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:	)	CASE NO. 12,387
APPLICATION OF PENWELL ENERGY, INC., FOR POOL CREATION, SPECIAL POOL RULES, APPROVAL OF A NONSTANDARD OIL PRORATION UNIT AND AN UNORTHODOX OIL WELL LOCATION, SANDOVAL COUNTY, NEW MEXICO	)	

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MARK ASHLEY, Hearing Examiner

April 20th, 2000

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MARK ASHLEY, Hearing Examiner, on Thursday, April 20th, 2000, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

April 20th, 2000
Examiner Hearing
CASE NO. 12,387

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A P P E A R A N C E S

FOR THE DIVISION:

LYN S. HEBERT
Attorney at Law
Legal Counsel to the Division
2040 South Pacheco
Santa Fe, New Mexico 87505

FOR THE APPLICANT:

CAMPBELL, CARR, BERGE and SHERIDAN, P.A.
Suite 1 - 110 N. Guadalupe
P.O. Box 2208
Santa Fe, New Mexico 87504-2208
By: WILLIAM F. CARR

* * *

WHEREUPON, the following proceedings were had at 11:18 a.m.:

EXAMINER ASHLEY: The Division now calls 12,387.

MS. HEBERT: Application of Penwell Energy, Inc., for pool creation, special pool rules, approval of a nonstandard oil proration unit and an unorthodox oil well location, Sandoval County, New Mexico.

EXAMINER ASHLEY: Call for appearances.

MR. CARR: May it please the Examiner, my name is William F. Carr with the Santa Fe law firm Campbell, Carr, Berge and Sheridan. We represent Penwell Energy, Inc., in this matter, and I have one witness.

EXAMINER ASHLEY: Call for additional appearances.

(Thereupon, the witness was sworn.)

WILLIAM PIERCE,

the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CARR:

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

A. Bill Pierce.

Q. Mr. Pierce, where do you reside?

A. Midland, Texas.

Q. By whom are you employed?

A. Penwell Energy.

Q. And what is your current position with Penwell Energy?

A. I'm a petroleum engineer.

Q. Have you previously testified before this Division and had your credentials as an expert in petroleum engineering accepted and made a matter of record?

A. Yes, I have.

Q. Are you familiar with the Application filed in this case on behalf of Penwell?

A. Yes, I am.

Q. Are you familiar with the development of the Entrada formation in the area surrounding the Arena-Blanca Entrada Pool?

A. Yes, I am.

Q. Have you made an engineering study of the Entrada formation in the area which is the subject of this hearing?

A. Yes, I have.

Q. And are you prepared to share the results of that work with Mr. Ashley?

A. Yes, I am.

MR. CARR: Mr. Ashley, we tender Bill Pierce as an expert witness in petroleum engineering.

EXAMINER ASHLEY: Mr. Pierce is so qualified.

Q. (By Mr. Carr) Would you briefly state what

Penwell seeks with this Application?

A. Yes, sir, we would like to create a new oil pool for the Entrada formation as a result of discovery of our Eagle Springs Federal well.

We would also like the adoption of special pool rules for this new pool, which would include a provision for 160-acre oil well spacing and proration units, with the wells to be located within 660 feet of the outer boundary of the dedicated acreage.

Also reapproval of our unorthodox oil spacing unit for our Eagle Springs "8" Federal Well Number 1.

Also, we would like the approval of that unorthodox location. Like I say, it's already been approved once.

Q. Summarize for us just briefly the reasons you're seeking the creation of this new pool and the special pool rules?

A. We're seeking this new pool because we believe that we've determined a new source of supply for the Entrada, so we feel it's an entirely different source than anything existing.

Q. And will it be your testimony that one well, the well which is the subject of this case, the Eagle Springs "8" Federal Well Number 1, that that well can, in fact, drain this entire pool?

A. Yes, that is correct.

Q. When was the Arena-Blanca Pool created?

A. It was created January 1st, 1986, by Order Number R-8120. The pool boundaries include, in Section 36, the south half of the northeast quarter, the north half of the southeast quarter of said Section 36, Township 20 North, Range 5 West.

Q. And what will govern the development of the Arena-Blanca Entrada Pool?

A. They are statewide oil rules, which is 40-acre oil well spacing, and the allowable is 107 barrels of oil per day.

Q. How many wells are currently producing from the Arena-Blanca Entrada Pool?

A. There are no current producing wells in the Arena-Blanca Entrada Pool.

Q. When was the Eagle Springs "8" Federal Well Number 1 drilled?

A. In the fall of 1999.

Q. And how close is it to the Arena-Blanca Entrada Pool?

A. We're over two miles away.

Q. When the forms were filed on the well, was the well placed in the Arena-Blanca Entrada Pool?

A. Yes, when we came to hearing for an unorthodox

location, it was the OCD placed it in the Arena-Blanca Pool.

Q. To your knowledge, has the Division officially expanded at this time the Arena-Blanca Entrada Pool to include this acreage?

A. No, sir, it has not been expanded.

Q. What are the current producing rates for this well?

A. Our Eagle Springs well currently produces 135 barrels of oil per day. However, it is capable of producing more oil.

Q. So at this time are you restricting its ability to produce, to stay close in line with the depth bracket allowable for the pool?

A. Yes, we are.

Q. Let's go to what has been marked for identification as Penwell Exhibit Number 1, and I'd ask you to identify that and review it, please.

A. This is the C-102 showing the exact surface location of the Eagle Springs "8" Federal Number 1.

Q. And you have indicated that the unorthodox location was previously approved?

A. Yes, it was approved by Order Number R-11,331, February 17th, 2000.

Q. Now, it was unorthodox under the statewide rules

at that time?

A. That is correct.

Q. And it's included on this docket, because if the recommended pool rules are adopted, it will again be at an unorthodox well location?

A. That's also correct.

Q. Who are the affected offsetting operators?

A. Only Penwell Energy.

Q. Let's go to Exhibit Number 2. Could you identify and review that, please?

A. Exhibit 2 shows a leasehold map. Everything colored in yellow is owned by Penwell Energy. There are some other operators and tribal fee lands and state land identified by the legend below that map.

Q. The well is unorthodox because it is encroaching on the north line of the spacing unit?

A. That is correct.

Q. All the working interest north of that line is owned by Penwell?

A. That's also correct.

Q. And what is the status of the royalty interest?

A. It's the same.

Q. On both sides of the line?

A. That's correct.

Q. Let's go to Exhibit Number 3. What is this?

A. Exhibit 3 is a map showing existing Entrada oil pools in the general vicinity. If you will start at the right hand side of your map you have the Media Field, the Southwest Media Field. Moving more to your left in the center of the map, you will see your Eagle Mesa Entrada Field. We have our discovery well labeled. To the northwest of that we have the Arena Blanca Field. To the far left of the map you will see the Papers Wash Field. At the upper left-hand corner you will see the Ojo Encino Field. And these are all either currently or have produced at one time from the Entrada formation.

Q. When we talk about the Entrada formation, what are the producing features that you're trying to find and develop?

A. These are strictly what we refer to as dune structures. The Entrada is a sand formation, and it only produces where it has dune features or dune structures produced in it.

Q. And based on what you know of the area surrounding the proposed well, have you encountered one of those structures?

A. Yes, we believe we have.

Q. And is it of a relatively limited areal extent?

A. Yes, it is.

Q. Now, this well is more than two miles from any of

the previously and defined Entrada pools in the area; is that correct?

A. That is correct.

Q. Let's go now to your Entrada isochron map, Exhibit Number 4. Will you review that for Mr. Ashley?

A. Exhibit Number 4 is a map that was created off some existing 2-D lines to give you an idea of how some of these structures line up. And as you can see, even from the old conventional 2-D, some of these structures do appear. We have shown the Eagle Mesa field down in the lower right-hand corner.

If you'll move over to approximately the middle left, you will see our well, the Penwell Eagle Springs well, and then to the far left you will see the structure in which the Arena-Blanca Pool was located. But as you can tell from the old 2-D, only a few of these dune structures appear. So it goes to show that the source of supply is different in our well as to the Arena-Blanca Pool.

Q. In your opinion, is there any chance that there is a source connection between the reservoir and the Penwell Eagle Springs well and any existing Entrada Pool in the area?

A. No, sir, there is not.

Q. Could you identify what is marked Exhibit Number 5?

A. Exhibit Number 5 is a time-structure map based on our 3-D. And as you can see, the little mounds or dunes, if you will, pop up. Again, the lower right-hand corner is the Eagle Mesa Field. In the left center it shows our Eagle Springs well on a small dune structure. And then the upper left-hand corner, again, a small dune structure for the Arena-Blanca Pool.

Q. Let's now go to the Entrada velocity map, Exhibit Number 6.

A. Exhibit Number 6 is based strictly upon our 3-D across our Eagle Springs well, and it shows within the red hach marks -- based on logs it shows that we have 194 acres of what we consider to be productive part of the dune structure.

Q. And you're seeking the establishment of 160-acre spacing?

A. That is correct, yes.

Q. Which is the closest spacing pattern to the area you have mapped as being capable of producing reserves?

A. That's correct.

Q. If we look at this map, the reservoir extends into the acreage north of the spacing unit?

A. Yes, it does.

Q. Will any correlative rights be affected by approving this Application in view of the fact the

reservoir extends beyond the --

A. No, sir, they will not.

Q. The ownership is, working interest and royalty interest identical?

A. They are.

Q. Let's go to the next exhibit, Exhibit Number 7. Explain how this exhibit differs from the preceding exhibit.

A. This exhibit is the same as the other except this time the 40-acre spacing units have been superimposed upon the 3-D seismic so you can show -- It shows exactly where our well follows, based within standard 40-acre spacing unit, oil spacing units.

Q. Now, Mr. Pierce, what acreage do you recommend be included within the new pool?

A. We recommend the north half of Section 8.

Q. And you're asking that there would be basically two 160-acre spacing units included within the reservoir?

A. That's correct, yes, sir.

Q. What are you proposing to dedicate to this well?

A. We're proposing to dedicate to this particular well the west half of the northeast quarter, and the west -- excuse me -- yes, and then the east half of the northwest quarter of said section.

Q. Isn't what we're trying to do here is, in fact,

adopt special pool rules that as closely as possible honor the drainage area and at the same time then create a spacing unit which as closely as possible matches the structure?

A. That is correct, yes, sir.

Q. Let's go to Exhibit Number 8. Would you identify this first and then explain what it is?

A. Yes, sir, Exhibit Number 8 is a time structure, looking from the top down into these dune structures. As you can clearly see, the dune feature located underneath our Eagle Springs well is different from the Arena-Blanca Entrada Pool by the fact, just below the red line, the arrow line, it appears to almost completely dim out. And what this is, is actually where the Entrada sand greatly thins down. It's either extremely thin or it has disappeared altogether, and the only way you can have closures in these dune structures are for these things to pinch out, which this small little area right here shows that it clearly does.

Also, once you get your -- drill these wells and get your logs out, even though this appears to be a fairly large structure, only a certain amount of this dune contains oil. So therefore, even though it may appear to be large, only a certain amount of this dune structure, if you will, actually contains oil.

Q. Let's go now to Exhibit Number 9, the productive area printout. And explain, I think, first, for the Examiner, how the exhibit is organized, and then go through the separate parts of it.

A. Yes, sir. This is based on, Mr. Examiner, Exhibit 8, if you will. We took and also, when we drilled our Eagle Springs, we ran a sonic log, and that is where we got the velocity well tie of 11,046 feet per second. And since 3-D is based on milliseconds, you take 11,046 and multiply that times .001 and divide that by 2, and that will give you the number of feet per millisecond looking from the top down into this dune structure.

So on Exhibit Number 9, we get in on the left-hand side, the first column is milliseconds. The next column would be the 5.52 feet per millisecond, and it's the corresponding feet, you know, as you pick up milliseconds in time, of course, it gets greater as you go down.

The third column is acres of closure feet. In other words, if we're looking down from the very top of this structure, if you'll refer back to Exhibit Number 8, the very small portion that's the darkest part around our well, that equates to 4.6 acre-feet. So one feet into that reservoir takes up 4.6 acre-feet.

As you go down into it on a foot-by-foot basis, it shows the acres of closure feet. In a future exhibit,

we'll show you how we arrived at 28, but basically 28 feet is the oil column within this dune, and thereby showing that we actually come up with 194.01 productive acres within the dune structure.

To your left are strictly some reserve runs based upon if you use 300 barrels per acre feet of closure, 400 barrels or 500 barrels, which the sums, of course, are self-explanatory.

Q. Mr. Pierce, will the Eagle Springs "8" Federal Well Number 1 be able to effectively and efficiently drain the 194 acre feet of closure that you have shown on this exhibit?

A. Yes, it will, from the simple fact that we are at the what we refer to as crestal position on this dune structure. In other words, we are at the highest point on this dune structure, so we feel like that it will drain the 160 acres.

Q. Any additional wells in this dune would be unnecessary?

A. Yes, we feel that's correct.

Q. Let's go to Exhibit Number 10. Would you refer to this and show how you got the 28 feet of oil column?

A. Exhibit Number 10 is our resistivity log from the Eagle Springs. In our study of the Entrada fields and resistivity reading, eight ohms appears to be the cutoff

point, if you will, of oil in the reservoir. Therefore, we have used the eight-ohm reading to be our cutoff point.

And if you'll see in green, which equates to 28 feet -- that's your oil -- you either can or cannot -- in our particular instance, we do have a small transition zone, and then clearly you have an oil-water contact from there on down into the reservoir. But we feel that we clearly have 28 feet of oil column on top of the reservoir.

Q. Would you review for Mr. Ashley the conclusions you have reached from your study of this area?

A. Yes, sir, in conclusion is that with 3-D, number one, you're attempting to locate these dune features. They can be relatively large in size, but due to closure have a small productive area on top or be a small dune structure and have good closure and be almost completely filled with oil.

But as we have shown, it's difficult to locate them with 2-D. About the only way we have found is to locate them with 3-D, of which we have been very successful in doing.

Q. Have you discovered a new source of supply in the Entrada formation?

A. Yes, we feel by the evidence we presented today that it is a new source of supply, separate from the Arena-Blanca Pool.

Q. Is 160-acre spacing appropriate for this reservoir?

A. Yes, sir, we feel that it is.

Q. And the recommended nonstandard unit and unorthodox well location are necessary to cause the proposed rules to match the reservoir characteristics as we know them?

A. That's correct.

Q. Is Exhibit 11 a copy of an affidavit with attached letters and addresses confirming that notice of this Application has been provided in accordance with the rules and regulations of the Division?

A. Yes, that's correct.

Q. To whom was notice provided?

A. To all of the offset lease owners within two miles of our Eagle Springs well.

Q. When was the Eagle Springs well actually completed?

A. It was completed in March of 2000.

Q. Are you requesting that if possible the Division make the new rules, if they approve this Application, effective as of March 1, 2000?

A. Yes, that's correct.

Q. In your opinion, will approval of this Application be in the best interest of conservation, the

prevention of waste and the protection of correlative rights?

A. Yes, sir, it will.

Q. Were Exhibits 1 through 11 either prepared by you or compiled under your direction and supervision?

A. Yes, they were.

MR. CARR: May it please the Examiner, at this time we would move the admission into evidence of Penwell Energy, Inc., Exhibits 1 through 11.

EXAMINER ASHLEY: Exhibits 1 through 11 will be admitted as evidence.

MR. CARR: And that concludes my direct examination of Mr. Pierce.

EXAMINATION

BY MR. ASHLEY:

Q. Mr. Pierce, you said you wanted to make these rules effective when? March -- ?

A. March 1st, 2000.

Q. And what's that date based on?

A. We complete our well in March of 2000, so...

Q. Referring back to Exhibit 7, which is the Entrada structure map, we have the quarter-quarter section grid lines drawn on there?

A. Yes, that's correct.

Q. The area to the north or in the section right

above that, there's another -- what? About 80-acres up there?

A. Approximately, yes, sir, between 70 and 80 acres above that, that's correct.

Q. And this one well is going to effectively drain that whole structure that you have outlined here?

A. Yes, we believe it will.

Q. And there are no plans to drill any other wells?

A. At this time, no, sir, there are not.

Q. What about the area that's to the right of this structure? There seems like to be another smaller structure, maybe not quite as high.

A. That's correct, there does appear to be one, but we do not feel like there's enough oil column in that particular section of the structure to justify drilling a well right there.

EXAMINER ASHLEY: Okay, I have nothing further. Thank you.

MR. CARR: May it please the Examiner, that concludes our presentation in this case.

EXAMINER ASHLEY: There being nothing further in this case, Case 12,387 will be taken under advisement.

(Thereupon, these proceedings were concluded at 11:40 a.m.)

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 12387, heard by me on 4-20 2000.

Mark Ashley, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; 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 2nd, 2000.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 2002