Inc.
Application for Approval
of
Unorthodox Well Location
NW/4 NW/4 (Unit D), Section 6, Township 11 South,
Range 37 East, N.M.P.M., Lea County, New Mexico

Offsetting Owners or Operators (Name - Address)	Offsetting Acreage - Interest* (Subdivision-Sec.-Twp.-Rng.)
1. Cotton Petroleum Company 420 Wall Towers West Midland, Texas 79701	SW/4 Sec. 34, T10S, R36E, N.M.P.M. (Lease covering 0.9765625 interest)
2. Exxon Company, U.S.A. P.O. Box 3116 Midland, Texas 79701	Lots 1,2,3,4(9.635416 interest unleased), SE/4(11.71875 interest unleased), and SW/4(13.28125 interest unleased) Sec. 1, T11S, R36E, N.M.P.M.
3. Tom L. Ingram P.O. Box 1757 Roswell, New Mexico 88201	Lots 1,2,3,4(leases covering 17.2334 interest) SE/4(leases covering 0.56656 interest),SW/4(leases covering 0.56656 interest) Sec. 1, T11S,R36E, N.M.P.M.
4. Carl A. Schellinger ** P.O. Box 447 Roswell, New Mexico 88201	Lots 1,2,3,4(leases covering 63.4958 interest), SE/4(leases covering 75.99552 interest),SW/4(leases covering 72.87052 interest),Sec.1,T11S,R36E, N.M.P.M.;S/2(lease covering all interest except those described in Items 1 and 5 of this Exhibit)Sec.34,T11S,R36E,N.M.P.M. and State leased Sec.6,T11S,R37E,N.M.P.M.
5. Southland Royalty Company 1100 Wall Towers West Midland, Texas 79701	S/2 Sec.34,T10S,R36E, N.M.P.M. (23.046875 interest - unleased)
6. Tenneco Oil Company Suite 200 North 6800 Park Ten Boulevard San Antonio, Texas 78213	Lots 1,2,3,4(9.635416 interest unleased), SE/4(11.71875 interest unleased), and SW/4(13.28125 interest unleased) Sec.1, T11S,R36E,N.M.P.M.

* NOTE: Interests are stated as decimal parts of 100% which have been rounded for facility.

** NOTE: Holds leases for or in which Applicant has a right to acquire operating rights by drilling of well at location for which application is made.

OIL CONSERVATION DIVISION
ENERGY AND MINERALS DEPARTMENT
STATE OF NEW MEXICO

CASE NO. 6683

APPLICATION FOR APPROVAL
OF
UNORTHODOX WELL LOCATION

Read & Stevens, Inc., a New Mexico corporation whose address is 314 Security National Bank Building, P.O. Box 1518, Roswell, New Mexico, 88201, requests the Division Director to refer this application to an Examiner for hearing on October 3, 1979; and after hearing and report enter an Order approving the drilling of a projected 12,300 foot well located 330 feet from the north line and 100 feet from the west line of Section 6, Township 11 South, Range 37 East, N.M.P.M., Lea County, New Mexico, to explore and produce from the Devonian formation; and in support of this application Applicant States:

1. Applicant maintains an approved blanket plugging bond running to the State of New Mexico.

2. For a Permit to Drill, Applicant has filed Form C-101 & 102 simultaneously with the filing of this Application. A copy of said form is attached as Exhibit A.

3. The land upon which the proposed well is to be drilled is in New Mexico Oil and Gas Lease No. LG-5613. A copy of said lease is attached as Exhibit B.

4. Applicant has the right to acquire operating rights to the oil and gas lease described in paragraph 3 above from the lessee; and the lessee has approved entry of the requested Order.

5. Applicant is informed and believes that there is no well within one mile of the requested location which presently produces from the Devonian formation.

6. Applicant is informed and believes that the only wells within one mile of the requested location which have been drilled to the Devonian formation are:

(a) The Hill & Meeker "Phillips - Cryer 34" which was drilled to 12,315 feet in the NE¼ SW¼ Section 34, Township 10 South, Range 36 East, N.M.P.M., and was a dry hole. Said well is marked as "1" on Exhibit C attached.

(b) The Hill & Meeker "Phillips - Cryer" which was drilled to 12,333 feet in the NW¼ SW¼ Section 34, Township 10 South, Range 36 East, N.M.P.M., and was a dry hole. Said well is marked as "2" on Exhibit C attached.

(c) The Gulf Oil Corporation "Cryer" which was drilled to 13,368 feet in the SE¼ SW¼ Section 34, Township 10 South, Range 36 East, N.M.P.M., and depleted the Devonian formation and has been plugged and abandoned. Said well is marked as "3" on Exhibit C attached.

7. The only Devonian well drilled and completed in the "Dickinson Field" is the well described in paragraph 6(c) above; and any special field or pool rules which exist by reason of such well should be waived or deemed of no further effect to permit Applicant to drill a wildcat well at the requested location which is marked as "Requested Location" on Exhibit C attached.

8. The Requested Location is based upon seismic interpretation which indicates that a well drilled on a regular spacing location might fail to produce or fully recover available oil which could otherwise be obtained from the proration unit.

9. Applicant is informed and believes that the only owners of unleased mineral interests and the only operators under valid oil and gas leases which are not held by or for Applicant and may cover proration or spacing units which offset the unit for which this application for unorthodox location is made are those named in Exhibit D attached. By certified mail - return receipt requested, Applicant has mailed a copy of this application to all owners and all operators, except Applicant, named in Exhibit D attached.

10. Entry of the Order applied for will inure to the benefit of the State of New Mexico, conserve resources, and prevent under-

ground waste.

DATED: September 6, 1979.

ROGER L. COPPLE
Attorney at Law
P.O. Box 40
Santa Fe, New Mexico 87501
Telephone: 505-982-2515
Attorney for Applicant

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LAND OFFICE		
OPERATOR		

NEW MEXICO OIL CONSERVATION COMMISSION

SEP 13 1979

OIL CONSERVATION DIVISION
SANTA FE

OIL CONSERVATION DIVISION
SANTA FE

Lease No.
LG-5613

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work

DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. Type of Well

OIL WELL [X] GAS WELL [ ] OTHER SINGLE ZONE [X] MULTIPLE ZONE [ ]

7. Unit Agreement Name
---

8. Farm or Lease Name
Dickinson State

2. Name of Operator
Read & Stevens, Inc.

9. Well No.
1

3. Address of Operator
P. O. Box 1518, Roswell, New Mexico 88201

10. Field and Pool, or Wildcat
Wildcat

4. Location of Well UNIT LETTER D LOCATED 330 FEET FROM THE North LINE
AND 100 FEET FROM THE West LINE OF SEC. 2 TWP. 11-S RGE. 37-E NMPM

12. County
Lea

19. Proposed Depth
12,300'

19A. Formation
Devonian

20. Rotary or C.T.
Rotary

21. Elevations (Show whether DF, RT, etc.)

21A. Kind & Status Plug Bond
Statewide

21B. Drilling Contractor
---

22. Approx. Date Work will start
October 20, 1979

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
17½"	13 3/8"	54.5#	400'	400 sx.	Circulated
11"	8 5/8"	24#	4200'	1200 sx.	Circulated
7 7/8"	4½"	11.6# & 13.5#	12300'	700 sx.	

We propose to drill and test the Devonian and intermediate formations. Approximately 400' of surface casing will be set to protect fresh water sands, and 8 5/8" intermediate casing will be set into the top of the San Andres. Both strings will be circulated. If commercial, 4½" casing will be run and cemented to cover the pay zone with at least 600' of cement.

Mud Program - FW gel to 4200', water to above Abo, KCL-Starch-Drispak to top of Strawn, KCL-Flosal-Drispak to total depth.

BOP Program - BOP's & hydril on 8 5/8" casing and tested, pipe rams tested daily, blind rams tested on trips.

Gas acreage is not dedicated.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed John R. Anderson Jr. Title Agent Date 8-27-79

(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

EXHIBIT A
Page 1

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

SEP 13 1979
OIL CONSERVATION DIVISION
SANTA FE

Operator	Lease	Well No.
Read & Stevens, Inc.	Dickinson State	1

Unit Letter	Section	Township	Range	County
D	6	11-South	37-East	Lea

Actual Footage Location of Well:
330 feet from the North line and 100 feet from the West line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage:
----	Devonian	Wildcat	49.33 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

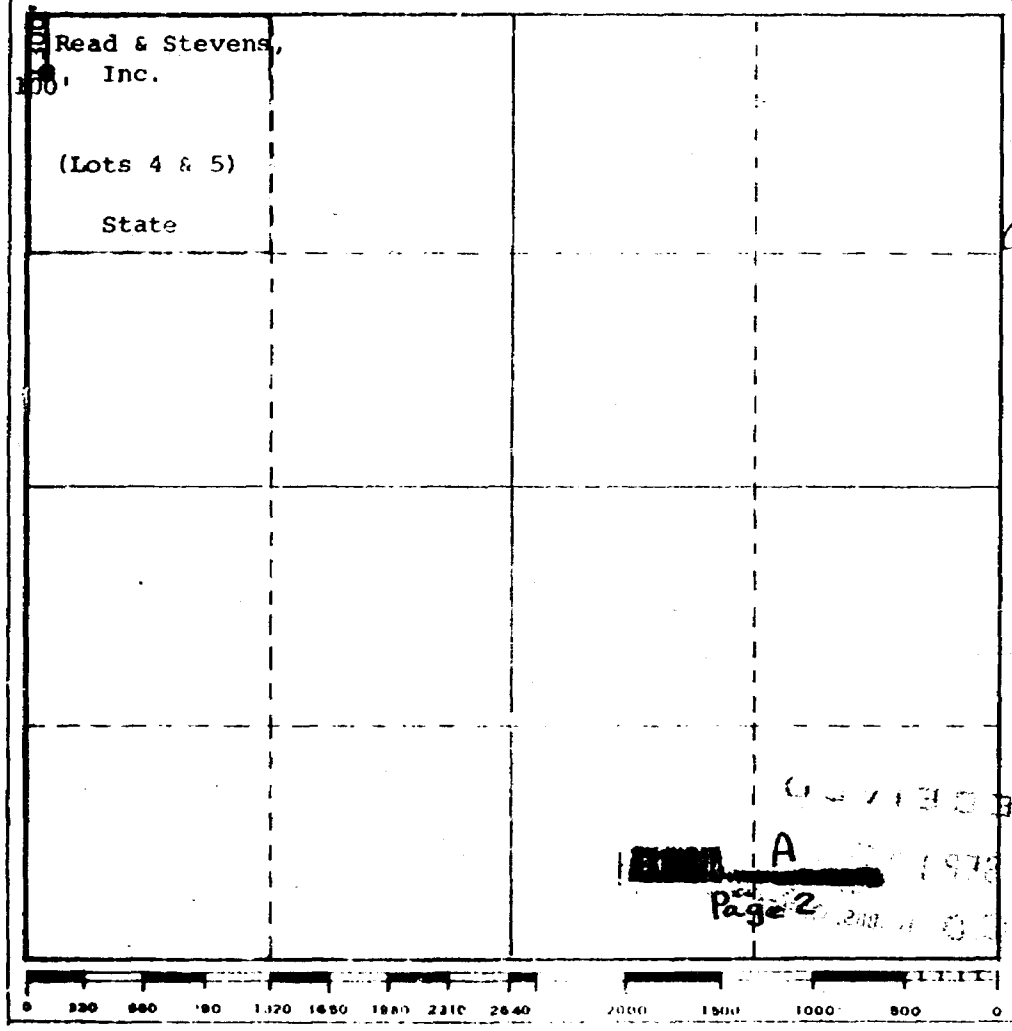
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name: John L. Anderson, Jr.

Position: Agent

Company: Read & Stevens, Inc.

Date: 8-27-79

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

Certificate No.

Page 2

FORM 72 – COPY

LEASE NO. LC-5613

APPLICATION NO. LC-5613

SEP 1 3 1978
OIL CONSERVATION DIVISION
SANTA FE

OIL AND GAS LEASE

THIS AGREEMENT, dated this the 1ST day of AUGUST, A.D., 19 78, made and entered into by and between the state of New Mexico, acting by and through the undersigned, its commissioner of public lands, thereunto duly authorized, party of the first part and hereinafter called the "Lessor", and

CARL A. SCHELLINGER

P. O. BOX 447 ROSWELL, NEW MEXICO 88201

party of the second part, hereinafter called the "Lessee", whether one or more,

WITNESSETH:

WHEREAS, the said lessee has filed in the office of the commissioner of public lands an application for an oil and gas lease covering the lands hereinafter described and has tendered therewith the required first payment being not less than the amount required by law and by the rules and regulations of the New Mexico State Land Office; and

WHEREAS, all of the requirements of law relative to said application and tender have been duly complied with and said application has been approved and allowed by the commissioner of public lands;

THEREFORE, for and in consideration of the premises as well as the sum of FORTY THOUSAND AND NO/100---------- ($ 40,000.00) Dollars, the same being the amount of the tender above mentioned, paid in cash, and evidenced by official receipt no. _____ and of the further sum of $ 10.00 filing fee, and of the covenants and agreements hereinafter contained on the part of the lessee to be paid, kept and performed, the said lessor has granted and demised, leased and let, and by these presents does grant, demise, lease and let unto the said lessee, exclusively, for the sole and only purpose of exploration, development and production of oil or gas, or both thereon and therefrom with the right to own all oil and gas so produced and saved therefrom and not reserved as royalty by the lessor under the terms of this lease, together with rights-of-way, easements and servitudes for pipelines, telephones and telegraph lines, tanks, power houses, stations, gasoline plants, and fixtures for producing, treating and caring for such products, and housing and boarding employees, and any and all rights and privileges necessary, incident to or convenient for the economical operation of said land, for oil and gas, with right for such purposes to the free use of oil, gas, casing-head gas, or water from said lands, but not from lessor's water wells, and with the rights of removing either during or after the term hereof, all and any improvements placed or erected on the premises by the lessee, including the right to pull all casing, subject, however, to the conditions hereinafter set out, the following described land situated in the county of LEA, state of New Mexico, and more particularly described as follows:

no	SUBDIVISION	Sec.	Twp.	Rge.	Acres	Institution
1	LOTS 1(17.18),2(17.15),3(17.11), 4(14.75),5(34.58),6(34.62),E½SW¼,SE¼	6	11S	37E	375.39	D.D.& B.
2						
3						
4						
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6						
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Page 1

Reserving to the Lessor a continuing option to purchase at any time and from time to time, at the market price prevailing in the area on the date of purchase, all or any part of the minerals (oil and gas) that will be produced from the lands covered by this lease.

Reserving to the Lessor the right to execute leases for geothermal resource development and operation thereon; the right to sell or dispose of the geothermal resources of such lands; and the right to grant rights of way and easements for the purposes of this section.

Said lands having been awarded to lessee and designated as Tract No. 0-6, at a public sale held by the commissioner of public lands on 7/18 19 78 (to be filled in only where lands are offered at public sale.)

To have and to hold said land, and all the rights and privileges granted hereunder, to and unto the lessee for a primary term of five years from the date hereof, and as long thereafter as oil and gas in paying quantities, or either of them is produced from said land by the lessee, subject to all of the terms and conditions as hereinafter set forth.

In consideration of the premises the parties covenant and agree as follows:

1. Subject to the free use without royalty, as hereinbefore provided, the lessee shall pay the lessor as royalty one eighth part of the oil produced and saved from the leased premises or the cash value thereof, at the option of the lessor, such value to be the price prevailing the day oil is run into a pipeline, if the oil be run into a pipeline, or into storage tanks, if the oil be stored.

2. Subject to the free use without royalty, as hereinbefore provided, at the option of the lessor at any time and from time to time, the lessee shall pay the lessor as royalty one eighth part of the gas produced and saved from the leased premises, including casinghead gas. Unless said option is exercised by lessor the lessee shall pay the lessor as royalty one eighth of the cash value of the gas, including casing head gas, produced and saved from the leased premises and marketed or utilized, such value to be equal to the greater of the following amounts:

(a) the net proceeds derived from the sale of such gas in the field, or

(b) five cents ($0.05) per thousand cubic feet (m.c.f.) the volume of gas for such purposes to be computed on a pressure basis of 10 ounces above an assumed atmospheric pressure of 14.4 pounds per square inch, or 15.025 pounds per square inch absolute, at 60° Fahrenheit, and pursuant to appropriate regulations of the commissioner of public lands which may provide, among other things, for a flowing temperature of 60° Fahrenheit to be assumed and applied in volume computation in all cases where a recording thermometer is not employed by the lessee in gas measurement, and for specific gravity tests at the lessee's expense at intervals not greater than one year in all cases where a recording gravitometer is not employed by the lessee in gas measurement; provided, however, the cash value for royalty purposes of carbon dioxide gas and of hydrocarbon gas delivered to a gasoline plant for extraction of liquid hydrocarbons shall be equal to the net proceeds derived from the sale of such gas, including any liquid hydrocarbons recovered therefrom.

Notwithstanding the foregoing provisions, the lessor, acting by its commissioner of public lands may require the payment of royalty for all or any part of the gas produced and saved under this lease and marketed or utilized at a price per m.c.f. equal to the maximum price being paid for gas of like kind and quality and under like conditions in the same field or area or may reduce the royalty value of any such gas (to any amount not less than the net proceeds of sale thereof in the field) if the commissioner of public lands shall determine such action to be necessary to the successful operation of the lands for oil or gas purposes or to encouragement of the greatest ultimate recovery of oil or gas or to the promotion of conservation of oil or gas.

This lease shall not expire at the end of either the primary or secondary term hereof if there is a well capable of producing gas in paying quantities located upon some part of the lands embraced herein where such well is shut-in due to the inability of the lessee to obtain a pipeline connection or to market the gas therefrom; provided, however, the owner of this lease as to the lands upon which such well is located shall pay an annual royalty equal to the annual rental payable by such owner under the terms of this lease but not less than one hundred dollars ($100) per well per year, said royalty to be paid on or before the annual rental paying date next ensuing after the expiration of ninety days from the date said well was shut-in and on or before said rental date thereafter. The payment of said annual royalty shall be considered for all purposes the same as if gas were being produced in paying quantities and upon the commencement of marketing of gas from said well or wells the royalty paid for the lease year in which the gas is first marketed shall be credited upon the royalty payable hereunder to the lessor for such year. The provisions of this section shall also apply where gas is being marketed from said leasehold premises and through no fault of the lessee, the pipeline connection or market is lost or ceases, in which case this lease shall not expire so long as said annual royalty is paid as herein provided. Notwithstanding the provisions of this section to the contrary, this lease shall not be continued after ten years from the date hereof for any period of more than five years by the payment of said annual royalty.

3. Lessee agrees to make full settlement on the 20th day of each month for all royalties due the lessor for the preceding month, under this lease, and to permit the lessor or its agents, at all reasonable hours, to examine lessee's books relating to the production and disposition of oil and gas produced. Lessee further agrees to submit to lessor annually upon forms furnished by lessor, verified reports showing lessee's operations for the preceding year.

4. It is expressly agreed that the consideration hereinbefore specified is a good, valid and substantial consideration and sufficient in all respects to support each and every covenant herein, including specifically the option granted the lessee to prevent the termination of this lease from year to year, by the payment or tender of the further rental hereinafter provided for.

An annual rental at the rate of 25¢ per acre shall become due and payable to the lessor by the lessee, or by any transferee or assignee of the same, or any part hereof, where such transferee or assignee has been recognized, and such transfer or assignment approved by the lessor as hereinafter provided, upon each acre of the land above described and then claimed by such lessee, transferee or assignee hereunder, and the same shall be due and payable in advance to the lessor on the successive anniversary dates of this lease, but the annual rental on any assignment shall in no event be less than six dollars ($6.00).

In the event the lessee shall elect to surrender any or all of said acreage, he shall deliver to the commissioner a duly executed release thereof and in event said lease has been recorded, then he shall upon request furnish and deliver to said commissioner a certified copy of a duly recorded release.

5. The lessee may at any time by paying to the state of New Mexico, acting by its commissioner of public lands, or other authorized officer, all amounts then due as provided herein and the further sum of ten dollars ($10.00), surrender and cancel this lease insofar as the same covers all or any portion of the lands herein leased and be relieved from further obligations or liability hereunder, in the manner as hereinbefore provided. Provided, this surrender clause and the option herein reserved to the lessee shall cease and become absolutely inoperative immediately and concurrently with the institution of any suit in any court of law or equity by the lessee, lessor, or any assignee, to enforce this lease, or any of its terms expressed or implied.

6. All payments due hereunder shall be made on or before the day such payment is due, in cash or by certified exchange at the office of the commissioner of public lands in Santa Fe, New Mexico.

7. The lessee with the consent of the lessor, shall have the rights to assign this lease in whole or in part. Provided, however, that no assignment of an undivided interest in the lease or in any part thereof nor any assignment of less than a legal subdivision shall be recognized or approved by the lessor. Upon approval in writing by the lessor of an assignment, the assignor shall stand relieved from all obligations to the lessor with respect to the lands embraced in the assignment and the lessor shall likewise be relieved from all obligations to the assignor as to such tracts, and the assignee shall succeed to all of the rights and privileges of the assignor with respect to such tracts and shall be held to have assumed all of the duties and obligations of the assignor to the lessor as to such tracts.

8. In the event a well or wells producing oil or gas in paying quantities should be brought in on adjacent land draining the leased premises, lessee shall drill such offset well or wells as a reasonably prudent operator would drill under the same or similar circumstances.

9. The lessee agrees to notify the lessor of the location of each well before commencing drilling thereon, to keep a complete and accurate log of each well drilled and to furnish a copy thereof, verified by some person having actual knowledge of the facts, to the lessor upon the completion of any well, and to furnish the log of any unfinished well at any time when requested to do so by the lessor.

If any lands embraced in this lease shall be included in any deed or contract of purchase outstanding and subsisting issued pursuant to any sale made of the surface of such lands prior to the date of this lease, it is agreed and understood that no drilling operation shall be commenced on any such lands so sold unless and until the lessee or his assignee shall have filed a good and sufficient bond with the lessor as required by law, to secure the payment for such damage to the livestock, range, water, crops or tangible improvements on such lands as may be suffered by the purchaser holding such deed or contract of purchase, or his successors, by reason of the developments, use and occupation of such lands by such lessee. Provided, however, that no such bond shall be required if such purchaser shall waive the right to require such bond to be given in the manner provided by law.

10. In drilling wells all water-bearing strata shall be noted in the log, and the lessor reserves the right to require that all or any part of the casing shall be left in any nonproductive well when lessor deems it to the interest of the state of New Mexico to maintain said well or wells for water. For such casing so left in wells the lessor shall pay to the lessee the reasonable value thereof.

11. Lessee shall be liable and agrees to pay for all damages to the range, livestock, growing crops or improvements caused by lessee's operations on said lands. When requested by the lessor, the lessee shall bury pipe lines below plow depth.

12. The lessee shall not remove any machinery or fixtures placed on said premises, nor draw the casing from any well unless and until all payments and obligations due the lessor under the terms of this agreement shall have been paid or satisfied. The lessee's right to remove the casing is subject to the provisions of Paragraph 10 above.

13. Upon failure or default of the lessee or any assignee to comply with any of the provisions or covenants hereof, the lessor is hereby authorized to cancel this lease and such cancellation shall extend to and include all rights hereunder as to the whole of the tract so claimed, or possessed by the lessee or assignee so defaulting, but shall not extend to, nor affect the rights of any other lessee or assignee claiming any portion of the lands upon which no default has been made; provided, however, that before any such cancellation shall be made, the lessor shall mail to the lessee, or assignee so defaulting, by registered or certified mail, addressed to the post office address of such lessee or assignee as shown by the records of the state land office, a notice of intention of cancellation specifying the default for which cancellation is to be made, and if within thirty days from the date of mailing said notice the said lessee or assignee shall remedy the default specified in said notice, cancellation shall not be made.

EXHIBIT B

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14. All the terms of this agreement [illegible] the [illegible] parties hereto.

15. If the lessee shall have failed to make discovery [illegible] such discovery shall have been made and production [illegible] this lease shall remain in full force and effect for an additional term of five years and as long thereafter as oil and gas in paying quantities or either of them is produced from the leased premises by paying each year in advance, as herein provided, double the rental provided [illegible] the primary term or the highest rental prevailing at the commencement of the secondary term in any rental district or districts in which [illegible] lands, or any part thereof, may be situated, if it be greater than double the rental provided for the primary term; provided, however, such rental shall be paid within the time provided in Section 13 hereof, and provided further, that if oil or gas in paying quantities should be discovered during the secondary term hereof but production should cease, this lease shall continue for the remainder of said secondary term of five years so long as said rental is paid, and if oil or gas in paying quantities is being produced at the end of the secondary term [illegible] so long thereafter as oil and gas in paying quantities or either of them is produced from the leased premises.

16. If this lease shall have been maintained in accordance with the provisions [illegible] and if at the expiration of the secondary term provided for herein oil or gas is not being produced on said land but lessee [illegible] then engaged in bona fide drilling or reworking operations thereon, this lease shall remain in full force and effect so long as such operations are diligently prosecuted and, if they result in the production of oil or gas, so long thereafter as oil and gas in paying quantities or either of them is produced from said land, provided, however, such operations extending beyond the secondary term shall be approved by the lessor upon written application filed with the lessor on or before the expiration of said term, and a report of the status of all of such operations shall be made by the lessee to the lessor every thirty days and a cessation of such operations for more than twenty consecutive days shall be considered as an abandonment of such operations and thereupon the provisions hereof shall be of no further force or effect.

If during the drilling or reworking of any well under this section lessee [illegible] the hole or well and after diligent efforts in good faith is unable to complete said operations, then within twenty days after the abandonment of said operations, lessee may commence another well within three hundred thirty feet of the lost or junked hole or well and drill the same with due diligence. Operations commenced and continued as herein provided shall extend this lease as to all lands [illegible] which the same is in full force and effect as of the time said drilling operations are commenced; provided, however, this lease shall be subject to cancellation in accordance with Section 13 hereof for failure to pay rentals or file reports which may become due while operations are being conducted hereunder.

17. Should production of oil or gas or either of them in paying quantities be obtained while this lease is in force and effect and should thereafter cease from any cause after the expiration of ten years from the date hereof this lease shall not terminate if lessee commences additional drilling or reworking operations within sixty days after the cessation of such production and shall remain in full force and effect so long as such operations are prosecuted in good faith with no cessation of more than twenty consecutive days, and if such operations result in the production of oil or gas in paying quantities, so long thereafter as oil or gas in paying quantities is produced from said land, provided, however, written notice of intention to commence such operations shall be filed with the lessor within thirty days after the cessation of such production, and a report of the status of such operations shall be made by the lessee to the lessor every thirty days, and the cessation of such operations for more than twenty consecutive days shall be considered as an abandonment of such operations and this lease shall thereupon terminate.

18. Lessee, including their heirs, assigns, [illegible] contractors shall at their own expense fully comply with all laws, regulations, rules, ordinances, and requirements of the city, county, state, federal authorities and agencies, in all matters and things affecting the premises and operations thereon which may be enacted or promulgated under the governmental police powers pertaining to public health and welfare, including but not limited to conservation, sanitation, aesthetics, pollution, cultural properties, fire, and ecology. Such agencies are not to be deemed third party beneficiaries [illegible] however, this [illegible] enforceable by the grantor in any manner provided in this contract or by law.

In witness whereof, the party of the first part has hereunto signed and caused its name to be signed by its commissioner of public lands thereunto duly authorized, with the seal of his office affixed, and the lessee has signed this agreement the day and year first above written.

STATE OF NEW MEXICO

By [signature]
Commissioner of Public Lands, Lessor

[signature] (Seal)
Lessee

Distributed this 18 day of JUL 1978 19

(PERSONAL ACKNOWLEDGMENT)

STATE OF NEW MEXICO
COUNTY OF CHAVES) ss.

The foregoing instrument was acknowledged before me this [illegible] day of August 1978, by CARL A. SCHELLINGER

My commission expires [illegible] Notary Public

(ACKNOWLEDGMENT BY ATTORNEY-IN-FACT)

STATE OF
COUNTY OF) ss.

The foregoing instrument was acknowledged before me this day of 19, by as attorney-in-fact in behalf of

My commission expires Notary Public

(ACKNOWLEDGMENT BY CORPORATION)

STATE OF
COUNTY OF)

The foregoing instrument was acknowledged before me this day of 19, by

(Name) (Title)

My commission expires

[redacted] B
Page 3

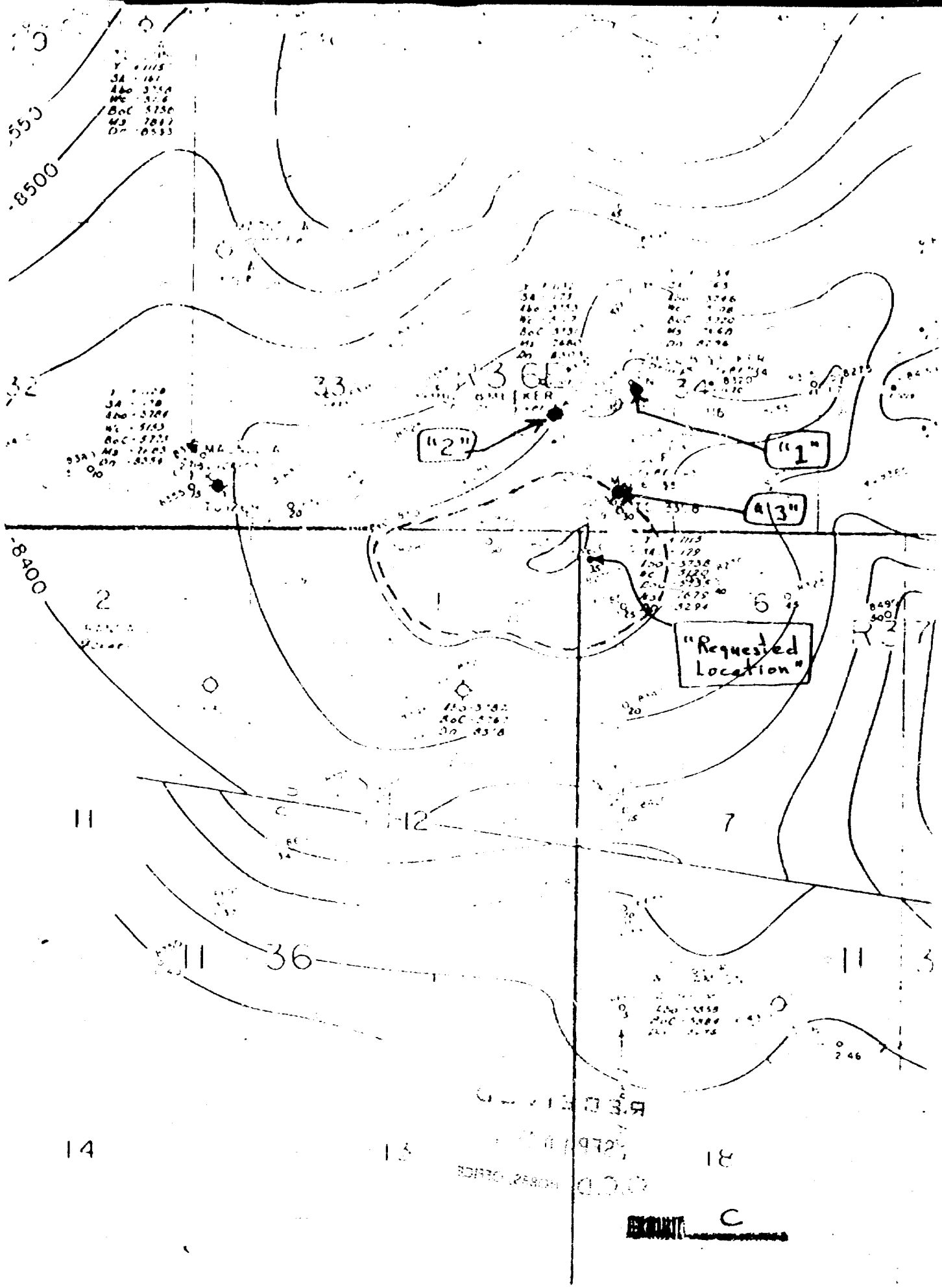

EXHIBIT C

EXHIBIT D
Read & Stevens, Inc.
Application for Approval
of
Unorthodox Well Location
NW/4 NW/4 (Unit D), Section 6, Township 11 South,
Range 37 East, N.M.P.M., Lea County, New Mexico

Offsetting Owners or Operators (Name - Address)	Offsetting Acreage - Interest* (Subdivision-Sec.-Twp.-Rng.)
1. Cotton Petroleum Company 420 Wall Towers West Midland, Texas 79701	SW/4 Sec. 34, T10S, R36E, N.M.P.M. (Lease covering 0.9765625 interest)
2. Exxon Company, U.S.A. P.O. Box 3116 Midland, Texas 79701	Lots 1,2,3,4(9.635416 interest unleased) SE/4(11.71875 interest unleased), and SW/4(13.28125 interest unleased) Sec. 1, T11S, R36E, N.M.P.M.
3. Tom L. Ingram P.O. Box 1757 Roswell, New Mexico 88201	Lots 1,2,3,4(leases covering 17.2334 interest) SE/4(leases covering 0.56656 interest),SW/4(leases covering 0.56656 interest) Sec. 1, T11S,R36E, N.M.P.M.
4. Carl A. Schellinger ** P.O. Box 447 Roswell, New Mexico 88201	Lots 1,2,3,4(leases covering 63.4958 interest), SE/4(leases covering 75.99552 interest),SW/4(leases covering 72.87052 interest),Sec.1,T11S,R36E, N.M.P.M.;S/2(lease covering all interest except those described in Items 1 and 5 of this Exhibit)Sec.34,T11S,R36E,N.M.P.M. and State leased Sec.6,T11S,R37E,N.M.P.M.
5. Southland Royalty Company 1100 Wall Towers West Midland, Texas 79701	S/2 Sec.34,T10S,R36E, N.M.P.M. (23.046875 interest - unleased)
6. Tenneco Oil Company Suite 200 North 6800 Park Ten Boulevard San Antonio, Texas 78213	Lots 1,2,3,4(9.635416 interest unleased), SE/4(11.71875 interest unleased), and SW/4(13.28125 interest unleased) Sec.1, T11S,R36E,N.M.P.M.

* NOTE: Interests are stated as decimal parts of 100% which have been rounded for facility.

** NOTE: Holds leases for or in which Applicant has a right to acquire operating rights by drilling of well at location for which application is made.

ROGER L. COPPLE
ATTORNEY AT LAW
209 EAST MARCY · P. O. BOX 40
SANTA FE, NEW MEXICO 87501
(505) 982-2515

Advertise this for Oct 2. hearing

September 6, 1979

Oil Conservation Division
P.O. Box 1980
Hobbs, New Mexico 88240

Re: Read & Stevens, Inc.
Application for Approval of Unorthodox Well Location
NW/4 (Lot 1 - Unit D) Section 6, Township 11 South, Range 37 East, N.M.P.M., Lea County, New Mexico.

Gentlemen:

In connection with the captioned matter and pursuant to Rule 1302, I enclose for filing:

1. Five copies of Form C-101 with Form C-102 attached.

2. Original and Two copies of Application for Approval of Unorthodox Well Location.

These materials are to be processed in order that the Application for Approval of Unorthodox Well Location may be advertised, referred to an examiner, and set for hearing on October 3, 1979.

Your prompt attention to the handling of these materials will be greatly appreciated.

Sincerely yours,

ROGER L. COPPLE

RLC/jp
w/encls.
cc: Read & Stevens, Inc.
P.O. Box 1518
Roswell, New Mexico 88201
Attn: John L. Anderson, Jr.

Ernest L. Padilla, Attorney
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

Ernest,
We must have a hearing on Oct. 3 since work is scheduled to commence by Oct 5.
Roger

THIS COPY IS FOR YOUR INFORMATION.
Roger L. Copple

OIL CONSERVATION DIVISION
ENERGY AND MINERALS DEPARTMENT
STATE OF NEW MEXICO

CASE NO. 6683

APPLICATION FOR APPROVAL
OF
UNORTHODOX WELL LOCATION

Read & Stevens, Inc., a New Mexico corporation whose address is 314 Security National Bank Building, P.O. Box 1518, Roswell, New Mexico, 88201, requests the Division Director to refer this application to an Examiner for hearing on October 3, 1979; and after hearing and report enter an Order approving the drilling of a projected 12,300 foot well located 330 feet from the north line and 100 feet from the west line of Section 6, Township 11 South, Range 37 East, N.M.P.M., Lea County, New Mexico, to explore and produce from the Devonian formation; and in support of this application Applicant States:

1. Applicant maintains an approved blanket plugging bond running to the State of New Mexico.

2. For a Permit to Drill, Applicant has filed Form C-101 & 102 simultaneously with the filing of this Application. A copy of said form is attached as Exhibit A.

3. The land upon which the proposed well is to be drilled is in New Mexico Oil and Gas Lease No. LG-5613. A copy of said lease is attached as Exhibit B.

4. Applicant has the right to acquire operating rights to the oil and gas lease described in paragraph 3 above from the lessee; and the lessee has approved entry of the requested Order.

5. Applicant is informed and believes that there is no well within one mile of the requested location which presently produces from the Devonian formation.

6. Applicant is informed and believes that the only wells within one mile of the requested location which have been drilled to the Devonian formation are:

(a) The Hill & Meeker "Phillips - Cryer 34" which was drilled to 12,315 feet in the NE¼ SW¼ Section 34, Township 10 South, Range 36 East, N.M.P.M., and was a dry hole. Said well is marked as "1" on Exhibit C attached.

(b) The Hill & Meeker "Phillips - Cryer" which was drilled to 12,333 feet in the NW¼ SW¼ Section 34, Township 10 South, Range 36 East, N.M.P.M., and was a dry hole. Said well is marked as "2" on Exhibit C attached.

(c) The Gulf Oil Corporation "Cryer" which was drilled to 13,368 feet in the SE¼ SW¼ Section 34, Township 10 South, Range 36 East, N.M.P.M., and depleted the Devonian formation and has been plugged and abandoned. Said well is marked as "3" on Exhibit C attached.

7. The only Devonian well drilled and completed in the "Dickinson Field" is the well described in paragraph 6(c) above; and any special field or pool rules which exist by reason of such well should be waived or deemed of no further effect to permit Applicant to drill a wildcat well at the requested location which is marked as "Requested Location" on Exhibit C attached.

8. The Requested Location is based upon seismic interpretation which indicates that a well drilled on a regular spacing location might fail to produce or fully recover available oil which could otherwise be obtained from the proration unit.

9. Applicant is informed and believes that the only owners of unleased mineral interests and the only operators under valid oil and gas leases which are not held by or for Applicant and may cover proration or spacing units which offset the unit for which this application for unorthodox location is made are those named in Exhibit D attached. By certified mail - return receipt requested, Applicant has mailed a copy of this application to all owners and all operators, except Applicant, named in Exhibit D attached.

10. Entry of the Order applied for will inure to the benefit of the State of New Mexico, conserve resources, and prevent under-

ground waste.

DATED: September 6, 1979.

ORIGINAL SIGNED BY
ROGER L. COPPLE

ROGER L. COPPLE
Attorney at Law
P.O. Box 40
Santa Fe, New Mexico 87501
Telephone: 505-982-2515
Attorney for Applicant

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OIL CONSERVATION DIVISION
SANTA FE

NEW MEXICO OIL CONSERVATION COMMISSION

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. Type of Well: OIL WELL [X] GAS WELL [ ] OTHER SINGLE ZONE [X] MULTIPLE ZONE [ ]

2. Name of Operator: Read & Stevens, Inc.

3. Address of Operator: P. O. Box 1518, Roswell, New Mexico 88201

4. Location of Well: UNIT LETTER D LOCATED 330 FEET FROM THE North LINE AND 100 FEET FROM THE West LINE OF SEC. 6 TWP. 11-S RGE. 37-E NMPM

5. State [X] Fee [ ]

6. State Oil & Gas Lease No.: LG-5613

7. Unit Agreement Name: ---

8. Farm or Lease Name: Dickinson State

9. Well No.: 1

10. Field and Pool, or Wildcat: Wildcat

12. County: Lea

19. Proposed Depth: 12,300'

19A. Formation: Devonian

20. Rotary or C.T.: Rotary

21. Elevations (Show whether DF, RT, etc.): ---

21A. Kind & Status Plug. Bond: Statewide

21B. Drilling Contractor: ---

22. Approx. Date Work will start: October 20, 1979

23.

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
17½"	13 3/8"	54.5#	400'	400 sx.	Circulated
11"	8 5/8"	24#	4200'	1200 sx.	Circulated
7 7/8"	4½"	11.6# & 13.5#	12300'	700 sx.	

We propose to drill and test the Devonian and intermediate formations. Approximately 400' of surface casing will be set to protect fresh water sands, and 8 5/8" intermediate casing will be set into the top of the San Andres. Both strings will be circulated. If commercial, 4½" casing will be run and cemented to cover the pay zone with at least 600' of cement.

Mud Program - FW gel to 4200', water to above Abo, KCL-Starch-Drispak to top of Strawn, KCL-Flosal-Drispak to total depth.

BOP Program - BOP's & hydril on 8 5/8" casing and tested, pipe rams tested daily, blind rams tested on trips.

Gas acreage is not dedicated.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed John R. Anderson Jr. Title Agent Date 8-27-79

(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

EXHIBIT A
Page 1

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OIL CONSERVATION DIVISION
SANTA FE

NEW MEXICO OIL CONSERVATION COMMISSION

WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102
Supersedes C-128
Effective 1-1-65

All distances must be from the outer boundaries of the Section

Operator	Lease	Well No.
Read & Stevens, Inc.	Dickinson State	1

Unit Letter	Section	Township	Range	County
D	6	11-South	37-East	Lea

Actual Footage Location of Well:
330 feet from the North line and 100 feet from the West line

Ground Level Elev.	Producing Formation	Pool	Dedicated Acreage
----	Devonian	Wildcat	49.33 Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.

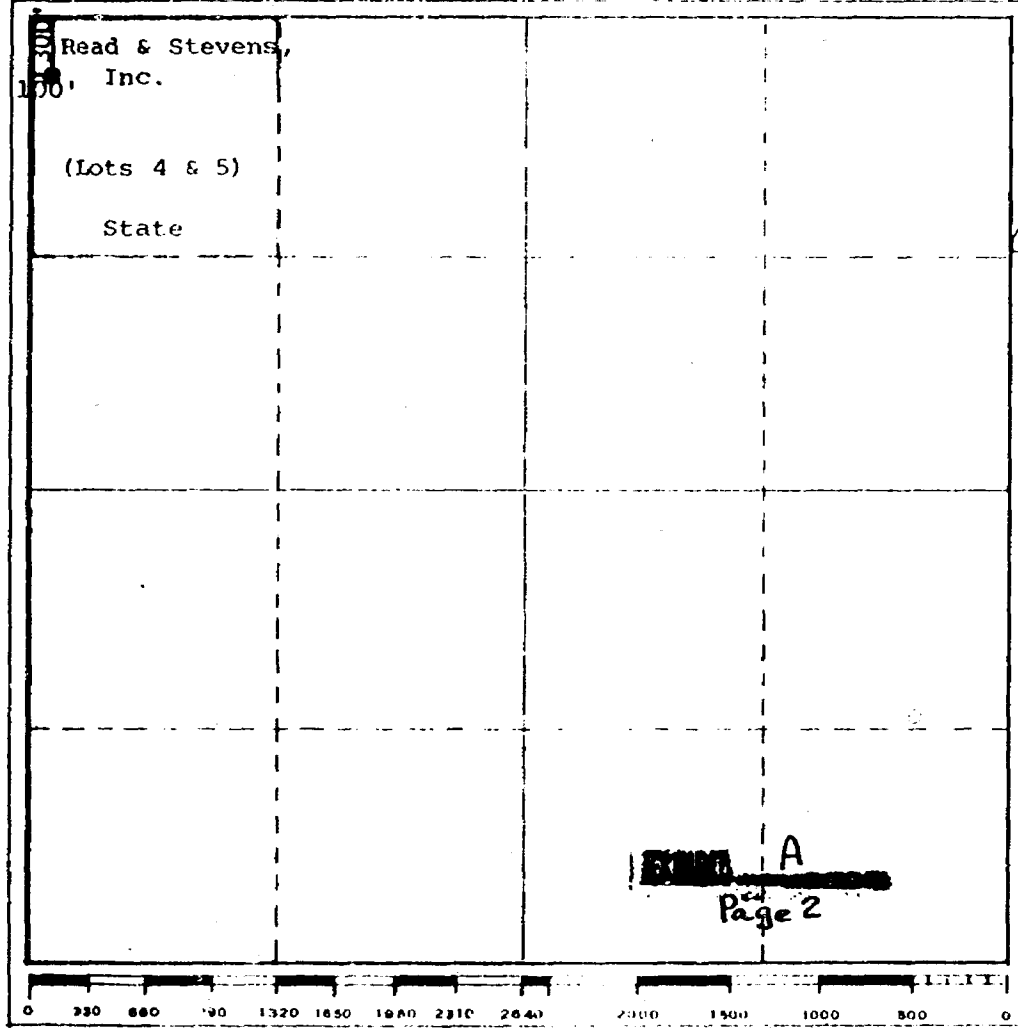
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation _____

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Name: John L. Anderson, Jr.

Position: Agent

Company: Read & Stevens, Inc.

Date: 8-27-79

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

Registered Professional Engineer and/or Land Surveyor

Certificate No.

FORM 72 - COPY

LEASE NO. LG-5613

LG-5613

OIL AND GAS LEASE

THIS AGREEMENT, dated this the 1ST day of AUGUST A.D., 19 78 made and entered into by and between the state of New Mexico, acting by and through the undersigned, its commissioner of public lands, thereunto duly authorized, party of the first part and hereinafter called the "Lessor", and

CARL A. SCHELLINGER

P. O. BOX 447 ROSWELL, NEW MEXICO 88201

party of the second part, hereinafter called the "Lessee", whether one or more,

WITNESSETH:

WHEREAS, the said lessee has filed in the office of the commissioner of public lands an application for an oil and gas lease covering the lands hereinafter described and has tendered therewith the required first payment being not less than the amount required by law and by the rules and regulations of the New Mexico State Land Office, and

WHEREAS, all of the requirements of law relative to said application and tender have been duly complied with and said application has been approved and allowed by the commissioner of public lands;

THEREFORE, for and in consideration of the premises as well as the sum of FORTY THOUSAND AND NO/100---------- ($ 40,000.00) Dollars, the same being the amount of the tender above mentioned, paid in cash, and evidenced by official receipt no. _____ and of the further sum of $ 10.00 filing fee, and of the covenants and agreements hereinafter contained on the part of the lessee to be paid, kept and performed, the said lessor has granted and demised, leased and let, and by these presents does grant, demise, lease and let unto the said lessee, exclusively, for the sole and only purpose of exploration, development and production of oil or gas, or both thereon and therefrom with the right to own all oil and gas so produced and saved therefrom and not reserved as royalty by the lessor under the terms of this lease, together with rights-of-way, easements and servitudes for pipelines, telephones and telegraph lines, tanks, power houses, stations, gasoline plants, and fixtures for producing, treating and caring for such products, and housing and boarding employees, and any and all rights and privileges necessary, incident to or convenient for the economical operation of said land, for oil and gas, with right for such purposes to the free use of oil, gas, casing-head gas, or water from said lands, but not from lessor's water wells, and with the rights of removing either during or after the term hereof, all and any improvements placed or erected on the premises by the lessee, including the right to pull all casing, subject, however, to the conditions hereinafter set out, the following described land situated in the county of LEA, state of New Mexico, and more particularly described as follows:

Subdivision	Sec.	Twp.	Rge.	Acres	Institution
LOTS 1(17.18),2(17.15),3(17.11), 4(14.75),5(34.58),6(34.62),E½SW¼,SE¼	6	11S	37E	375.39	D.D.& B.

B

Page 1

Reserving to the Lessor [illegible] price prevailing in the area on the date of [illegible] will be produced from the [illegible]

Reserving to the Lessor [illegible] stream, the right to [illegible] rights of way [illegible]

Said lands having been awarded to lessee and designated as Tract No. 0-6 at a public sale held by the commissioner of public lands on 7/18 19 78 (to be filled in only where lands are offered at public sale.)

To have and to hold said land, and all the rights and privileges granted hereunder, to and unto the lessee for a primary term of five years from the date hereof, and as long thereafter as oil and gas in paying quantities, or either of them is produced from said land by the lessee subject to all of the terms and conditions as hereinafter set forth.

In consideration of the premises the parties covenant and agree as follows:

1. Subject to the free use without royalty, as hereinbefore provided, the lessee shall pay the lessor as royalty one-eighth part of the oil produced and saved from the leased premises or the cash value thereof, at the option of the lessor, such value to be the price prevailing the day oil is run into a pipeline, if the oil be run into a pipeline, or into storage tanks, if the oil be stored.

2. Subject to the free use without royalty, as hereinbefore provided, at the option of the lessor at any time and from time to time, the lessee shall pay the lessor as royalty one-eighth part of the gas produced and saved from the leased premises including casing head gas. Unless said option is exercised by lessor the lessee shall pay the lessor as royalty one-eighth of the cash value of the gas including casing head gas, produced and saved from the leased premises and marketed or utilized, such value to be equal to the greater of the following amounts:

(a) the net proceeds derived from the sale of such gas in the field; or

(b) five cents ($0.05) per thousand cubic feet (m.c.f.) the volume of gas for such purposes to be computed on a pressure basis of 10 ounces above an assumed atmospheric pressure of 14.4 pounds per square inch, or 15.025 pounds per square inch absolute, at 60° Fahrenheit, and pursuant to appropriate regulations of the commissioner of public lands which may provide, among other things, for a flowing temperature of 60° Fahrenheit to be assumed and applied in volume computation in all cases where a recording thermometer is not employed by the lessee in gas measurement, and for specific gravity tests at the lessee's expense at intervals not greater than one year in all cases where a recording gravitometer is not employed by the lessee in gas measurement; provided, however, the cash value for royalty purposes of carbon dioxide gas and of hydrocarbon gas delivered to a gasoline plant for extraction of liquid hydrocarbons shall be equal to the net proceeds derived from the sale of such gas, including any liquid hydrocarbons recovered therefrom.

Notwithstanding the foregoing provisions, the lessor, acting by its commissioner of public lands may require the payment of royalty for all or any part of the gas produced and saved under this lease and marketed or utilized at a price per m.c.f. equal to the maximum price being paid for gas of like kind and quality and under like conditions in the same field or area or may reduce the royalty value of any such gas (to any amount not less than the net proceeds of sale thereof in the field) if the commissioner of public lands shall determine such action to be necessary to the successful operation of the lands for oil or gas purposes or to encouragement of the greatest ultimate recovery of oil or gas or to the promotion of conservation of oil or gas.

This lease shall not expire at the end of either the primary or secondary term hereof if there is a well capable of producing gas in paying quantities located upon some part of the lands embraced herein where such well is shut in due to the inability of the lessee to obtain a pipeline connection or to market the gas therefrom; provided, however, the owner of the lease as to the lands upon which such well is located shall pay an annual royalty equal to the annual rental payable by such owner under the terms of this lease but not less than one hundred dollars ($100) per well per year, said royalty to be paid on or before the annual rental paying date next ensuing after the expiration of ninety days from the date said well was shut in and on or before said rental date thereafter. The payment of said annual royalty shall be considered for all purposes the same as if gas were being produced in paying quantities and upon the commencement of marketing of gas from said well or wells the royalty paid for the lease year in which the gas is first marketed shall be credited upon the royalty payable hereunder to the lessor for such year. The provisions of this section shall also apply where gas is being marketed from said leasehold premises and through no fault of the lessee, the pipeline connection or market is lost or ceases, in which case this lease shall not expire so long as said annual royalty is paid as herein provided. Notwithstanding the provisions of this section to the contrary, this lease shall not be continued after ten years from the date hereof for any period of more than five years by the payment of said annual royalty.

3. Lessee agrees to make full settlement on the 20th day of each month for all royalties due the lessor for the preceding month, under this lease, and to permit the lessor or its agents, at all reasonable hours, to examine lessee's books relating to the production and disposition of oil and gas produced. Lessee further agrees to submit to lessor annually upon forms furnished by lessor, verified reports showing lessee's operations for the preceding year.

4. It is expressly agreed that the consideration hereinbefore specified is a good, valid and substantial consideration and sufficient in all respects to support each and every covenant herein, including specifically the option granted the lessee to prevent the termination of this lease from year to year by the payment or tender of the further rental hereinafter provided for.

An annual rental at the rate of 25¢ per acre shall become due and payable to the lessor by the lessee, or by any transferee or assignee of the same, or any part hereof, where such transferee or assignee has been recognized, and such transfer or assignment approved by the lessor as hereinafter provided, upon each acre of the land above described and then claimed by such lessee, transferee or assignee hereunder, and the same shall be due and payable in advance to the lessor on the successive anniversary dates of this lease, but the annual rental on any assignment shall in no event be less than six dollars ($6.00).

In the event the lessee shall elect to surrender any or all of said acreage he shall deliver to the commissioner a duly executed release thereof and in event said lease has been recorded, then he shall upon request furnish and deliver to said commissioner a certified copy of a duly recorded release.

5. The lessee may at any time by paying to the state of New Mexico, acting by its commissioner of public lands, or other authorized officer, all amounts then due as provided herein and the further sum of ten dollars ($10.00), surrender and cancel this lease insofar as the same covers all or any portion of the lands herein leased and be relieved from further obligations or liability hereunder, in the manner as hereinbefore provided. Provided, this surrender clause and the option herein reserved to the lessee shall cease and become absolutely inoperative immediately and concurrently with the institution of any suit in any court of law or equity by the lessee, lessor, or any assignee, to enforce this lease, or any of its terms expressed or implied.

6. All payments due hereunder shall be made on or before the day such payment is due, in cash or by certified exchange at the office of the commissioner of public lands in Santa Fe, New Mexico.

7. The lessee with the consent of the lessor, shall have the right to assign this lease in whole or in part. Provided, however, that no assignment of an undivided interest in the lease or in any part thereof nor any assignment of less than a legal subdivision shall be recognized or approved by the lessor. Upon approval in writing by the lessor of an assignment, the assignor shall stand relieved from all obligations to the lessor with respect to the lands embraced in the assignment and the lessor shall likewise be relieved from all obligations to the assignor as to such tracts, and the assignee shall succeed to all of the rights and privileges of the assignor with respect to such tracts and shall be held to have assumed all of the duties and obligations of the assignor to the lessor as to such tracts.

8. In the event a well or wells producing oil or gas in paying quantities should be brought in on adjacent land draining the leased premises, lessee shall drill such offset well or wells as a reasonably prudent operator would drill under the same or similar circumstances.

9. The lessee agrees to notify the lessor of the location of each well before commencing drilling thereon, to keep a complete and accurate log of each well drilled and to furnish a copy thereof, verified by some person having actual knowledge of the facts, to the lessor upon the completion of any well, and to furnish the log of any unfinished well at any time when requested to do so by the lessor.

If any lands embraced in this lease shall be included in any deed or contract of purchase outstanding and subsisting issued pursuant to any sale made of the surface of such lands prior to the date of this lease, it is agreed and understood that no drilling operations shall be commenced on any such lands so sold unless and until the lessee or his assignee shall have filed a good and sufficient bond with the lessor as required by law, to secure the payment for such damage to the livestock, range, water, crops or tangible improvements on such lands as may be suffered by the purchaser holding such deed or contract of purchase, or his successors, by reason of the developments, use and occupation of such lands by such lessee. Provided, however, that no such bond shall be required if [illegible] shall waive the right to require such bond to be given in the manner provided by law.

10. In drilling wells all water-bearing strata shall be [illegible] the right to require that all or any part of the casing shall be left in any nonproductive well [illegible] of New Mexico [illegible] well or wells for water. For such casing so left in wells the lessee shall pay to the [illegible] the thereof.

11. Lessee shall be liable and [illegible] growing crops or improvements [illegible] by lessee's operations on said lands. When [illegible] plow depth.

12. The lessee shall [illegible] draw the [illegible] and until all payments and [illegible] remove the casing is subject to the provisions of [illegible].

13. Upon failure or default [illegible] is hereby authorized to cancel this lease [illegible] hereunder as to the whole of the tract claimed, or possessed by the lessee or assignee [illegible] rights of any other lessee or assignee claiming any portion of the lands upon which [illegible] before any such cancellation shall be made, the lessor shall mail to the lessee or assignee [illegible] to the post office address of such lessee or assignee as shown by the records of the state [illegible] specifying the default for which cancellation is to be made and if within [illegible] said notice cancellation shall be made.

[redacted] B
Page 2

14. All the terms of this agreement shall extend to [illegible] the parties hereto.

15. If the lessee shall have failed to make discovery [illegible] during the primary term hereof [illegible] discovery shall have been made and production shall have ceased [illegible] the lessee [illegible] continue this lease in full force and effect for an additional term of five years and as long thereafter as oil or gas in paying quantities, or either of them, is produced from the leased premises by paying each year in advance, as herein provided, double the rental provided [illegible] the primary term or the highest rental prevailing at the commencement of the secondary term in any rental district or districts in which the lands, or any part thereof, may be situated, if it be greater than double the rental provided for the primary term; provided, however, such rental shall be paid within the time provided by Section 13 hereof; and provided, further, that if oil or gas in paying quantities should be discovered during the secondary term hereof but production should cease, this lease shall continue for the remainder of said secondary term of five years so long as said rental is paid, and if oil or gas in paying quantities is being produced at the end of the secondary term [illegible] years so long thereafter as oil and gas in paying quantities or either of them is produced from the leased premises.

16. If this lease shall have been maintained in accordance with the provisions hereof and if at the expiration of the secondary term provided for herein oil or gas is not being produced on said land but lessee [illegible] is then engaged in bona fide drilling or reworking operations thereon, this lease shall remain in full force and effect so long as such operations are diligently prosecuted and, if they result in the production of oil or gas, so long thereafter as oil and gas in paying quantities or either of them is produced from said land, provided, however, such operations extending beyond the secondary term shall be approved by the lessor upon written application filed with the lessor on or before the expiration of said term, and a report of the status of all of such operations shall be made by the lessee to the lessor every thirty days and a cessation of such operations for more than twenty consecutive days shall be considered as an abandonment of such operations and thereupon the provisions hereof shall be of no further force or effect.

If during the drilling or reworking of any well under this section, lessee loses [illegible] the hole or well and after diligent efforts in good faith is unable to complete said operations, then within twenty days after the abandonment of said operations, lessee may commence another well within three hundred thirty feet of the lost or junked hole or well and drill the same with due diligence. Operations commenced and continued as herein provided shall extend this lease as to all lands as to which the same is in full force and effect as of the time said drilling operations are commenced, provided, however, this lease shall be subject to cancellation in accordance with Section 13 hereof for failure to pay rentals or file reports which may become due while operations are being conducted thereunder.

17. Should production of oil or gas or either of them in paying quantities be obtained while this lease is in force and effect and should thereafter cease from any cause after the expiration of ten years from the date hereof this lease shall not terminate if lessee commences additional drilling or reworking operations within sixty days after the cessation of such production and shall remain in full force and effect so long as such operations are prosecuted in good faith with no cessation of more than twenty consecutive days, and if such operations result in the production of oil or gas in paying quantities, so long thereafter as oil or gas in paying quantities is produced from said land, provided, however, written notice of intention to commence such operations shall be filed with the lessor within thirty days after the cessation of such production, and a report of the status of such operations shall be made by the lessee to the lessor every thirty days, and the cessation of such operations for more than twenty consecutive days shall be considered as an abandonment of such operations and this lease shall thereupon terminate.

18. Lessees, including their heirs, assigns, agents [illegible] at their own expense [illegible] comply with all laws, regulations, rules, ordinances, and requirements of the city, county, state, federal [illegible] and agencies [illegible] all matters and things affecting the premises and operations thereon which may [illegible] under the governmental police powers pertaining to public health and welfare, including but not limited to [illegible] cultural properties, fire, and ecology. Such agencies are not to be deemed third party [illegible] however, this [illegible] enforce [illegible] the grantor in any manner provided in this contract or by law.

In witness whereof, the party of the first part has hereunto signed and caused its name to be signed by its commissioner of public lands thereunto duly authorized, with the seal of his office affixed, and the lessee has signed this agreement the day and year first above written.

STATE OF NEW MEXICO

By [signature]
Commissioner of Public Lands, Lessor

[signature] (Seal)
Lessee

Distributed this 18 day of JUL 1978, 19__

(PERSONAL ACKNOWLEDGMENT)

STATE OF NEW MEXICO)
COUNTY OF CHAVES) ss.

The foregoing instrument was acknowledged before me this [illegible] day of August, [illegible] 78, by CARL A. SCHELLINGER

My commission expires [illegible]

Notary Public

(ACKNOWLEDGMENT BY ATTORNEY IN FACT)

STATE OF)
COUNTY OF) ss.

The foregoing instrument was acknowledged before me this ____ day of ______, 19__, by ______ as attorney in fact in behalf of ______

My commission expires ______

Notary Public

(ACKNOWLEDGMENT BY CORPORATION)

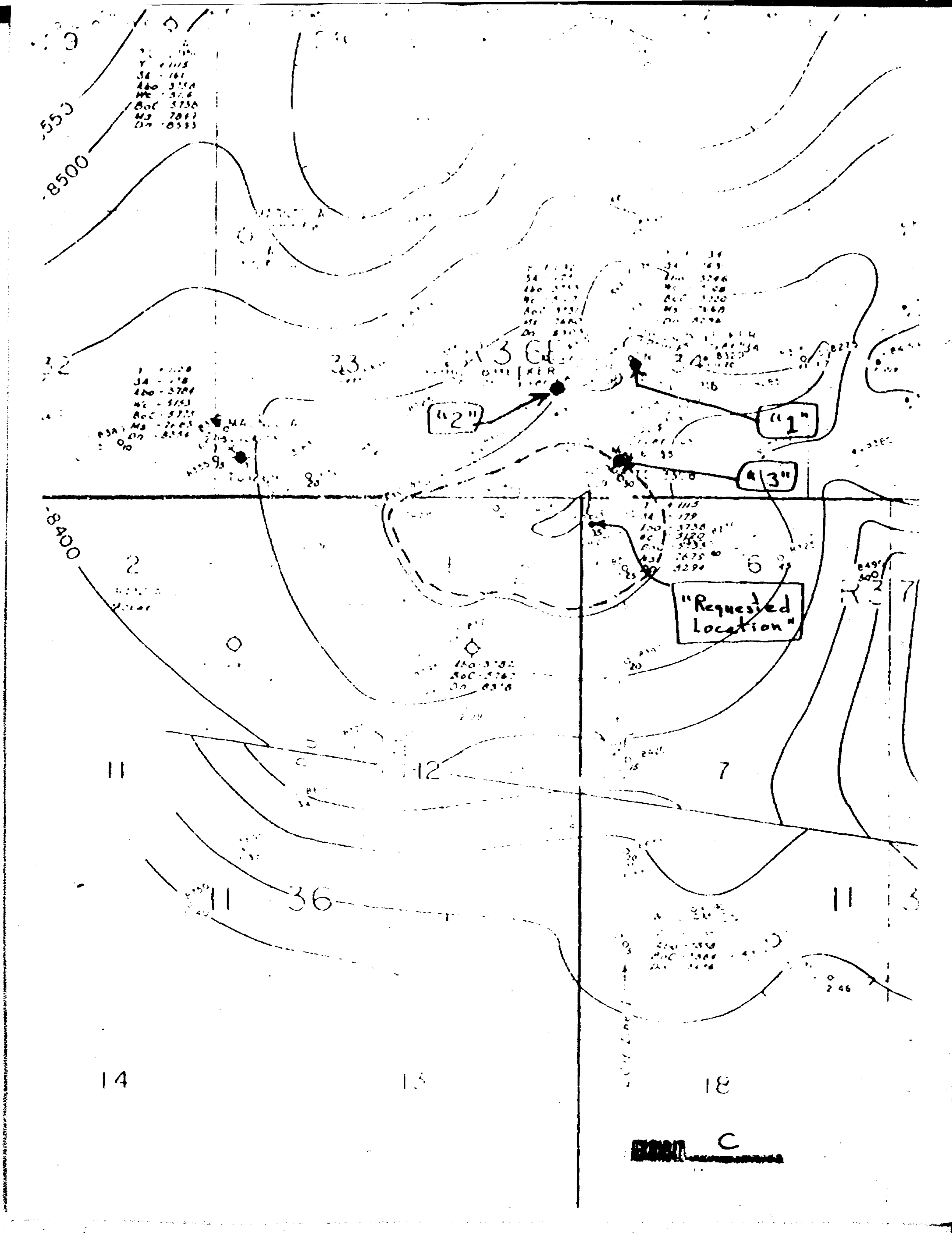
STATE OF
COUNTY OF

The foregoing instrument [illegible] 19__, by

(Name) [illegible]

My commission expires

[redacted] B
Page 3



8500
8400
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"Requested Location"
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EXHIBIT C

EXHIBIT D
Read & Stevens, Inc.
Application for Approval
of
Unorthodox Well Location
NW/4 NW/4 (Unit D), Section 6, Township 11 South,
Range 37 East, N.M.P.M., Lea County, New Mexico

Offsetting Owners or Operators (Name - Address)	Offsetting Acreage - Interest* (Subdivision-Sec.-Twp.-Rng.)
1. Cotton Petroleum Company 420 Wall Towers West Midland, Texas 79701	SW/4 Sec. 34, T10S, R36E, N.M.P.M. (Lease covering 0.9765625 interest)
2. Exxon Company, U.S.A. P.O. Box 3116 Midland, Texas 79701	Lots 1,2,3,4(9.635416 interest unleased), SE/4(11.71875 interest unleased), and SW/4(13.28125 interest unleased) Sec. 1, T11S, R36E, N.M.P.M.
3. Tom L. Ingram P.O. Box 1757 Roswell, New Mexico 88201	Lots 1,2,3,4(leases covering 17.2334 interest) SE/4(leases covering 0.56656 interest),SW/4(leases covering 0.56656 interest) Sec. 1, T11S,R36E, N.M.P.M.
4. Carl A. Schellinger ** P.O. Box 447 Roswell, New Mexico 88201	Lots 1,2,3,4(leases covering 63.4958 interest), SE/4(leases covering 75.99552 interest),SW/4(leases covering 72.87052 interest),Sec.1,T11S,R36E, N.M.P.M.;S/2(lease covering all interest except those described in Items 1 and 5 of this Exhibit)Sec.34,T11S,R36E,N.M.P.M. and State leased Sec.6,T11S,R37E,N.M.P.M.
5. Southland Royalty Company 1100 Wall Towers West Midland, Texas 79701	S/2 Sec.34,T10S,R36E, N.M.P.M. (23.046875 interest - unleased)
6. Tenneco Oil Company Suite 200 North 6800 Park Ten Boulevard San Antonio, Texas 78213	Lots 1,2,3,4(9.635416 interest unleased), SE/4(11.71875 interest unleased), and SW/4(13.28125 interest unleased) Sec.1, T11S,R36E,N.M.P.M.

* NOTE: Interests are stated as decimal parts of 100% which have been rounded for facility.

** NOTE: Holds leases for or in which Applicant has a right to acquire operating rights by drilling of well at location for which application is made.

JASPER and BUELL

Attorneys

121 East Palace Avenue
Post Office Box 1626
Santa Fe, New Mexico 87501
505: 988-2841

John G. Jasper
Sumner G. Buell

September 20, 1979

Oil Conservation Division
New Mexico Energy & Minerals Department
Post Office Box 2088
Santa Fe, New Mexico 87503

Re: Case No. 6683
Application of Read & Stevens for
Unorthodox Well Location

Gentlemen:

Enclosed is the original and two copies of an Entry of Appearance on behalf of the applicant in the above case. Please file them as may be necessary.

Very truly yours,

SUMNER G. BUELL

SGB/jc

Enclosures as noted

NEW MEXICO ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF READ & STEVENS, INC. FOR UNORTHODOX WELL LOCATION IN SECTION 6, TOWNSHIP 11 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

CASE NO. 6683

ENTRY OF APPEARANCE

Comes now the firm of Jasper & Buell and enters its appearance in this matter on behalf of the applicant, Read & Stevens, Inc.

JASPER & BUELL

By Sumner Buell
Sumner G. Buell
Attorney for Applicant
Post Office Box 1626
Santa Fe, New Mexico 87501

NEW MEXICO ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF READ & STEVENS, INC. FOR UNORTHODOX WELL LOCATION IN SECTION 6, TOWNSHIP 11 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

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JASPER & BUELL

By _____
Sumner G. Buell
Attorney for Applicant
Post Office Box 1626
Santa Fe, New Mexico 87501

NEW MEXICO ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE APPLICATION OF READ & STEVENS, INC. FOR UNORTHODOX WELL LOCATION IN SECTION 6, TOWNSHIP 11 SOUTH, RANGE 37 EAST, N.M.P.M., LEA COUNTY, NEW MEXICO.

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JASPER & BUELL

By Sumner G. Buell

Sumner G. Buell
Attorney for Applicant
Post Office Box 1626
Santa Fe, New Mexico 87501

DRAFT

dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE NO. 6683

Order No. R-6131

APPLICATION OF READ & STEVENS, INC. FOR AN UNORTHODOX WELL LOCATION AND ~~GAS~~ OIL PRORATION UNIT, A NON-STANDARD ~~GAS~~ OIL PRORATION UNIT, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on October 2, 1979, at Santa Fe, New Mexico, before Examiner Richard L. Stamets

NOW, on this ____ day of October, 1979, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, ~~Jake L. Hamon~~ Read and Stevens, Inc., seeks approval of an unorthodox ~~gas~~ oil well location 330 feet from the North line and 100 feet from the West line of Section 6, Township 11 South, Range 37 East, NMPM, to test the ~~Devonian~~ formation, Dickinson-Devonian Pool, Lea County, New Mexico.

(3) That the applicant, ~~Read & Stevens~~ Further, seeks approval of a 49.33-acre non-standard ~~gas~~ oil proration unit comprising ~~the~~ Lots ~~3~~ 4 and 5 of Section 6, Township 11 South, Range 37 East, NMPM, to be dedicated to said well.

~~330 feet from the North line and 100 feet from the West line of said Section 6.~~

(4) That the entire non-standard proration unit may reasonably be presumed productive of ~~gas~~ oil from the Dickinson-Devonian ~~Gas~~ Pool and that the entire non-standard ~~gas~~ oil proration unit can be efficiently and economically drained and developed by the aforesaid well.

(5) That the proposed unorthodox location is ~~(illegible)~~ projected to be high on a Devonian structure.

(6) That the ~~drive mechanism for the~~ Dickinson-Devonian Pool is a water drive reservoir.

(7) That a well drilled at the proposed unorthodox location is necessary ~~(illegible)~~ for the maximum efficient recovery of the hydrocarbons underlying the proposed non standard proration unit.

(8)(10) That ~~the~~ an offset ~~operator~~ owner with interest in the N/2 of ~~said~~ Section 1, Township 11 South, Range 36 East has objected to the proposed unorthodox location in Section 6.

(9) ~~(12)~~ That a well at the proposed location is at a standard location relative to the North and South lines of ~~said~~ the non-standard proration unit.

(10) ~~(8)~~ That a well at the proposed location is 80 percent closer to the West line of said proration unit than permitted by Division Rules and Regulations.

(11) ~~(9)~~ That a well at the proposed location will have an area of drainage in the Devonian formation which extends 5.9 net acres outside the proration unit, more than a well located at a standard location thereon.

(12) ~~(10)~~ That to offset the advantage gained over the protesting offset operator, production from the well at the proposed unorthodox location should be limited from the Devonian formation.

(13) ~~(11)~~ That such limitation should be based upon the variation of the location from a standard location and the 5.9 net-acre encroachment described in Finding No. (11) above, and may best be accomplished by assigning a well at the proposed location a non-standard location penalty ~~an acreage~~ factor of 0.72 (100 percent North/South factor plus 30 percent East/West factor plus 85 percent net-acre factor divided by 3).

(14) ~~(12)~~ That approval of the subject application subject to the above limitation will afford the applicant the opportunity to produce its just and equitable share of the ~~gas~~ oil in the subject pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That an unorthodox oil well location for the Devonian formation is hereby approved for a Read and Stevens, Inc. ~~gas~~ well to be located at a point 330 feet from the North line and 100 feet from the West line of Section 6, Township 11 South, Range 37 East, NMPM, Dickinson Devonian Pool, Lea County, New Mexico.

(2) That a 49.33 oil -acre non-standard ~~gas~~ proration unit ~~in the~~ ~~Gas~~ Pool comprising ~~the~~ Lots 6 and 5 of Said Section 6, ~~Township 11 South~~, ~~Range 37 East~~, ~~NMPM~~, ~~Lea~~ County, ~~New Mexico~~, shall is hereby established and dedicated to ~~said~~ its ~~unorthodox location of~~ the above-described well.

(3) That said well is hereby assigned a non-standard location penalty ~~an acreage~~ factor of 0.72 in the Devonian formation, ~~and the operator of the well, upon completion and connection thereof to a gas pipeline, shall notify the gas purchaser of said acreage factor.~~ subject to a non-standard acreage factor of 1.23, for a combined allowable factor of 0.89.

(4) That jurisdiction of this cause is retained for the