STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO

31 October 1984

EXAMINER HEARING

IN THE MATTER OF:

Application of Stevens Operating Corporation for an unorthodox well location, Chaves County, New Mexico.	CASE 8391

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division:	Jeff Taylor Attorney at Law Legal Counsel to the Division State Land Office Bldg. Santa Fe, New Mexico 87501
For the Applicant:	Ernest L. Padilla Attorney at Law Santa Fe, New Mexico. 87501

I N D E X

E X H I B I T S

MR. STOGNER: We will now call Case Number 8391.

MR. TAYLOR: The application of Stevens Operating Corporation for an unorthodox well location, Chaves County, New Mexico.

MR. PADILLA: Mr. Examiner, I'm Ernest L. Padilla, Santa Fe, New Mexico, for the applicant in this case.

I have one witness to be sworn.

MR. STOGNER: Are there any other appearances in this matter?

Will the witness please stand and be sworn?

(Witness sworn.)

WILBUR WILSON,

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

DIRECT EXAMINATION

BY MR. PADILLA:

Q Mr. Wilson, for the record would you please state your full name and where you reside, and would you also at the same time tell us what your connection is with the applicant in this case?

A Yes. My name is Wilbur D. Wilson. I'm Exploration Manager for Stevens Operating Corporation and I reside in Roswell, New Mexico.

Q Have you previously testified and had your credentials accepted as a matter of record before the -- in a hearing before the Oil Conservation Division?

A Yes, I have.

Q Are you familiar with the purpose of today's hearing?

A Yes, sir, I am.

MR. PADILLA: Mr. Examiner, are the witness' qualifications acceptable?

MR. STOGNER: They are.

Q Mr. Wilson, will you briefly tell us what the purpose of the hearing is?

A Yes. Our purpose of a hearing is to make application before the Commission for the approval of a non-standard location for the No. 2 Lynx, which will be a second well to be drilled in the Lynx Fusselman Field.

Q And is that -- can you give us a legal description of where that well is going to be located or the intended proration unit for that well?

A Yes. It will be 2310 from the south and 1760 feet from the east line of Section 19, Township 8 South, Range 29 East.

Q And the south half of that section will be dedicated to the well?

A Yes, sir.

Q Have you prepared and made a study of -- in connection with this hearing?

A Yes, sir, I have.

Q And you have prepared certain exhibits for introduction.

A Yes.

Q Let's turn now to what we have marked as Applicant's Exhibit Number One and have you tell us what that is and what it contains.

A Exhibit Number One is a copy of the compensated neutron formation density log on the Stevens Oil -- or Stevens Operating Corporation No. 1 Lynx.

This well was drilled 1815 feet from the north and 1980 from the east of Section 19 of 8, 29. It was spudded May 31st, 1984, and completed July 16th, 1984.

TD was 7491 feet in Granite. Top of the Fusselman was hit at 6850 feet. We had mud log show in the top 30 feet of the Fusselman. We had 550 units of methane; 350 units of ethane.

No DST's were run. We ran a Schlumberger compensated neutron formation density curve duolateral log, the Micro SFL.

We plugged back to 7451 feet and ran 5-1/2 inch 17-pound casing to 7448 feet.

We perforated the top of the Fusselman from 6852 to 64. We acidized with 250 gallons of acetic

plus 2000 gallons of 15 percent MSR-100, plus 1000 standard cubic feet of nitrogen per barrel of acid.

The CAOF on this well was 1323 Mcf plus 78 barrels of condensate plus 15 barrels of water through 2-3/8ths inch tubing.

The packer was set at 6785 feet. At this time the well was shut in for lack of a market.

To give you a little idea of where we're we located with respect to the other Fusselman production, the nearest Fusselman production is four miles north in the South Elkins Field and three and a half miles southwest in the abandoned Twin Lakes Fusselman Field.

And on the top of the Fusselman, our No. 1 Lynx is 103 feet high with the Jake Hamon Salisbury Well, which is 7390 foot Granite test three miles north, or 719 feet high to the NRN No. 1 Fradees (sic), which is about a mile and a half southwest, and we're 1416 feet high to the Stevens Operating No. 1 Red Lake Ridge, which is 1-3/4 miles east.

The well went on production October 19, 1984. The gas purchaser is Liquid Energy and the condensate purchaser is Navajo Refining. The well is producing flowing about 850 to 875 Mcf; about 55 to 65 barrels of condensate and 5 to 10 barrels of water on an 18/64ths choke.

Okay. On the exhibit there's columns to the right. One is porosity, the other water saturation, and the other figure is the bulk volume water. The top of the

Fusselman is so indicated at -2889, and then it is color coded red, green, and blue.

The red zone, which represents the gas condensate reservoir, extends from the top of the Fusselman at 6850 feet down to 6895. We feel there's 45 feet of gross pay and 27 feet of net. The porosities range from 8 to 13 percent and the water saturation from 32 to 52 percent, and that zone is represented in red.

Immediately below that is a gas condensate reservoir with possible high water cut. That extends from 6895 to the transition zone, 6923 to 27. Porosities there range from around 18 percent and the water saturations are 18 to 32 percent. That's the green zone.

And the lower zone there in blue is a possible gas condensate (not understood) reservoir with probable high water cut. That extends from 6927 feet on the log down deeper, down probably a little above 7000 feet. The porosities there are 12 to 21 percent and the water saturations are 37 to 53 percent.

Q Are you ready to go on to Exhibit Two?

A Yes.

Q Would you go on to and explain what we have marked as Exhibit Number Two?

A Okay. Exhibit Two is a seismic map on top of the Fusselman. The contour interval is 25 feet; horizontal scale is one inch equals 1000 feet, and also shown on the map are the shallow oil wells, which are producing

from the San Andres. I might point out that in the mapped area the No. 1 Lynx is the only well that is drilled below the San Andres. All the other, the oil wells scattered around in there are all shallow San Andres producers.

The No. 1 Lynx is shown on this map in the north half of Section 19. The proposed location of the No. 2 Lynx is shown with a circle with the red and the standard location to the southwest is shown in lavender.

The yellow outline of the 320-acre proration unit that is assigned to the No. 1 Lynx is shown in the north half of 19. Also there's an east/west cross section A-A', which goes through the discovery well, the No. 1 Lynx, and is also shown on the bottom of that exhibit, and the seismic faults are shown in orange. There's three of them, one to the east, one to the west, and one to the north.

The seismic data is 96-channel Vibrocize and the interpretation was based on 24-fold final static.

The discovery well, the No. 1 Lynx, was drilled on the basis of two seismic lines and these are shown on this exhibit, RL, which stands for Red Lake Ridge, Line 1, is the east/west line going through the subject No. 1 Lynx, and then also the north/south line, which is the RL-5 line. This was the basis for the drilling of the No. 1 Lynx, and after we drilled that, we went back and shot RL-6, which is an east/west line immediately south of the No. 1 Lynx, and this was the basis to help us locate the optimum location for the No. 2 Lynx Well.

The trapping of gas and condensate in the Lynx Field is controlled by a combination of east/west turnover of approximately 110 feet and south dip exceeding several hundred feet, and three normal faults bounding the structure to the north, east, and the west.

The north/south trending regional fault to the east, which is a very extensive regional fault, you can trace this for eight miles, has a throw of about 800-900 feet.

Of lesser displacement the north/south fault that bounds the structure on the west has approximately 400 feet of throw, and immediately north of the Lynx is an east/west fault, which has approximately 100 feet of throw and possibly limits the hydrocarbon entrapment in this direction.

Okay, shown on this map by color, the color of the red, the green, and the blue, relates to the pay section that we drilled in the No. 1 Lynx and it's based on the subsea elevations that were found in the discovery well.

Structurally the nonstandard location of the No. 2 Lynx, which is shown on this exhibit in lavender, or excuse me, in red, would be approximately 20 feet, 25 feet high to the standard location, which is shown in lavender, and this would place the upper part of the Fusselman within the gas condensate reservoir interval, which is shown in red. That would be between the 2889 and 2939 interval

that you see on the discovery well, and this is the zone which is perforated in the discovery well.

The corresponding underlying zones, which are colored green and blue, would also be structurally higher and contribute to a lower water cut on production, and in addition, the closer proximity to the crest of the structure should contribute the higher porosity and permeability due to bending and fracturing the Fusselman formation.

Q Mr. Wilson, would approval of the application result in the best interest of conservation --

A Yes.

Q -- in your opinion?

A Yes, it would.

MR. PADILLA: Mr. Examiner, I'll offer Exhibits One and Two and I have nothing further to add.

MR. STOGNER: Exhibits One and Two will be admitted into evidence.

And I have no questions of Mr. Wilson.

Are there any other questions of this witness this morning? If not, he may be excused.

Mr. Padilla, do you have anything further in this case?

MR. PADILLA: Nothing.

MR. STOGNER: Does anybody else

have anything further in Case Number 8391?

If not, this case will be taken under advisement.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the 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.

Sally W. Boyd CSR

Oct. 31

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