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 CHISOS, LTD., FOR POOL CREATION AND CLASSIFICATION OF THIS POOL AS A RETROGRADE CONDENSATE GAS POOL, EDDY COUNTY, NEW MEXICO

CASE NO. 13,395

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

2005 MAR 3 AM 8 07

February 17th, 2005

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner, on Thursday, February 17th, 2005, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, 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

February 17th, 2005
Examiner Hearing
CASE NO. 13,395

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E X H I B I T S

Applicant's	Identified	Admitted
Exhibit 1	6	13
Exhibit 2	9	13
Exhibit 3	13	13

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A P P E A R A N C E S

FOR THE APPLICANT:

HOLLAND & HART, L.L.P., and CAMPBELL & CARR
110 N. Guadalupe, Suite 1
P.O. Box 2208
Santa Fe, New Mexico 87504-2208
By: WILLIAM F. CARR

* * *

WHEREUPON, the following proceedings were had at 8:54 a.m.:

EXAMINER CATANACH: At this time I'll call Case 13,395, the Application of Chisos, Ltd., for pool creation and classification of this pool as a retrograde condensate gas pool, Eddy County, New Mexico.

Call for appearances.

MR. CARR: May it please the Examiner, my name is William F. Carr with the Santa Fe office of Holland and Hart, L.L.P. We represent Chisos, Ltd., in this matter, and I have one witness who needs to be sworn.

EXAMINER CATANACH: Call for additional appearances?

Will the witness please stand to be sworn in?

(Thereupon, the witness was sworn.)

J. LEWIS MOSELEY,

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 full name for the record, please?

A. J. Lewis Moseley.

Q. Mr. Moseley, where do you reside?

A. Midland, Texas.

Q. By whom are you employed?

A. T. Scott Hickman and Associates, Inc., in Midland.

Q. What is the relationship between T. Scott Hickman and Associates and Chisos, Ltd., in this case?

A. We were retained about a couple months ago as consulting petroleum engineers specializing in reservoir engineering, to help in determining the reservoir classification in this case.

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

A. Yes, I have.

Q. At the time of that testimony, were your credentials as an expert witness in petroleum engineering accepted and made a matter of record?

A. Yes, they were.

Q. Are you familiar with the Application in this case?

A. Yes, I am.

Q. Has Chisos had an engineering study made of this reservoir, based on test data obtained from the well that is the subject of today's hearing?

A. Yes, they have.

Q. And have you reviewed that work?

A. I have.

Q. And have you added to that work?

A. I did some additional review of the production in the vicinity of the wishbone well and tried to determine if there were any other Strawn-producing wells in that area, which there were not.

Q. Are you prepared to share the results of this effort with Examiner Catanach?

A. Yes, I am.

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

EXAMINER CATANACH: Mr. Moseley is so qualified.

Q. (By Mr. Carr) Initially, Mr. Moseley, would you summarize for the Examiner what it is that Chisos, Ltd., seeks with this Application?

A. They're asking for the creation of a new pool for production from the Strawn, and that would comprise the west half of Section 6, Township 19 South, Range 30 East, NMPM, Eddy County, New Mexico.

In addition, they're asking for classification of a new Strawn pool as a retrograde condensate reservoir and dedicating the west half of Section 6 to the Wishbone Number 1 well.

Q. Mr. Moseley, we've prepared several exhibits for presentation here today, the first one being a compilation of certain documents from the files of Chisos. Would you

refer to this exhibit and just briefly provide the Examiner with a history of the Wishbone Federal Com Well Number 1?

A. Well, very briefly, the well was originally drilled by Mission in September of 2000, completed in the Morrow.

Chisos then acquired the interest in the well in July of 2002. They continued to produce that and, in addition, test the Atoka in February of 2004. Then they moved up at that time to test the Strawn, actually in June of '04. That zone appeared to be much more attractive, and that's where it produces now.

Q. And it's being completed in that interval as a wildcat well; is that right?

A. That's correct.

Q. The location for the well, 200 feet from the south line and 680 feet from the west line of this section, is that an unorthodox location?

A. Yes, it is.

Q. And has that been previously approved by the Division?

A. Yes, it has.

Q. And is that the first -- The Oil Conservation Division Order NSL-4521-A, that's the first document in Exhibit 1; is that right?

A. Yes, that's correct.

Q. What is the second document in this exhibit?

A. The second document appears to be the Division Form C-102, a standard 320-acre gas spacing unit in the Strawn, comprised of the west half of Section 6 that was dedicated to the well.

Q. The third document, the next page in the exhibit, is what?

A. Is the Division Form C-104, showing the -- when the well was initially tested, and showing the gas-oil ratio of over 4000 to 1 and produced condensate with a gravity of about 52.7, just slightly less than the 53-gravity crude.

Q. If we go back, far back in the exhibit, we go to the second from the last page. That's actually the beginning of the next document. What is this?

A. That would be -- Well, let me check here and see. I'm not sure we've got this in order here.

Q. It's the next to the last page.

A. Okay, that is the shut-in order for the Wishbone well that pertained to -- well, it gives the history of the Strawn here, in terms of production.

Q. This letter actually looked at, as a result of noticing, the test results on the well and advised Chisos, Ltd., that they in fact -- the Division felt that pursuant to their definitions the well should be classified as an

oil well; is that right?

A. That's correct, yes.

Q. And then what is the last document in this exhibit?

A. The last document is the C-102 showing the location of the well in Section 6, 660 from the west and 2000 feet from the south of Section 6.

Q. And this actually dedicates a 40-acre oil unit to the well, pending the results of today's hearing?

A. That's correct.

Q. What is the current status of this well?

A. The well is currently producing from the Strawn and is, I think, currently making about 70 barrels of condensate and roughly 200 MCF a day of gas.

Q. Mr. Moseley, it would be helpful, I think, at this point if you could just tell us what is a retrograde condensate reservoir?

A. Well, a retrograde condensate reservoir basically is a gas reservoir where the dewpoint pressure -- that is, where fluid or where liquids begin to drop out in the reservoir itself. And in this case the initial reservoir pressure was about 700 pounds, roughly, above the dewpoint pressure.

And then over time, as the reservoir depletes with production, the fluid dropout increases, and then at

some point -- in this case it looks like around 2500 pounds, based on the testing data, 2500 pounds bottomhole pressure -- then it begins to become leaner in terms of less liquid dropout in the reservoir, as you produce it down below that point in time.

Q. The liquids that are produced from a retrograde condensate reservoir, regardless of the volume, what we really have is liquids dropping out in a gas reservoir?

A. That's correct.

Q. And what we're trying to determine here is whether or not this reservoir at original reservoir conditions was an oil pool or a gas reservoir --

A. That's correct.

Q. -- is that fair to say?

A. Yes, that's correct.

Q. And what were you asked by Chisos to do?

A. Well, we were asked by Chisos to help them determine what the reservoir classification would be, either oil, gas, or whatever the case might be. In that case, of course, it's a retrograde condensate reservoir as such.

Q. What is Chisos Exhibit Number 2?

A. Number 2 is the report that we requested from FESCO, who's a company based in Alice, Texas. They do numerous testing in the oil and gas industry all over the

country, and they are one of the few companies, really, that can do the PVT-type studies that are required here.

And we requested from them to -- or asked them to go out and catch samples and recombine the gas and condensate sample and perform a PVT fluid-analysis study on that recombined sample. And that's what this represents, the results of that study.

Q. Let's go to the study, and I'd ask you to just work through this exhibit and explain to Mr. Catanach what it shows.

A. If you look at page 1, their conclusion was that as a result of the recombined sample and expansion of the gas in the cell -- the cell is what is used to determine and to test the recombined sample. And as that is produced or the pressure is released from that cell, then they record the results of that. And the dewpoint pressure was recorded to be about 4736 p.s.i.g. The original reservoir pressure here was 5471, at 149 degrees bottomhole temperature.

So in essence, it's an undersaturated, single-phase gas reservoir, under original conditions.

Q. And that is the FESCO conclusion as set out in the letter at the beginning of this exhibit; is that right?

A. Yes, sir, that's correct.

Q. And then behind that we have tables and graphs

that contain all the supporting information upon which they relied to reach this conclusion?

A. That's correct.

Q. I'm not going to ask you to go through all of that, but Mr. Moseley, I think it might be helpful to go to page 17 of the exhibit and look at that graph and just explain to the Examiner what this shows.

A. Right, page 17, or Figure 4, is a graph of the liquid, or retrograde liquid volume, versus pressure. And you'll notice here that, of course, from the original reservoir pressure -- or actually from the dewpoint pressure -- liquids begin to drop out and occupy an ever-increasing amount of the pore space in the rock. And it reaches a maximum at about 2500 pounds pressure, close to 40 percent of the pore volume in the reservoir. At that point in time, it turns over and then starts to decrease as you deplete that pressure by production, down to something over 30 percent at 1000 pounds.

So this really gives you a visual picture of what is going on in the reservoir as it depletes.

Q. What we're trying to do, and what you were trying to do, is take a look at this reservoir, look at how it performs, identify the source of the hydrocarbons, and then determine whether or not the reservoir is actually an oil pool or a gas reservoir --

A. That's correct.

Q. -- is that correct?

A. That's correct.

Q. And the process used is to actually take this reservoir back to original reservoir conditions and look at it; is that correct?

A. Yes, that's correct.

Q. Now, when we look at this graph on page 17, there is point where there is a change in the breakout of the liquids in the reservoir?

A. That's right.

Q. My question is, will this reservoir, if at original conditions, if it's a gas reservoir, a retrograde condensate reservoir, as you go through the life of the reservoir and these changes occur, does that change the character of the reservoir, or is it once a gas pool, always a gas pool?

A. Once it's classified, or once it is determined to be a gas fill, well then, that -- it remains that way throughout the history.

Q. Is it -- Having reviewed this work by FESCO and the analysis that you have done, do you have any doubt whatsoever that this is a gas pool?

A. No, I do not.

Q. Is Exhibit Number 3 an affidavit confirming that

notice of this hearing was provided to all offset operators?

A. Yes, that's correct.

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

A. Yes, most definitely.

Q. Were Exhibits 1 through 3 either prepared by you, or have you reviewed them and can you testify to the accuracy of the data presented?

A. Yes, I've reviewed them, and they appear to be accurate, yes.

Q. And the other documents are just records from the files --

A. That's correct.

MR. CARR: May it please the Examiner, at this time we'd move the admission into evidence of Chiso Exhibits 1 through 3.

EXAMINER CATANACH: Exhibits 1 through 3 will be admitted.

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

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. Moseley, what -- This is, so far, a single-

well pool; is that --

A. That's correct, yes.

Q. What's around it? Is there any Strawn production around --

A. No, there's no Strawn production around, to my knowledge. Turkey Track field, which is a Morrow field, sits just to the east -- I mean to the west of this particular well. And there's no Strawn that I can find in the records that ever produced.

Q. Have you examined any geologic evidence? Is this going to be a one-well -- basically a one-well field?

A. Well, I would say at this point in time you would have to assume it would be one well, unless there's some evidence later that would indicate that another well might be called for.

Q. Is this well currently being produced as a single Strawn completion, or was the Morrow abandoned in this well?

A. The Morrow was abandoned, and it's currently a Strawn-only completion, at this point in time.

Q. Okay. The PVT analysis, when was that done?

A. This was done -- Well, the letter was issued, the report was issued -- what's the date of the letter? -- February 14th, so just a few days ago.

Q. Okay. The well has been completed since July; is

that what you said?

A. Yes, that's right.

Q. July of 2004?

A. Yes.

Q. Does it make a difference that the analysis was done so late after the well was producing?

A. It should have very little, if any, effect. What we did was -- of course the samples were caught at the point in time when it was requested and recombined at that point, but it was recombined based on the original GOR that was exhibited.

Q. And that was the 4288, I believe?

A. Yes, I think -- It was actually 4077. That was based, really, on an average first month's production, where I think the 4288 was an instantaneous-type gas-oil ratio initially.

Q. Okay. Do you know what the current reservoir pressure is?

A. No, we don't know exactly what it is. I would say it's -- and this is just kind of a guess, I guess, based on the production, but it's probably 15 to maybe 17 percent less than what it was originally.

Q. In a reservoir such as this, when you have all the liquids dropping out, does that reduce the gas permeability in the reservoir?

A. Yes, it does.

Q. And what does that do to the gas recovery?

A. Well, it will -- Certainly, from a long-time standpoint, it will affect it and decrease the ultimate recovery as a result. And if you repressure a reservoir such as this, you can then gain back some of that lost productivity.

Q. Have you guys looked at any drainage data for this well?

A. No, we have not.

Q. So you can't make a determination what this thing is going to drain?

A. No, I would say, you know, based on what it has produced to date, I would think 320 acres would be certainly adequate drainage.

Q. That's not based on any --

A. No, not based on any kind of volumetric or determination.

Q. Is there any special way to produce a reservoir like this so that it's -- so that you increase recovery?

A. Well, it's very difficult. The only way, really, would be to repressure it. And of course in this case it's not a practical problem because the reservoir, you know, is going to be a relatively small reservoir, so with only one well, repressuring probably is not something that would be

viable here.

That's really the only way to maximize the production from a retrograde condensate pool.

Q. So at the present time we're just producing at maximum capacity for the well?

A. Yes, to my knowledge it's producing at maximum capacity.

Q. You wouldn't by any chance know what the lease situation is on that proration unit, would you?

A. I'm not knowledgeable as to all the lease implications there.

EXAMINER CATANACH: Okay. Mr. Carr, can we get some information on that?

MR. CARR: I'll give you a -- if I may, I'll submit a letter that gives just the status of the leases in the spacing unit --

EXAMINER CATANACH: Yeah.

MR. CARR: -- is that the area?

EXAMINER CATANACH: Yeah, who's involved and --

MR. CARR: Yes.

EXAMINER CATANACH: -- who are the --

MR. CARR: Yes --

EXAMINER CATANACH: -- owners and --

MR. CARR: -- we can do that.

EXAMINER CATANACH: -- that type of thing.

Q. (By Examiner Catanach) The well, you said, is currently producing; is that right?

A. Yes, that's correct.

Q. Have you obtained permission to re-open the well from the District Office?

MR. CARR: Mr. Catanach, when the letter came from the Artesia Office, we were told to shut in, talk to them, either to shut in or dedicate a 40-acre spacing unit. So in Exhibit 1, the new C-102 met with Mr. Arrant's concern, and we were permitted to continue to produce the well while we move toward hearing.

EXAMINER CATANACH: Okay. So currently you have 40 acres dedicated to the --

MR. CARR: Yes, we do.

EXAMINER CATANACH: But Artesia has not moved to create any pool at this point?

MR. CARR: Not to our knowledge. I think they -- We've been in contact with them. We told them we were coming here to seek a determination that this was, in fact, a retrograde condensate reservoir. We were then asked to tell them what was a retrograde condensate reservoir, and they left the well open pending this hearing.

EXAMINER CATANACH: Okay. I think that's all I have.

Anything further?

MR. CARR: That concludes our presentation in this case, Mr. Catanach. I will have the letter to you just summarizing the status of the leases in this 320-acre unit, I'll try and have that to you first of the week.

EXAMINER CATANACH: Okay, thank you, Mr. Carr.

MR. CARR: Thank you.

EXAMINER CATANACH: All right, there being nothing further, Case Number 13,395 will be taken under advisement.

(Thereupon, these proceedings were concluded at 9:18 a.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 13395 heard by me on February 17, 2005

David R. Catanach, 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 February 18th, 2005.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 16th, 2006