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 PG&E RESOURCES COMPANY

CASE NO. 11,041

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: JIM MORROW, Hearing Examiner

July 21, 1994

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on Thursday, July 21, 1994, at Morgan Hall, State Land Office Building, 310 Old Santa Fe Trail, Santa Fe, New Mexico, before Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

July 21, 1994
Examiner Hearing
CASE NO. 11,041

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E X H I B I T S

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A P P E A R A N C E S

FOR THE DIVISION:

RAND L. CARROLL
Attorney at Law
Legal Counsel to the Division
State Land Office Building
Santa Fe, New Mexico 87504

FOR THE APPLICANT:

KELLAHIN & KELLAHIN
117 N. Guadalupe
P.O. Box 2265
Santa Fe, New Mexico 87504-2265
By: W. THOMAS KELLAHIN

* * *

WHEREUPON, the following proceedings were had at 11:07 a.m.:

EXAMINER MORROW: Call Case 11,041 at this time.

MR. CARROLL: Application of PG&E Resources Company for pool creation, special pool rules and a discovery allowable, Lea County, New Mexico.

EXAMINER MORROW: Call for appearances.

MR. KELLAHIN: If the Examiner please, I'm Tom Kellahin of the Santa Fe law firm of Kellahin and Kellahin, appearing on behalf of the Applicant, and I have three witnesses to be sworn.

EXAMINER MORROW: Please stand.

(Thereupon, the witnesses were sworn.)

MR. KELLAHIN: Call at this time Mr. Ralph Nelson. Mr. Nelson is a petroleum geologist.

RALPH NELSON,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Nelson, for the record would you please state your name and occupation?

A. I'm Ralph L. Nelson, geologist.

Q. Where do you reside, sir?

A. Colleyville, Texas.

Q. And by whom are you employed?

A. PG&E Resources.

Q. Have you made a geologic study of the facts surrounding this Application by your company for a new Strawn pool?

A. Yes.

Q. Does this represent your geologic work, the geologic displays that we're about to introduce to the Examiner?

A. That is correct.

MR. KELLAHIN: We tender Mr. Nelson as an expert petroleum geologist.

EXAMINER MORROW: All right, we accept Mr. Nelson.

Q. (By Mr. Kellahin) Mr. Nelson let's turn to Exhibit Number 1 and use it as a locator first.

Tell us what you have shown on that display as being the location of the Smith 15 Number 1 Well, which is the discovery well.

A. The open circle noted by the arrow and sign the location in the southeast of the southwest of Section 15 of 16-36. The map that you see there is a structure map on the top of the Strawn limestone.

Q. Before we look at the structure, let's look at the points of control in the Strawn. How far do we have to

go away before we find another Strawn oil well?

A. There is one Strawn oil well within the two-mile radius that is approximately 5500 feet to the southeast.

Q. And where do we find that on the display?

A. That is in Section 23, the Hisson State A Well.

Q. That's the one with the dryhole symbol?

A. Abandoned.

Q. Abandoned hole symbol?

A. Well symbol, yes.

Q. Apart from that well, how far do you have to go in any direction before you find another Strawn oil pool?

A. In excess of a two-mile radius around our discovery well, approximately two and a half to three miles.

Q. Regionally, give us a sense of where we are. How far do we have to go to find another established Strawn pool, and what is the name of that pool?

A. Northeast Lovington, that's the two and a half to three miles.

The Townsend Strawn Pool is approximately four miles to the northwest.

The Shoe Bar Strawn Pool is approximately four miles to the west.

Q. Give us a description geologically of what type of Strawn reservoir you've discovered.

A. These are Strawn algal mounds. We believe what we have found is consistent with the Strawn algal mounds that have been found to date in this area. Reservoir rocks, from mud log descriptions, are similar in the sense it's a light tan, vuggy-porosity limestone, which is very similar to fields in the area.

Q. Is structure of significance to you when you search for and try to discover and further develop Strawn oil pools like this?

A. Structure is significant. However, porosity development and algal buildup is also important.

Q. Describe for us the structural components of Exhibit 1.

A. Structural components here, as far as our Smith well, shows that we have a separated anomaly centered in the southwest of Section 15, with a regional west dip coming off the Lovington arch to the east, and we are structurally separated from a saddle located in the southeast of Section 15 from other wells surrounding us.

Q. Have you also prepared a cross-section?

A. Yes, I have.

Q. Let's take a look at that. The line of cross-section for the structure map is shown on Exhibit 1?

A. That is correct. And that runs from the well on the left, the well on the west, being the PG&E discovery

well, through the O'Neill well, located to the east southeast of that well, and then over to the Pennzoil Hisson well that was the only Strawn producer within the circled area.

Q. On the log of the discovery well, find for us the vertical limits of what you propose to be this Strawn Oil Pool.

A. On the PG&E 15-1 Smith, at the top of the page, is at 11,453, and the base is at 11,526.

Q. Can you correlate that pay interval to the other wells on the cross-section?

A. No, I cannot. The Strawn interval itself is present, but algal buildup and porosity is not present in the O'Neill well.

There is a slight buildup, however, in the well labeled Pennzoil State "A" 1. That well, however, only produced 1329 barrels.

Q. Summarize for us your geologic conclusions that cause you to believe that this discovery is horizontally and vertically separated from any other known producing Strawn oil pool.

A. The Smith 15-1 is separated by dryholes, both the O'Neill well that I've previously mentioned and shown on this cross-section, as well as the Santa Fe well, also in Section 15, as not having any porosity, permeability or

buildup.

Vertically, we are about 200 feet lower than the production in the other -- only other well within the two-mile radius, being that Pennzoil State "A" 1.

Q. We've asked the Division, in addition to creation of a new pool, to also adopt some special rules. One of those rules is 80-acre oil spacing.

Do you have a recommendation as to that issue from a geologic perspective?

A. In the past, the wells, the fields in this area have been set up on 80-acre spacings because of drainage and productivity.

Q. Okay, these algal mounds in the Strawn are typically on 80-acre oil spacing, are they not?

A. That is correct.

Q. And you're seeking to have rules that are similar to the rules for similar types of mounds?

A. That is correct.

Q. The conventional rules, then, for this type of reservoir provide for well locations within 150 feet of the center of either of the 40-acre tracts in the 180. Is that an acceptable rule for you to apply in this pool?

A. Yes.

Q. In addition, we're asking for the standard 2000-to-1 GOR for this reservoir. That's not a special rule

then?

A. (Nods)

Q. Okay. Your depth bracket oil allowable would be about 445 barrels a day for 80-acre oil spacing?

A. Yes, that's my understanding.

Q. And you're seeking that only one well would be drilled in the 80-acre oil proration unit?

A. That is correct.

Q. Okay. Will the adoption of those rules provide you sufficient flexibility as a geologist to further develop this reservoir?

A. Yes.

MR. KELLAHIN: That concludes my examination of Mr. Nelson.

We move the introduction of his geologic displays, Exhibit 1 and 2.

EXAMINER MORROW: 1 and 2 are admitted.

EXAMINATION

BY EXAMINER MORROW:

Q. The Pennzoil well is the one that's -- How far away is it?

A. I believe that distance is about 5500 feet. Looking on this map, it may be further than that, however.

Q. Well, was it the one you discussed initially --

A. It is.

Q. -- when you talked about Exhibit 1? I understood you to say it was at --

A. I did say Hisson -- that well -- I said that incorrectly. That well was initially drilled to a depth of 10,398 feet. And Pennzoil re-entered it for a deeper completion.

Q. It never did produce?

A. It never did. Pennzoil well in the same location did produce from the Strawn.

Q. Pennzoil well at this State 12 location?

A. No, the State "A" location in Section 23. Pennzoil re-entered the Hisson well.

Q. All right. Re-entered the Hisson well, and it produced for a while?

A. That is correct. The information that we have showed that it produced one month, it produced 1329 barrels.

Q. Okay. The O'Neill Pennzoil "22" State Number 1 never did produce anything other than just a little --

A. That is correct.

Q. They didn't actually --

A. No, they did not set pipe on that well.

Q. Now, you said one well per 80 acres. I guess you wouldn't want to preclude drilling more than one if you needed more than one; is that --

A. I think the reservoir engineer will suggest that that --

Q. It's enough.

A. -- is sufficient.

Q. Normally, I guess the rules wouldn't prohibit it, but it wouldn't require it either.

You found your location with seismic data?

A. Yes, we did.

Q. And your engineer will talk about discovery allowable and the amounts that --

A. Yes.

MR. KELLAHIN: Call at this time Mr. George Vaughn.

GEORGE VAUGHN,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. Mr. Vaughn, would you please state your name and occupation?

A. George Vaughn, staff reservoir engineer.

Q. And where do you reside, sir?

A. Carrollton, Texas.

Q. On prior occasions, Mr. Vaughn, have you testified as a petroleum engineer before the Division?

A. I have not.

Q. Summarize for us your education.

A. I have a degree in engineering from Texas Tech University, 1961. I am a registered petroleum engineer, State of Texas. I have practiced approximately 27 years.

Q. As part of your duties for your company, have you made an engineering study of the factors surrounding this Application?

A. Yes, I have.

Q. And are you familiar with the production history on the discovery well, the Smith 15 Well Number 1?

A. I am.

MR. KELLAHIN: We tender Mr. Vaughn as an expert petroleum engineer.

EXAMINER MORROW: We accept Mr. Vaughn.

Q. (By Mr. Kellahin) Mr. Vaughn, let's turn to some of the information you have provided and look at Exhibit Number 3.

Before we look at the specific details, tell us the objective and the purpose of having compiled this information.

A. The purpose of compiling this information was to indicate that all of the producing Strawn fields in the general vicinity, at least, of the proposed Diamond field experienced initial pressure gradients in the same general

vicinity as we have experienced at the Smith 15-1 where we have an initial discovery, based on the initial drill stem test, of a .396 gradient.

You'll see that the other fields' initial DSTs indicated gradients of .36 to .42, which we believe indicates definitely that we do have an initial well in a new reservoir.

Q. If you weren't dealing with a new well in a new reservoir, what would happen to the pressure gradient?

A. You would see that somewhat less than the average indicated here.

Q. When you look at Mr. Nelson's geologic picture of the relationship of his discovery to other wells in the area, and then apply the pressure gradient information, does that confirm or dispute his geologic conclusion that he's got a separate reservoir?

A. I believe it definitely confirms it.

Q. Is there anything else that you see in the way this well is acting or in the data that you're gathering that causes you to believe that this is a new discovery?

A. The well has been highly prolific. Initial tests tested in excess of our current producing rate of 450 barrels a day, indicating a very prolific well.

Q. Let's turn to some of that information. If you'll look at Exhibit 4, identify for us what you have

tabulated on that display.

A. You see tabulated here the daily production of a short-term test that was performed back in May at some various choke sizes, 18/64 to 24/64 chokes, indicating producing rates of 500 to almost 800 barrels a day.

And then you later will see production from June 30th through just recently July 18th, which was the latest data we had available, indicating that the well continues to produce at current allowable rates.

Q. I think you may have misspoken. The current allowable rate would be 40 acres until we can establish the discovery --

A. Well, correct.

Q. Yeah.

A. Well, it -- for an 80-acre -- It's about a current allowable for 80 acres, which is 445 barrels a day.

Q. Yes, sir. So at 445, if that's the 80-acre allowable the Examiner approves this discovery, then this well certainly has the capacity to do that?

A. Yes.

Q. And if it's reduced to a 40-acre depth bracket allowable, you're going to have to curtail your well?

A. That's correct.

Q. What does that tell you as a reservoir engineer with regards to spacing, at least initial spacing, and

drainage potential?

A. That would indicate to me, based on the producing history of the other wells in the Strawn where 80 acres is the spacing, that this well is certainly capable of draining 80 acres.

Q. Do you have a copy of the depth bracket allowable out of the rules?

A. Yes, I do.

Q. Turn to the table, and let's see what the number is, if at this depth we were on 40 acres. I think you're at 11,453.

A. It would be 365 barrels per day.

Q. Okay. Do you see any need, initially, to have a gas-oil ratio different than the statewide rule of 2000 to 1?

A. I do not.

Q. The gas withdrawals from the reservoir is not an issue; you can produce this well without an adjustment in the 2000-to-1 GOR?

A. That's correct.

Q. Okay. Do you see any indication or evidence of water production in the reservoir?

A. None at all.

Q. Do you see any -- If there's no water production, then we don't have active water drive or even passive water

drive to affect recoveries or deliverabilities?

A. Certainly does not appear to be any effect at all.

Q. Okay. Any indication of a gas cap in the reservoir where we need to be sensitive about withdrawals of reservoir fluids?

A. None.

Q. One of the rules we're asking for is the preclusion, at least initially, of having more than one well in an 80-acre tract so that initial development takes place on true 80-acre spacing with only a single well. That is part of the request. Do you see a purpose, as a reservoir engineer, in accomplishing that objective?

A. I do from an economic standpoint. And based on the history in the other fields that we've referred to earlier, 80 acres certainly seems to be an adequate spacing to drain these Strawn reservoirs.

We are a working-interest owner in the Townsend field, have intimate knowledge of that situation, for instance, and it is very apparent that that reservoir is being drained on 80-acre spacing.

Q. Yeah. But the rather common practice or convention, at least with the Division, is that on 80-acre oil spacing, you get an 80-acre allowable of 445 a day, but you would not be precluded from having two wells to share

that allowable? In other words, you could drill two wells in the 80 and share a 445 allowable?

A. (Nods)

Q. In your opinion, that is not prudent in this reservoir, at least initially?

A. It is not.

Q. The general rules for 80-acre oil well spacing provide for locations within 150 feet of the center of either of the 40-acre tracts in the spacing unit.

Is that, at least initially, an appropriate place to start for well spacing in order to keep the wells spaced out so that you can encourage efficient development and expansion of the reservoir?

A. It is acceptable, satisfactory.

MR. KELLAHIN: That concludes my examination, Mr. Examiner.

We move the introduction of Mr. Vaughn's Exhibits 3 and 4.

EXAMINER MORROW: 3 and 4 are admitted.

I appreciate your questions concerning the second well or additional well, but I guess I still don't understand if you're asking that we put a provision in here which would prohibit additional wells, or are you just not going to drill additional wells? Is that -- If they were allowed as the rule -- It normally would. I just don't

know whether you're requesting that a rule be put in here to restrict development to one well per 80.

MR. KELLAHIN: The request of the Applicant, Mr. Examiner, is, at least for the temporary period, to have that restriction.

EXAMINER MORROW: Okay. And you are requesting temporary rules? And it may say that in the notice; I just didn't pick up on it.

MR. KELLAHIN: We're asking for 18 months, I believe.

Did you want two years, 18 months? What was your preference, Jerry?

We believe the course of development, Mr. Examiner, would provide us an opportunity if it was two years to get the additional wells and reservoir data to you that we can discuss these rules again.

EXAMINATION

BY EXAMINER MORROW:

Q. Are there -- you mentioned a -- or you talked about other pools nearby and 80-acre rules there.

Are there some rules that are similar to what you want here? Do you know rules in other nearby pools that would mirror what you would like to have in this pool?

A. I cannot speak as to the exact verbiage concerning the 40-acre alternatives, but --

MR. KELLAHIN: Mr. Examiner, the Casey-Strawn, the Shipp-Strawn, will have the conventional 80-acre, everything else in them, except they won't have the limitation on the second well.

EXAMINER MORROW: Casey-Strawn and what other ones?

MR. KELLAHIN: The Shipp-Strawn will have it too. That will be the same rule.

EXAMINER MORROW: Do you have anything?

MR. CARROLL: No.

EXAMINER MORROW: Thank you, sir, appreciate it.

MR. KELLAHIN: Call at this time Mr. Jerry Anderson. Mr. Anderson is a petroleum landman.

EXAMINER MORROW: Okay.

JERRY ANDERSON,

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q. For the record, Mr. Anderson, would you please state your name and occupation?

A. I'm Jerry Anderson. I'm a petroleum landman for PG&E Resources.

Q. On prior occasions have you testified before the Division, Mr. Anderson?

A. Yes, I have.

Q. Pursuant to your employment as a landman for your company, have you made a search or caused to be made a search of the offsetting operators within a mile of the boundary of your pool?

A. Yes, we have.

Q. And based upon that search, have you examined the exhibit attached to my certificate of mailing to satisfy yourself that it is accurate and complete with regards to notification of other interest owners?

A. Yes, I have.

Q. And is it so complete?

A. It is complete.

MR. KELLAHIN: We tender Mr. Anderson as an expert, and his verification of the affidavit, which we submit as Exhibit Number 5, Mr. Examiner.

EXAMINER MORROW: We accept Mr. Anderson.

MR. KELLAHIN: One item I failed to discuss with Mr. Vaughn, Mr. Examiner, is the discovery allowable.

The conventional rule would apply from the surface to the top perforation, and for each foot of that depth times five barrels, and you would get 57,265. And then you divide that by two years or seven --

EXAMINER MORROW: 57,265, divided by 700 and what?

MR. KELLAHIN: 730, would get you 78.4 barrels of oil a day as the bonus discovery allowable. That plus the 445 allows this well to produce at 523 commencing at the first month following the entry of an order in this case. That's the standard rule out of -- whatever that rule was.

EXAMINER MORROW: And you're requesting that?

MR. KELLAHIN: Yes, sir, nothing in addition. We're asking for that.

EXAMINER MORROW: And I assume Mr. Vaughn would testify that that wouldn't hurt the well.

MR. KELLAHIN: That is his testimony if he were asked that question.

EXAMINER MORROW: Yes, sir.

MR. KELLAHIN: That's all we have in this case, Mr. Examiner.

EXAMINER MORROW: Thank you, sir, appreciate it.

Let's see, we got Exhibit 5, didn't we?

MR. KELLAHIN: Yes, sir.

EXAMINER MORROW: We'll admit it and take Case 11,041 under advisement.

(Thereupon, these proceedings were concluded at 11:34 a.m.)

* * * I do hereby certify that the foregoing is a complete record of the proceedings in the examiner hearing of Case # 11041 heard by me on July 21, 1994

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 July 26, 1994.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1994