NEW MEXICO OIL CONSERVATION DIVISION

STATE LAND OFFICE BUILDING

STATE OF NEW MEXICO

CASE NO. 10308

IN THE MATTER OF:

The Application of Case 10308 being reopened pursuant to the provisions of Division Order No. R-9514, which order established temporary special pool rules and regulations for the South Lone Wolf-Devonian Pool in Chaves County, including a provision for 160-acre spacing units.

BEFORE:

MICHAEL E. STOGNER

Hearing Examiner

State Land Office Building

May 14, 1992

REPORTED BY:

DEBBIE VESTAL
Certified Shorthand Reporter
for the State of New Mexico

ORIGINAL

A P P E A R A N C E S

FOR THE NEW MEXICO OIL CONSERVATION DIVISION:

ROBERT G. STOVALL, ESQ.
General Counsel
State Land Office Building
Santa Fe, New Mexico 87504

FOR THE APPLICANT:

CAMPBELL, CARR, BERGE & SHERIDAN, P.A.
Post Office Box 2208
Santa Fe, New Mexico 87504-2208
BY: **WILLIAM F. CARR, ESQ.**

EXAMINER STOGNER: This hearing will come to order for Docket No. 14-92. I'm Michael E. Stogner, appointed hearing officer for today's cases. Please note today's date, May 14, 1992. I'll take these out of order, and I'll call the first case, No. 10308, which is reopened. In the matter -- I'm sorry. I'm taking your job.

MR. STOVALL: In the matter of Case 10308 being reopened pursuant to the provisions of Division Order No. R-9514, which order established temporary special pool rules and regulations for the South Lone Wolf-Devonian Pool in Chaves County, including a provision for 160-acre spacing units.

EXAMINER STOGNER: Call for appearances in this matter.

MR. CARR: May it please the Examiner, my name is William F. Carr with the Santa Fe law firm, Campbell, Carr, Berge & Sheridan. In the original hearing in this case, I represented Stevens Operating Corporation. When the case appeared on the docket, I contacted Stevens who advised me that they had no further interest in it, but perhaps McClellan Oil Corporation did.

They contacted McClellan who advised

them that maybe Terra Energy had an interest in this case. I contacted Terra Energy. They advised me they did not have any interest in maintaining the temporary rules and that it could revert in their opinion to statewide 40-acre spacing.

So for that reason we do not intend to present any testimony. I assume at this time the rules can revert to standard statewide rules.

EXAMINER STOGNER: Any other appearances in this matter? If not, this case will be taken under advisement.

[And the proceedings were concluded.]

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10308, heard by me on May 14, 1992.

, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Debbie Vestal, Certified Shorthand Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I caused my notes to be transcribed under my personal supervision; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL May 14, 1992.

Debbie Vestal

DEBBIE VESTAL, RPR
NEW MEXICO CSR NO. 3

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:	
APPLICATION OF STEVENS OPERATING CORPORATION FOR POOL CREATION, SPECIAL POOL RULES AND A DISCOVERY ALLOWABLE, CHAVEZ COUNTY, NEW MEXICO	CASE NO. 10308

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner
May 16, 1991
11:35 a.m.
Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on May 16, 1991, at 11:35 a.m. at Oil Conservation Division Conference Room, State Land Office Building, 310 Old Santa Fe Trail, Santa Fe, New Mexico, before Paula Wegeforth, Certified Court Reporter No. 264, for the State of New Mexico.

FOR: OIL CONSERVATION DIVISION

BY: PAULA WEGEFORTH
Certified Court Reporter
CSR No. 264

I N D E X

May 16, 1991
Examiner Hearing

CASE NO. 10308

* * *

E X H I B I T S

A P P E A R A N C E S

FOR THE DIVISION:	ROBERT G. STOVALL, ESQ. General Counsel Oil Conservation Commission State Land Office Building 310 Old Santa Fe Trail Santa Fe, New Mexico 87501
FOR THE APPLICANT:	CAMPBELL & BLACK, P.A. Attorneys at Law BY: WILLIAM F. CARR, ESQ. 110 North Guadalupe Santa Fe, New Mexico 87501
FOR MARATHON OIL COMPANY:	KELLAHIN, KELLAHIN & AUBREY Attorneys at Law BY: W. THOMAS KELLAHIN, ESQ. Santa Fe, New Mexico 87501

* * *

EXAMINER CATANACH: At this time call Case 10308.

MR. STOVALL: Application of Stevens Operating Corporation for pool creation, special pool rules and a discovery allowable, Chavez County, New Mexico.

EXAMINER CATANACH: Are there appearances in this case?

MR. CARR: May it please the examiner, my name is William F. Carr with the law firm Campbell & Black, P.A., of Santa Fe. I represent Stevens Operating Corporation, and I have two witnesses.

EXAMINER CATANACH: Other appearances?

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin, Kellahin & Aubrey appearing on behalf of Marathon Oil Company.

EXAMINER CATANACH: Will the witnesses please stand and be sworn in?

(Whereupon the witnesses were duly sworn.)

MR. CARR: May it please the examiner, initially I'd like to point out that the application in the notice of this case provided that the well would be 1990 from the east line instead of 990 from the east line. Since the well is at a standard location and its location is not relevant to questions concerning pool creation, the special rules or the discovery allowable, we called this to the division's attention, and it was agreed that no

readvertisment would be necessary.

My first witness is Mr. Ahlen.

JACK AHLEN,

the Witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CARR:

Q. Would you state your full name for the record, please?

A. Jack Ahlen.

Q. Where do you reside?

A. Roswell.

Q. By whom are you employed and in what capacity?

A. Stevens Operating Corporation as a consulting geologist.

Q. Have you previously testified before this division and had your credentials as a geologist accepted and made a matter of record?

A. Yes, sir, I have.

Q. Are you familiar with the application filed in this case on behalf of Stevens Operating Corporation?

A. I am.

Q. And are you familiar with the subject area in the Devonian formation in particular in this case?

A. Yes, I am.

MR. CARR: Are the witness' qualifications acceptable?

EXAMINER CATANACH: They are.

Q. (By Mr. Carr) Mr. Allen, would you briefly summarize what Stevens seeks with this application?

A. First, we seek the establishment of a new pool in the Devonian formation. Secondly, we -- the new pool to consist of the northeast quarter of Section 28 of Township 13 south, Range 29 east.

We seek the promulgation of special rules within the pool, including provisions for a 160-acre spacing unit, designating well location requirements such that wells are drilled no closer than 330 feet to the outer boundary of the spacing unit, and we seek an assignment of discovery allowable for this well.

Q. Mr. Ahlen, does Stevens request that the pool rules be of a temporary nature, for a one-year period of time?

A. Yes, that is an additional request.

Q. Have you prepared certain exhibits for presentation in this case?

A. Yes, I have.

Q. Would you identify what has been marked as Stevens Exhibit No. 1? Identify this and review it for Mr. Catanach.

A. Exhibit No. 1 is a land map prepared from the

Midland Map Company map. It's essentially a xerox with a few minor alterations.

Q. The alterations are to make it accurately reflect current ownership?

A. Yes, sir.

Q. Okay.

A. The plat shows the location of our discovery well in the northeast quarter of Section 28, Township 13 south, Range 29 east. The proration unit is marked by the dark lines, being the northeast quarter of Section 28.

The map also shows a circle with a one-mile radius. If you will note, there are no other wells within that one-mile radius that are producing wells.

It also shows offsetting operators, namely, McClellan Oil Company, Marathon Oil Company and Amoco Oil Company, which is within a mile of the proration unit.

Q. Is the proposed well at a standard location for 40-acre oil well spacing?

A. Yes, sir, it is.

Q. You've indicated there are no wells within a mile of the subject well. Are there --

A. Producing wells.

Q. Okay. Are there any wells within a mile of the boundary of the proposed new pool?

A. No.

Q. Are there temporarily abandoned or plugged wells within that area?

A. Yes, there are.

Q. Would you identify those?

A. In Section 27 there's the McClellan No. 9 North King Camp unit, which is a plugged and abondoned well, total depth of 1,748 feet.

Within the Section 28 there is the Pure Federal, total depth of 1,685 feet.

There is also a plugged and abandoned well in Section 22, the Pan American North King Camp No. 1 Federal Unit, which was drilled to a total depth of 9,311 feet, which well total -- the total depth of the well was within the Mississippian formation.

Q. Now, you identified three leasehold operators in the area: McClellan, Marathon and Amoco. Are those the only leasehold operators within a mile of the proposed pool?

A. Other than Stevens Operating Corporation, yes, sir.

Q. Are there any unleased mineral owners within a mile of the pool?

A. No, sir.

Q. Could you move to what has been marked as Stevens No. 2 and identify that, please?

A. Stevens Exhibit No. 2 is a portion of the electric log that was run by Stevens Operating Corporation on April 10th, 1991. On the top or to the left of the exhibit is the header for the well, showing the various information present on a header.

The lower part or the right part of the log, depending upon how you're looking at the sheet, is a copy of the lower 200 feet of the well.

I also need to say that this is a composite log. I have xeroxed the compensated neutron lithodensity gamma ray log and then superimposed upon that a tracing of the cased-hole gamma ray neutron log that was run after casing was run. It has been composited on this log in order to see the top of the Devonian formation with both the radioactivity log as well as the neutron log.

You'll note that the top of the Devonian formation is at a depth of 9,838 feet with a sub-sea datum of 6,019 feet. We have actually penetrated into the Devonian formation ten feet. Of that ten feet, the bottom six feet is the porous part of the Devonian formation, so we have six feet of porous reservoir rock present in this well that we have penetrated.

Our five-and-a-half-inch casing is set at a depth of 9,843 feet, so essentially we have five feet of open hole in the bottom of the well.

We -- you'll note that the cased-hole gamma ray log shows the top of the Devonian formation, whereas the open-hole log does not since the gamma ray logging device is located a considerable distance up on the log string, and that's why we wanted to utilize the cased-hole log for that purpose.

The cased-hole log is also utilized to determine the porosity in the Devonian formation. I have noted on the log that the maximum measured porosity is approximately 13 percent on the spike. We are utilizing an average of ten percent porosity to give us reservoir characteristics. It is probably a more accurate average value for the porosity.

We have completed this hole and reported an initial potential while swabbing on a two-hour swab test of 561 barrels of oil per day.

Q. Was this before acidizing the well?

A. Natural. Yes, sir, before acidizing.

Q. Now, you're going to be producing through the open hole; is that correct?

A. That is correct.

Q. Have you prepared a cross section for presentation here today?

A. I have not.

Q. Why not?

A. Because most of the wells in the immediate vicinity have not penetrated to the Devonian formation, and the closest is -- closest Devonian penetration is to the south in the North King Camp Pool.

Q. How far away is that? Several miles?

A. About three miles.

Q. Let's move to Stevens Exhibit No. 3. Would you identify that and review it, please?

A. Stevens Exhibit No. 3 is a structure contour map on the top of the Devonian formation. The structure contours are controlled by the subsurface data, as well as a number of seismic profiles which Stevens has purchased and/or surveyed in the area. The geophysical survey seismic lines are marked on this map as the dashed lines.

The wells that have been drilled in the area to the Devonian formation or close to the Devonian formations each have a datum next to the well site.

You will note that the map shows my interpretation of the structure in Sections 28, 27, 22 and 21 that is producing; also my interpretation of the configuration of the North King Camp.

Q. That's down on the --

A. To the extreme south on the map in Section 9.

Q. And --

A. There is a saddle of significant magnitude

between the two oil pools separating them and segregating the two oil pools from each other.

Q. From a geologic point of view, do you believe you have encountered a similar pool to the North King Camp-Devonian Pool?

A. This is extremely similar.

Q. Are you getting any water on the discovery well?

A. Yes, sir, we are.

Q. How does that compare to your experience with the North King Camp?

A. North King Camp well -- the McAlpine well, the discovery well, is also producing water in that pool. That also has a low GOR, as we do in our location.

Q. Have you been able to establish an oil-water contact to any of these pools?

A. We know that the oil-water contact is approximately minus 6,000 feet in the North King Camp. We have not been able to establish an oil-water contact in this pool.

Q. Let's move to Exhibit No. 4. Would you identify that, please?

A. Exhibit No. 4 is an illustration that has been reproduced from the Symposium of Oil and Gas Fields of Southeastern -- of Southeastern New Mexico published by the Roswell Geological Society. This map was made by Mr. P.D.

Hinrichs of Texaco, Incorporated, and utilized in the guidebook that was published in August of 1960.

Q. Why have you included this structure map in your exhibit packet?

A. Because it's a -- the structure anomaly here is quite similar to the structure in the North King Camp Pool, as well as our new discovery.

Q. How close to the new discovery is this Little Lucky Lake field?

A. About eight miles away.

Q. Has a comparison been prepared for the three fields for which you've shown the structural anomaly?

A. Yes, it has.

Q. Is that what has been marked as Stevens Exhibit No. 5?

A. Yes, sir.

Q. Would you review that comparison for the examiner?

A. This is a comparison between Little Lucky Lake, Devonian, North King Camp-Devonian and our proposed McClellan-Devonian Pool. It shows the location of each of those pools by section, township and range; also shows the date of discovery, the number of wells in those pools.

The important thing is the formation. The Devonian formation in each of the three pools is a vuggy

dolomite that is probably quite highly fractured.

The depths are very similar in the McClellan proposed pool. We're at 9,800 feet. The North King Camp is 9,700 feet. We're a thousand feet deeper in the Little Lucky Lake at 10,900 feet.

The gravity of the oils are similar. They are a high-gravity, sweet crude. The colors are somewhat distinct from each other in that our crude is a gold green. The North King Camp is a brown, and at Little Lucky Lake it's a light-golden green.

Now, there is a distinction in the gravity between the North King Camp and McClellan Devonian of 48 degrees gravity oil versus 54 degrees of gravity oil, suggesting that there's different -- a different pool.

The reserves of the Little Lucky Lake and the McClellan Devonian are quite similar at North King Camp. There appears to be considerable more oil potential.

The drive type is water in all three pools.

Gas-oil ratio is similar in North King Camp and McClellan Devonian. However, at Little Lucky Lake the GOR is significantly higher.

The flow rates are all similar, and the OCD spacing at North King Camp and Little Lucky Lake is 160 acres. We propose 160-acre spacing at the McClellan Devonian.

Q. Mr. Ahlen, did you testify that the variations in gravity suggest separate reservoirs or separate common sources of supply?

A. I approached that, but I did not specifically state that. But I think they are distinct enough from each other so that they do represent different accumulations.

Q. What about the variations in color? Does that also suggest the same?

A. That also suggests a different reservoir.

Q. What conclusions have you been able to reach from your geological review of this area?

A. That this is essentially -- there are three essentially similar pools in this particular area, unique and distinct from each other, separate pools, with -- all with a good water drive; and that the requirement is that you need to be at the top of a structure really to adequately drain these reservoirs.

Stevens Operating Corporation is presently arranging a 3-D seismic program in the area, which -- to analyze the sturcture in the immediate vicinity to better formulate an opinion as to where to drill the best -- the best sited wells.

Q. In your opinion, are provisions in the temporary rules for 330 feet setback appropriate at this time?

A. Yes, I think so. This would give an operator

the opportunity to seek the best location for each individual well and not be limited by being required to be too far away from the proration unit boundaries.

And this is an advantage to competing operators as well as it is to the Stevens Operating Company. We would not like to promulgate rules similar to those of North King Camp which requires exceptions to the rules.

Q. And this kind of a requirement would provide flexibility so people aren't just spaced out of a pool?

A. That is correct.

Q. What about the 160-acre spacing requirement? From your geological review, do you have an opinion on whether or not that's appropriate?

A. I would think 160 acres would adequately drain the reservoir.

Q. I'd like to ask you to go back to Stevens Exhibit No. 1.

A. Yes, sir.

Q. There is a lease in the north half of the northwest quarter of Section 22. Are you familiar with that?

A. Yes, I am. North half of the northwest quarter?

Q. That's correct, 22.

What is the status of that lease?

A. That lease is a State of New Mexico lease which

expires June 1st, 1991.

Q. What is Mr. Stevens' interest in this property?

A. Mr. Stevens has a farmout of that 80 acres from the operator.

Q. And what plans are there currently for the development of that acreage?

A. Mr. Stevens plans on reentering the Pan American North King Camp Federal Unit No. 1, which is located in the southeast quarter of the northwest quarter of Section 22. He plans to drill that well to the top of the Devonian formation and test it to see if it is oil productive.

Q. And in that case, what acreage would you anticipate would be, at least, proposed for dedication to that well?

A. We would propose that the acreage that is expiring in the north half of the northwest quarter be dedicated to that well and the proration unit of that well.

Q. And so you'd have a proration unit comprised of the northwest quarter of Section 22?

A. Yes, sir.

Q. When must the reentry be commenced?

A. It must be commenced prior to the expiration date of that lease. Mr. Stevens proposes to reenter that well prior to May 31st, which is just a few days from today.

Q. Do you request that the order be expedited to the fullest extent possible?

A. Yes, sir, please.

Q. Would you identify what has been marked Stevens Exhibit No. 6?

A. This is a letter from McClellan Oil Corporation supporting our application.

Q. You indicated that there were two other leasehold owners in the area other than Stevens -- McClellan, Stevens, and the others being Amoco and Marathon.

Is Exhibit No. 7 an affidavit with letters attached providing notice of this hearing to both Marathon and to Amoco?

A. Yes, it is.

Q. Were Exhibits 1 through 5 prepared by you?

A. Yes.

MR. CARR: At this time, Mr. Catanach, I would move the admission of Stevens 1 through 5.

EXAMINER CATANACH: Exhibits 1 through 5 will be admitted into evidence.

(Whereupon Applicant's Exhibits 1 through 5 were admitted into evidence.)

MR. CARR: I would also move the admission of Exhibits 6 and 7, which are the letter from Mr. McClellan

and my notice affidavit.

EXAMINER CATANACH: And Exhibits 6 and 7 will also be admitted.

(Whereupon Applicant's Exhibits 6 and 7 were admitted into evidence.)

MR. CARR: That concludes my direct examination of Mr. Ahlen.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Ahlen, what geologic evidence leads you to the conclusion that these are separate reservoirs, these three reservoirs are in fact separated?

A. My experience in the area in mapping similar Devonian accumulations within Chavez and Lea Counties.

The fact that most oil fields in this area are very small. They consist of one, two, three or four wells.

The fact that we are already producing water in this particular well suggests that it might be relatively small-sized. The fact -- and the seismic data lead me to that conclusion.

And the difference in the gravity of the oil and the difference in the color of the oils make it appear as though they are separate reservoirs, separate and unique from each other.

Q. Have you or anyone else looked at reservoir

pressures to determine the similarities or differences in those?

A. Yes, sir. Since these -- since the Devonian formation is a regional acquifer, I would expect that the North King Camp and the proposed McClellan Devonian Pool will have similar bottomhole pressures.

Q. Initial bottomhole pressures?

A. Yes, sir.

Q. How about the -- would the new discovery well -- wouldn't that necessarily have a higher bottomhole pressure than would wells in the North King Camp because of depletion in that pool?

A. There might be some depletion in that, but it is a very dynamic water drive that we're dealing with in the Devonian formation, and we're looking at a thousand feet of reservoir space and fluid drive to help drive the oil to the formation.

So there's very little depletion in the North King Camp still.

Q. Mr. Ahlen, you stated that you believed one well would drain 160 acres in this pool. What is that based on?

A. The water drive.

Q. Do you have any evidence? I'm sure there's not sufficient production history at this point to make that determination. Are you --

A. Right.
Q. -- talking about analogies to other pools?
A. Yes, sir.
Q. What are the wells' setback requirements in the North King Camp Devonian?
A. 660.
Q. How about the South Lucky Lake-Devonian Pool?
A. I do not know.
MR. STOVALL: Mr. Ahlen, the North King Camp also has a distance-between-well requirement, does it not?
THE WITNESS: That was later applied.
Q. (By Examiner Catanach) Do you know if the 160-acre spacing for the North King Camp -- are those permanent rules?
A. I think they are still temporary.
Q. Temporary?
A. They were initially temporary rules.
MR. STOVALL: Well, let's let the record reflect that what has happened in that case is that the temporary rules were adopted. Mr. Stevens drilled a well at an unorthodox location -- or Stevens Operating did.
There's a considerable battle which is still in the Supreme Court regarding that location and the allowables assigned. But effectively the commission order with respect to the unorthodox location superceded the

temporary rules, and they have never come for rehearing.

Although the case has been on the docket, I think it's just been continued indefinitely, I believe, because the commission order superceded it, effectively.

Would you agree, Mr. Carr?

MR. CARR: And I believe they are going to stay temporary until our battle in the Supreme Court is resolved in favor of Mr. Stevens.

MR. STOVALL: So --

THE WITNESS: I would request the 330-acre space from the -- from the -- the setback is an attempt to ameliorate some of those circumstances that caused the disagreement in the North King Camp rule, and we encourage offsetting operators to take maximum advantage of that to secure the oil that they deserve and is theirs in the pool.

Q. (By Examiner Catanach) Mr. Ahlen, a 330-foot setback -- is it your opinion that that's going to sufficiently drain a 160-acre proration unit?

A. Depends upon what the structural configuration is in that -- at that particular location, and we don't know what that is yet until the seismic data has been thoroughly analyzed, first shot and then analyzed.

We don't know where the highest spots in the pool will be until we go through that procedure, and so the 330 setback would allow an operator maximum flexibility to

achieve the best draining location.

MR. STOVALL: That's not necessarily true, actually, is it, Mr. Ahlen, based on North King Camp Devonian?

THE WITNESS: Say again. I didn't understand your question.

MR. STOVALL: You may even have to get closer than 330 to get to the top of the structure based on North King Camp; is that correct?

THE WITNESS: That's why the commission provides for appeals and unorthodox locations.

MR. STOVALL: Let me follow up, if I may, Mr. Examiner.

Having become intimately familiar with the North King Camp Devonian, I almost feel like a geological expert of that pool.

EXAMINATION

BY MR. STOVALL:

Q. Is not the experience there -- was there not evidence, essentially uncontroverted, that the well in the top of the structure could really drain the whole pool and that even 160 might be too small?

A. Yes. Well, that's if -- I'm not an engineering expert, but I think most engineers will say that a single well in a single structure can drain the whole structure if given enough time. But economic circumstances suggest that

you do it more rapidly than that, especially if you have a billion barrels of oil to drain.

Q. Do you think you have a billion barrels in there? Have you got enough information here to make that kind of conclusion?

A. It was just an example.

Q. I guess the follow-up question to that is: Do you see -- based upon the information which is available to you right now, do you see enough similarities between this and the King Camp to believe that in fact a well at the top of the structure really can effectively drain the reservoir?

Have you got any close enough sense?

A. I don't have any proof. I don't have any proof, but we still -- you still need to protect correlative rights. If another operator has acreage within boundaries of the pool, they still need the opportunity to acquire those reserves.

Q. Your concern, as far as the date of this order, has to do with -- I guess it's what's called the Sabine lease, is that it, in Section 22? "Sabine," however you pronounce that.

A. Yes, sir.

Q. And I assume -- is the basis for requesting the order that that would be within one mile of the pool

boundaries and therefore be subject to the pool rules?

A. Yes, sir.

Q. Looking at Exhibit 3, your structure map, it appears that you're drawing another saddle in there. Is that --

A. That is correct.

Q. -- likely to conclude that that is the same pool still?

A. We don't know until we run the seismic.

As you'll notice, there's very little control in that direction. We do have a suggestion of a saddle on that north-south line, but what happens half a mile or a quarter of a mile to the east of that is still very subjective.

Q. But you're just going to operate off the presumption until the end of the rules that if it's within a mile, it's the same pool and --

A. Yes, sir.

You'll also note that the datum, the estimated datum, for that well in Section 22 is very near the datum of our production in the discovery well, and that also adds encouragement to our cause.

MR. STOVALL: I don't have any further questions.

EXAMINER CATANACH: The witness may be excused.

MR. KELLAHIN: May I ask a few questions?

EXAMINER CATANACH: Oh, surely.

MR. STOVALL: Oh, Mr. Kellahin.

MR. KELLAHIN: Thank you. Okay.

CROSS-EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Ahlen, in the North King Camp Devonian, while there was some difference of opinion about the asmyth for that fault, there was good geologic and seismic evidence to establish the existence of a fault on the eastern boundary of that reservoir, if I --

A. On the eastern boundary?

Q. I'm sorry, on the western boundary.

A. On the western boundary, yes.

Q. The reservoir was east of --

A. The placement -- the exact placement of that fault was questionable, and that's why it took two attempts to get to the top of the structure.

Q. Do you see any indications now from the current available data that the reservoir for this new pool has a western boundary that's fault controlled?

A. There is deepening of the dip on the west side, but the -- the asmyth of that steep dip is difficult to estimate at this time.

Q. You don't see any evidence thus far in Section 28 that you can establish by faulting that there is

a western boundary to the new reservoir?

A. Not really. I have contoured it as steep dip.

Q. And that was the basis for my question, is whether or not that contour was based upon your estimate of a fault in the reservoir in that approximate location of, say, the minus 6,200 contour line?

A. I did not put a fault there.

Q. When we look at the land map, Exhibit 1, and look at Section 28 --

A. Yes.

Q. -- will the discovery well satisfy Mr. Stevens' requirements for Section 28 lease with the exception of the Marathon acreage?

A. I don't understand the question.

Q. In Section 28 --

A. Yes.

Q. -- with the exclusion of the Marathon 80 acres --

A. Uh-huh.

Q. -- is that all the same lease?

A. Yes.

Q. So Mr. Stevens has the ability under that single lease to dedicate 320s, 160s, 80s, or whatever, within that lease to the discovery well?

A. We're asking for 180s, yes, sir -- 160, excuse

me.

Q. When we look in 27, is that the same lease?

It says "McClellan" in 27. Are you dealing with the same lease?

A. I don't know. I presume so, but these -- this is a farmout from Mr. McClellan, this particular operation.

Now, Mr. McClellan still holds rights in Section -- the south half of Section 22.

Q. It would appear that Mr. Stevens has the good fortune to control the amount of acreage dedicated to the well in order to keep wells from being drilled too close.

in other words, he controls enough acreage within that single lease to keep an offsetting well from crowding him on 40 acres, for example.

A. Except that our purpose here is to allow maximum flexibility so -- if another operator might drill as close as 330 to their proration unit.

Q. When we look at the Exhibit 5 and talk about the reserves, there's half a million barrels of oil estimated average for the new McClellan Devonian Pool?

A. That's what might be called a "well wag estimate."

Q. Based upon volumetrics?

A. Just a guess and experience in other wells in the area.

Q. Is this intended to be a recoverable oil member?

A. Yes, sir. Yes, sir.

Q. Is it calculated based upon a fixed number of acres assigned in the calculation?

A. No. No, it's just a guess grabbed out of the sky. Pie in the sky.

Q. In the North King Camp Devonian we have some reserve calculations that were based upon reservoir shape and an oil-water contact?

A. That is correct.

Q. But the basis for this reservoir reserve calculation is -- you're not able now to make it very specific?

A. In the first place, we've only drilled ten feet into the Devonian, of which six feet was a drilling brake. We don't know how much more pay there is below the bottom of our hole. That's one of the primary concerns.

And then the actual spacial -- the geometry of the reservoir is still to be determined.

MR. KELLAHIN: Thank you, Mr. Examiner.

EXAMINER CATANACH: Anything further?

This witness may be excused.

MR. CARR: At this time I call Mr. Vujovich.

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MARTIN GREGORY VUJOVICH,

the Witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CARR:

Q. Would you state your full name for the record, please?

A. My name is Martin Gregory Vujovich, spelled V-u-j-o-v-i-c-h.

Q. Where do you reside?

A. I reside in Roswell, New Mexico.

Q. By whom are you employed and in what capacity?

A. I am the operations manager of Comanche Gas Gathering, and my capacity there is to manage natural gas gathering pipeline.

We also offer consulting petroleum engineering services and pursue additional oil and gas exploration activities.

Q. What is your relation to Stevens Operating Corporation in this case?

A. I am a consulting petroleum engineer.

Q. Have you previously testified before the New Mexico Oil Conservation Division?

A. No, I have not.

Q. Could you review your educational background and

briefly summarize your work experience?

A. I graduated in 1983 with a bachelor's of science in petroleum engineering from the Montana School of Mineral Science and Technology. I then went to work for Fina Oil and Chemical Company in Tyler, Texas, as a petroleum engineer, and my duties there included drilling, completion, production, reservoir studies and reserve estimates.

I subsequently went to work for them in the natural gas division in Dallas for a brief period of time and approximately nine months ago became employed by the natural gas gathering in Roswell.

Q. In all of your jobs since graduation, have you been employed in basically a petroleum engineering capacity?

A. Yes, that is correct. I have also received professional registration as a petroleum engineer in the State of Texas. I have testified in front of the oil and gas boards or commissions in the States of Arkansas, Alabama, Mississippi and previously testified in front of the EID in the State of New Mexico.

Q. Are you familiar with the application filed in this case on behalf of Stevens Operating Corporation?

A. Yes, I am.

Q. Have you made a study of the information on the

Devonian formation in this area and in particular the information available on the McClellan No. 1 well?

A. Yes, I have.

MR. CARR: We tender Mr. Vujovich as an expert witness in petroleum engineering.

EXAMINER CATANACH: He is so qualified.

Q. (By Mr. Carr) Would you refer to what has been marked as Stevens Exhibit No. 8? Identify this and review it for Mr. Catanach.

A. Exhibit 8 are two selected sheets from a drill stem test performed on the subject well on April 9th, 1991, shortly after reaching TD. Sheet No. 1 indicates that we have good quality data and an excellent oil recovery with indications of a high-productivity oil reservoir.

On Sheet No. 2, in the calculation section I would ask you to note the first line of calculations. We extrapolated initial shut-in pressure, as indicated at 3,959 p.s.i., and down lower in the sheet the flow capacity is indicated at 19.4 darcy feet.

These two pieces of data indicate near normal pressure, probable contact with the water acquifer and extremely high flow capacity.

Q. And, Mr. Vujovich, this is pre-stimulation data, correct?

A. This is correct.

Q. And basically what this shows is high permeability and a good flow capacity?

A. High permeability, good flow capacity and high oil productivity.

Q. Let's move to Exhibit No. 9. Could you identify this, please?

A. Exhibit No. 9 is the daily production history of the subject well beginning on April 10th with the drill stem test recovery. Later, on April 18th the well was completed and flowed for approximately one week under natural conditions.

On the 26th of April the well was acidized with a very small acid stimulation, 84 gallons of acid, responded quite well, and produced at a rate of four to 500 barrels of oil per day since that point in time.

You will notice that the well has also produced water since the initial production dates, and that water during the time period after acidizing, while being measured, was approximately 33 percent water cut.

The gas rate initial indications during the drill stem test and on the second day of production appear higher than what we have seen subsequently. The gas is too small to measure, and based on that and the testimony given on the neighboring fields, we estimate that the gas-oil ratio here is approximately 35 standard cubic feet per

barrel.

Also, please note in the fourth column the changes in choke size. While attempting to regulate the well and reduce the oil production rate, a number of different chokes and back pressures have been applied. Back pressure because of the low GOR has been unsuccessful in being a mechanically feasible option, and choke sizes continue to be a problem. If you bring the choke size down small enough, the choke plugs up and you lose production.

Even with today's verbal reports, the well was restricted from a seventeen to a sixteen-and-sixty-fourths-inch choke. The choke became plugged overnight, and the production rate dropped from 496 barrels of oil per day to 380 barrels of oil per day.

You will note that the last couple weeks of production -- excuse me -- the last ten days or so of water production has not been available. The mechanical facilities to handle the water production are still being constructed, and the water is being injected into a pit subject to approval by the federal BLM --

Q. Let's move --

A. -- during the testing period.

Q. Let's move now to Exhibit No. 10. What is Exhibit No. 10?

A. Exhibit No. 10 is a compilation of data.

Q. That's at the top of the exhibit?

A. Yes, sir.

Q. Why don't you just run through those for the examiner?

A. The initial reservoir pressure as indicated on the drill stem test was 3,959 p.s.i. This yields a pressure gradient at this depth of .403, which infers contact with water -- acquifer in a near normal pressure gradient.

The initial potential on swab rate was 561 barrels of oil per day, which has been substantiated since the stimulation of the well.

The reservoir drive mechanism inferred by the water production rate and the pressure gradient is anticipated to be a water drive.

The oil gravity and the oil density as well as the water density have both been measured from fluid samples taken from the well. Using that data and the average water cut during the time period when water production data was available, you can calculate an average hydostatic gradient in the tubing of .363. This will yield a bottomhole flowing pressure. Combined with that gradient and the surface average flowing pressure of 175 p.s.i., you can calculate that the average bottomhole flowing pressure must be at least 74 -- excuse me -- 3,748 p.s.i. plus the

effects of friction.

This would indicate that we are capable of producing over 500 barrels of oil per day with a pressure drawdown on the reservoir of approximately 200 p.s.i. Ones again, an excellent indication of the formation's ability to produce.

Using that production information and the flow capacity -- not only indicated on the drill stem test, but also calculated on a basic Darcy equation -- using these flowing bottomhole pressures and the fluid production rates, yields an extremely high flow capacity.

Using that data, coupled with the fluid samples and chart estimates and an SBE nomograph, the recovery efficient from this reservoir is anticipated to be very high, exceeding 40 percent.

Q. Could you review the conclusions that you've reached as a result of your engineering study on this well in this reservoir?

A. Based upon this data, I think that we can conclude that it is an extrememly high-productivity rate reservoir, shown not only by the DST subsequent production data. We have excellent flow capacity, indicated again by production data and the DST. This also is indicative that limited reservoir depletion is required for high flow rates. We can anticipate that the reservoir will continue

to produce for a long period of time with very little pressure drawndown.

Using that data and the fluid samples and the low GOR, we can anticipate that no evolution of solution gas will occur in the reservoir.

The bubble point anticipated from the crude sample wells we've been able to obtain is something less than 150 p.s.i. This would also coincide pretty well with what we have seen on the surface. We don't have gas breaking out at the choke. We don't have gas breaking out from the separator. The only place that gas appears to be at all is a minor amount at the tanks.

So again, we can conclude that this is a water-drive reservoir with normal initial pressures, and ultimate recovery will be extremely dependent upon structural position. Again, this is important because if there is no evolution of solution gas in the reservoir, that gas will not migrate to the top of the structure, and those structural added positions will contain a solid oil column.

Q. Are you prepared to make recommendations to the examiner concerning rules for the development of this pool?

A. I am. I would recommend that we create field rules which allow for minimum well density requirements and high per-well allowables in order to prevent waste and

excessive well density while protecting correlative rights.

The ability of this well to drain an area of 160 acres -- I think as you have indicated from the field data to the south, a peak located opposite the structural well may be indeed able to drain a much larger area. However, in comparison with the production data that we see now in the first well, it may not be mechanically or economically feasible to have a well density any higher than 160 acres and still maintain maximum oil recovery from the reservoir.

Item 2: I believe that it is necessary to create field rules which will allow the maximum flexibility in selecting these optimal structural locations. The reason for this is to avoid the waste of any updip attic oil while still maintaining a proper setback from the boundaries of the proration unit to protect the correlative rights of all parties.

We also suggest that, if required, a minimum distance be required for setoff from the internal quarter-quarter boundary lines within those proration units, again to allow the selection of the most advantageous structural drilling position.

And third, because the data at this point in time -- there's only a single well, I would recommend that these rules be promulgated for an initial period of one year to allow for review of additional data as it becomes

available.

Q. Mr. Vujovich, you indicate in your conclusions, in Conclusion No. 5, that no secondary gas cap formation is anticipated. What is the significance of that?

A. Again, the significance of that point is that if no gas evolves in the reservoir, the gas will not be present nor able to migrate to the peak structural position.

As the case commonly is in solution gas-drive reservoirs where peak optimal structural position is not as critical to the ultimate recovery of oil from the reservoir, in this reservoir, where you will have no gas cap, no secondary gas cap, the peak structural position will be the most efficient manner to drill and drain the most reserves possible from the reservoir.

Q. Is structural position the key to efficiently developing the reservoir?

A. Yes, it is.

Q. I believe you've testified to this, but what is your recommendation for spacing for this pool?

A. My recommendation, based on the precedents set on the neighboring wells and the engineering data that I've been able to ascertain, is 160 acres per well.

Q. And what is your opinion concerning the 330-foot setback?

A. I would recommend that you use a 330 setback. This will allow flexibility in selecting updip structural positions, protect the correlative rights, and I believe this would be the most efficient manner to develop the reservoir.

Q. Do you have an opinion on whether or not the McClellan No. 1 well is in fact in a separate source of supply?

A. All the data as indicated in the exhibit presented by Mr. Ahlen would indicate that this is a separate and distinct reservoir.

Q. Now, Stevens is requesting a discovery allowable. Do you know what that allowable would actually be in barrels?

A. My understanding is the discovery allowable is based on the calculation of five barrels per foot of depth, approximately 49,000 barrels, to be allotted over a two-year period.

Q. In your opinion, could the discovery well, the McClellan No. 1, actually make the discovery allowable?

A. It would be indicated by the production data and also the -- excuse me -- the production summary that by very small changes in the choke size that this well would be quite capable of producing up to the normal 160-acre allowable plus the discovery allowable.

Q. In your opinion, will granting this application be in the best interests of conservation, the prevention of waste and the protection of correlative rights?

A. Yes, it will.

Q. Were Exhibits 8 through 10 prepared by you?

A. Yes, they were.

MR. CARR: At this time, Mr. Catanach, I would move the admission of Stevens' Exhibits 8 through 10.

EXAMINER CATANACH: Exhibits 8 through 10 will be admitted into evidence.

(Whereupon Applicant's Exhibits 8 through 10 were admitted into evidence.)

MR. CARR: And that concludes my examination of Mr. Vujovich.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Vujovich, what is the allowable for a 160-acre well?

A. My understanding is that it's 515 barrels of oil per day. Is that correct?

MR. STOVALL: Everybody's nodding their head. That must be the right answer.

Q. (By Examiner Catanach) Sounds close. What is your -- what does the flow capacity indicate?

A. The term "flow capacity" indicates the

transmission ability of the reservoir. It's an indication of the thickness and the permeability of the reservoir rock.

Q. And that's calculated from --

A. The data is calculated by a series of calculations done on standard DST reports.

Also, the most simple way to arrive at it, based on the production information, is simply to take the production rate, and using the known viscosities of fluids of reservoir conditions and the anticipated bottomhole pressure drop -- so you have the terms of differential pressure, viscosity and flow rate, and using those pieces of data, you can calculate from Mr. Darcy's equation the flow capacity of the well.

EXAMINER CATANACH: I believe that's all I have.

Mr. Kellahin?

MR. KELLAHIN: Thank you, Mr. Examiner.

CROSS-EXAMINATION

BY MR. KELLAHIN:

Q. Have you determined recoverable reserves for the discovery well?

A. No, we have not. However, in your previous questions of Mr. Ahlen, I would like to note 500,000 barrels of oil can be substantiated on a performance or decline curve analysis using current production rate flat

for a period of one to two years and then declining it at a rate of 20 to 30 percent per year.

Q. Does current production information give you enough data points from which to extrapolate a decline?

A. It's very difficult at this point in time because of the testing.

Q. It's too early?

A. Yes, it is. So hence the request for a one-year period to review the field rules.

Q. How does the data summarized on Exhibit 10 compare to the reservoir description for the North King Camp Devonian?

A. My understanding of the North King Camp is that, as far as the reservoir rock itself is concerned, that they are very similar. Also, the reservoir fluids appear to be very similar. They have very high measured permeability. They have fairly high oil gravity, normal water density; all those combined to give you favorable mobility in the reservoir, and favorable mobility combined with the high permeability should lead to high ultimate recovery efficiency from the reservoirs.

Q. Do you see any data in the McClellan Pool as a reservoir engineer to cause you to believe that it's separated from the North King Camp Devonian?

A. I have not reviewed the pressure information on

the North King Camp field to compare with the McClellan well, so that piece of data is as of yet unexamined.

The productive capacity indicates that they are fairly similar. However, the reservoir fluid samples appear to be quite different, so from that aspect I would conclude, based on the regional geology and the fluid samples taken at surface, that these are most likely separate and distinct reservoirs.

Q. Even in the absence, then, of a reservoir pressure comparison you're comfortable to reach that conclusion based upon the characteristics of the fluid samples?

A. Yes, I am. The initial reservoir pressures would be a function of the degree of contact with the Devonian acquifer, and as such -- to make conclusions based solely upon that piece of evidence I think would be inappropriate.

MR. KELLAHIN: Thank you, Mr. Examiner.

MR. STOVALL: I've got some questions.

EXAMINER CATANACH: Absolutely.

EXAMINATION

BY MR. STOVALL:

Q. You're requesting the 330-foot setback from the outside boundaries of the proration units in order, if I understand your and Mr. Ahlen's testimony, to get maximum

flexibility in selecting a location to attempt to find the top of the structure; is that correct?

A. That's correct.

Q. If two wells are drilled each at 330, they are 660 feet apart. Is there any interference potential there that could interfere?

A. Of course there is interference potential, but that may be the only equitable way to protect correlative rights.

However, that situation, I believe, is fairly unlikely under the current geologic analysis simply because if you have a normal feature and a slope going up in a single direction, the people with tracts, let's say, to the south are going to move as close as they can to the north line. The people in the adjoining tracts next to them are also going to move likewise in the same direction, in which case the wells most likely would then be spaced the full 160-acre distance apart or nearly a quarter mile apart.

Q. This discovery well is a pretty good well, isn't it?

A. Yes.

Q. Isn't it likely that somebody drilling -- well, let me back up and ask you a question first.

Who owns the offsetting acreage to the -- what is it? -- to the south of this well? Is that correct? --

which -- yeah -- to the south?

A. I'm not thoroughly knowledgeable of all the lease positions in the area, but if you will -- it's Stevens.

Q. It is Stevens?

A. Yes.

Q. Is there not going to be -- to develop the southwest quarter -- or southeast quarter, excuse me, of Section 28, would you recommend drilling towards the north portion of that proration unit to -- closer to that well?

Doesn't it appear to be --

A. Based upon Mr. Ahlen's structure map and his interpretation at this time, that may indeed be the correct answer. However --

Q. Go ahead.

A. The planned three-dimensional seismic coverage to the area may drastically change this interpretation.

The point is: Regardless of well proximity, to maximize recovery from the reservoir, you have to select a peak structural position, and to allow everyone equal opportunity to extract the oil and gas underlying their tract, you must allow them to get as close to the lease line as permissible.

The relative effects of two well bores too close to each other here, which might normally be quite harmful

in a solution gas-drive reservoir because of pressure depletion, does not appear to be a serious factor here simply because of the permeability and what we anticipate as high energy acquifer support.

Q. If two wells are -- two high-capacity wells are fairly close that are off the top of the structure, is there not a possibility that they could aggravate potential water coning situations in either or both of the wells depending on their --

A. That is a possibility. However, with permeability that's indicated from these tests, at this point in time it is not a -- what I would consider the predominant consideration here.

The coning conditions will be more of a function of the vertical permeability compared to the horizontal permeability in the well bores and a function of the total drawdown. As indicated here, it doesn't require much drawdown to have a high-capacity or top-allowable well; and with these permeabilities, I don't think that would be a problem.

If you were to fulfill the complete coning calculations, which would be next to impossible at this point in time without some full core studies and some directional permeability, you might find the angle of the cone. It would be my anticipation, knowing the fractured

nature of the reservoir, that the coning angle would be very steep, indicating that the wells would have to be extremely close together for those cones to aggravate each other.

Q. What's "extremely close"? What are you calling "extremely close"?

A. I would have to calculate it, but if you used a coning angle of ten years and a reservoir thickness of 40 feet -- I can't do the trigonometry in my head, but ten degrees for a distance of 40 feet is 15.2 per well.

Q. Okay. I mean, that gives me a range of magnitude.

That answered my questions. I have no further questions.

EXAMINER CATANACH: I just have a couple.

FURTHER EXAMINATION

BY EXAMINER CATANACH:

Q. It's my understanding Stevens owns all the acreage in Section 28 except for the 80 acres.

MR. STEVENS: I'll be happy to explain this. We have a farmout, and it's continuous drilling on the farmout.

MR. STOVALL: Let the record reflect that that's Mr. Don Stevens making unsworn statement into the record for clarification.

Q. (By Examiner Catanach) Doesn't the 660 or

greater setback offer a lot of protection to an operator as well?

Assuming that somebody else owned the southeast quarter of the section and wanted to drill 330 from the middle line separating the section there, isn't that encroaching on Stevens' correlative rights?

A. You may by using the 330 rather than the 660 setback assist in protecting correlative rights. You may even prevent several wells that are off structure from being drilled, which -- there's a balance here. By protecting one owner you may injure another.

Also, these protections I would deem to be fairly slight as compared to the economic loss that might be suffered by the party by failing to gain the peak structural position.

So it would be my opinon that structural position -- in this case you've got the difference between the 330 and 660 setback. The structural position gained by each party, the value of that is -- would override the difference.

Did you understand my statement?

Q. The option for any operator to drill in an unorthodox location is always open for them to come in and present evidence and testimony in support of that.

A. And generally their allowables are restricted

proportionately; is that correct?

MR. CARR: Well, not most of the time. They are not.

MR. STOVALL: Sometimes they are, let's say.

EXAMINER CATANACH: Sometimes they are; that's correct.

MR. CARR: May it please the examiner, I could call Mr. Stevens if you'd like, but I can also represent that Mr. Stevens does not have an interest in the southwest of 22, but that is held by Mr. McClellan, and perhaps the 330 setback with the development of seismic might make it possible for a well to be drilled there without coming back into the North King Camp situation. Again, that's one of the reasons.

I can call him if you would like. If not, I just make that as an offer. But Mr. Vujovich is being asked to guess on the ownership here.

MR. STOVALL: Well, we understand. Perhaps, Mr. Carr, you can just state in Section 28 Stevens has an ongoing farmout?

MR. CARR: Yes.

MR. STOVALL: And is that the same farmout that applies in Section 22?

Maybe we'd better get Mr. Stevens on and discuss the land description if we're through with the engineer.

MR. CARR: All right.

EXAMINER CATANACH: Yes, let's go ahead and do that.

MR. CARR: Okay. Are you through with Mr. Vujovich?

EXAMINER CATANACH: Yes.

MR. STOVALL: Mr. Stevens, let's now make this sworn stuff here.

(Whereupon the witness was duly sworn.)

DON STEVENS,

the Witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CARR:

Q. Will you state your name for the record, please?

A. Don Stevens.

Q. And you are the Stevens of Stevens Operating Corporation?

A. President of the corporation.

Q. Mr. Stevens, you've been present through the hearing today, have you not?

A. Yes.

Q. Could you very briefly refer to Exhibit No. 1 and just review for Mr. Catanach the status of the ownership of the interests in Sections 21, 22, 28 and 27?

A. Yes. In Section 21 and 28, Stevens has a farmout from McClellan Oil Company on all of the acreage shown therein except the Marathon acreage in the northwest,

north-northwest of 21 and the south half southwest of 28.

In Section 27, Stevens has a farmout on the west half of 27. McClellan retains the east half of 27.

In Section 22, Stevens has a farmout from McClellan in the south half of the northwest and in the east half of 22 and has a farmout from Sabine subject to spuding before the lease expiration in the north half northwest. The southwest quarter of Section 22 has been retained by McClellan.

And if I may, one of our ideas on the 330 setbacks in addition to the geological and engineering reasons is we felt that to exclude an offset operator from recovering the oil out from under his tract by too controlled spacing wouldn't protect his correlative rights.

We feel 330 setbacks to McClellan in the southwest quarter of 22 could well work to his benefit. He might get a well that he might not otherwise get based on our current understanding of the structure, as Ahlen's structural Exhibit No. 3, I recall.

That may not be the way it is. After we've shot it and after we drill more wells, that picture may well change. We might then want to drill a 330.

The point is: In our case, 330 locations give you the chance to get the higher structural position, which in a water-drive reservoir is how you get the oil

underlying the tract. You can't get oil underlying your tract within 660 feet of the well bore if it's structurally higher than you are, and of course the North King Camp to the south is the best example of that.

Therefore, our idea was to give everyone in the pool, ourselves concluded, the option to drill as close to the lease line as is reasonably necessary so that all could get in on the reservoir at the highest structural position where the more -- most oil will be recovered and the least amount of oil would be wasted by being left in attic oil.

As many fields, we're finding out a lot of oil has been wasted by their not being able to be drilled at the crest of the structure because of the section, township and range spacing rules which this and all other commissions employ.

This won't solve the problem. 330 doesn't solve it. It merely ameliorates it, 330 being half the distance of 660.

That's our idea.

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Stevens, do you believe this is a fairly small, new reservoir that you've discovered?

A. I do. The map that Jack Ahlen has drawn pretty well demonstrates it's a relatively small area of extent.

We don't know if the saddle shown in the southwest quarter of 22 is there or not. We will know after we shoot some more seismic. If it's not, then this field could go farther to the north. We don't know that they are -- we don't have any seismic up there.

We feel fairly comfortable that it does not extend very far south merely based on the fact that we've got water in our well. The oil-water contact, if it's 50 feet down, would prohibit anything south of Section 28 being productive in this pool, if in fact that interpretation to the south is correct. We think it is based on the seismic data and the geology which has been exhibited here, but it's only an interpretation.

Q. So the proposed 330-foot setback is -- the way I look at it, is mostly for the benefit of McClellan at this point?

A. No. No, it's for our benefit also. We envision that in the southeast quarter we could very well want to get closer to the east line or the west line or even the north line.

Q. Southeast quarter of what?

A. Pardon me. Section 28, excuse me.

The same thing could apply in the northwest quarter of 27. Oil, in our opinion, will be wasted -- or has the potential, greater potential, of being wasted with

660 setbacks as opposed to 330s.

We haven't found the alternative to that, an unorthodox location, to be a very satisfactory experience, and I don't think we're alone in that. And I'm not being facetious here. That was a pretty terrible set of circumstances in the North King Camp, regardless of whose perspective you view it from, and that shouldn't -- this wouldn't even apply there in that case, but it would tend to limit the possibilities of that kind of situation happening again.

We think they should have all been unorthodox locations, regardless of whether it's water drive or gas depletion.

Q. It's a little bit different situation up here in this pool because you control so much of the acreage. I don't see anybody coming in and objecting to you drilling an unorthodox location in Section 28. I think it's a little bit different than it is down in the North King Camp.

A. Well, I don't anticipate it either, but I cannot be sure.

EXAMINATION

BY MR. STOVALL:

Q. At the risk of opening a box of Pandora's, Mr. Stevens, you see this coming, don't you?

A. No.

Q. You're on -- have a good working relationship with McClellan; is that correct?

A. Yes, sir.

Q. Would a common plan of operation which could provide you more flexibility and allow you to privately determine the allocation of the reserves in some manner give you even better flexibility than trying to get the biggest window to drill on standard competitive proration units?

A. I think not. My reason for that is McClellan and I have -- while we're good friends and have a lot of experience in this business, have complete -- that's not necessarily -- we have different ideas about how things should be developed.

I would have to force my views on him or he on me under such a common plan. I don't think you can make a common plan ahead of time. We don't know what the seismic is going to reveal. We don't know what additional drilling is going to reveal. To attempt a unitization ahead of time without knowing the parameters ususally results in -- of the oil in place -- and you can't know it without drilling it -- usually results in some pretty vigorous negotiations in which the person wins who happens to have the best negotiator or engineer or arguer, if you will.

So I really don't think that is a good answer. Forced or even voluntary with incentive unitizations haven't seemed to work in other areas regarding or disregarding North King Camp.

Q. Well, I'm not -- certainly I'm not suggesting the commission create an incentive in this case. I'm suggesting it from a totally privately controlled situation that has offered more flexibility.

What type of leases are these? Are these federal?

A. These are federal leases.

Q. All federal leases?

A. Except for the Stevens one.

Q. Have you had any discussions at all with the Bureau of Land Management on this pool?

A. None, other than in the drilling procedures and the notices. You know, that's all under their control, and we've had all those discussions.

Q. Can we not avoid North King Camp problems by the operators taking control of the situation, making some decisions before we get into it?

A. I don't think you can make those decisions ahead of time. You have to know what the facts are before you can make decisions that are meaningful. We don't know what the facts are here.

Q. You have described a reservoir, have you not?
A. Yes.
Q. In terms of the known geology at this time?
A. At this time.
Q. And are you familiar with the process of forming federal exploratory units?
A. Yes, I am.
Q. And that's essentially it, isn't it? To --
A. No. The geology used in forming federal units is very unprecise, unknown, unknowable until such time as wells are drilled. That doesn't mean they are incorrect. It merely means that they are interpretations of very limited data, and so the unit boundaries for federal units, state units, any units, are by definition arbitrary; and the greatest arbitrary factor of them is the section, township and range aspect of our land grant system. It's nobody's fault, but it causes lots of problems.

So I don't really think you can have an agreement to agree because people can't agree to anything.

MR. STOVALL: Since I don't see that as a remedy that the commission would impose, I won't take that line of questioning any further at this time.

EXAMINER CATANACH: I have nothing further. Are there any other questions of Mr. Stevens?

If not, he may be excused.

MR. CARR: We have nothing further in this case, Mr. Catanach.

EXAMINER CATANACH: Okay. There being nothing further in this case, Case 10308 will be taken under advisement.

(The foregoing hearing was concluded at the approximate hour of 12:50 p.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 10308, heard by me on May 16 1991.

David R. Catanach, Examiner
Oil Conservation Division

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

REPORTER'S CERTIFICATE

I, PAULA WEGEFORTH, a Certified Court Reporter and Notary Public, DO HEREBY CERTIFY that I stenographically reported these proceedings before the Oil Conservation Division; and that the foregoing is a true, complete and accurate transcript of the proceedings of said hearing as appears from my stenographic notes so taken and transcribed under my personal supervision.

I FURTHER CERTIFY that I am not related to nor employed by any of the parties hereto, and have no interest in the outcome hereof.

DATED at Santa Fe, New Mexico, this 3rd day of June, 1991.

Paula Wegeforth

PAULA WEGEFORTH
Certified Court Reporter
CSR No. 264, Notary Public

My Commission Expires:
September 27, 1993