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:

IN THE MATTER OF CASE NO. 11,750 BEING REOPENED PURSUANT TO THE PROVISIONS OF DIVISION ORDER NO. R-10,848, WHICH ORDER ESTABLISHED TEMPORARY SPECIAL POOL RULES FOR THE NORTHEAST SHOE BAR-STRAWN POOL IN LEA COUNTY, NEW MEXICO

CASE NO. 11,750
Reopened

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

March 4th, 1999

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, March 4th, 1999, 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

March 4th, 1999
Examiner Hearing
CASE NO. 11,750

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E X H I B I T S

Chesapeake	Identified	Admitted
Exhibit 1	9	16
Exhibit 2	11	16

* * *

Gillespie	Identified	Admitted
Exhibit 1	20	23
Exhibit 2	20	23
Exhibit 3	22, 28	23
Exhibit 4	32	33
Exhibit 5	32	33
Exhibit 6	32	33

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A P P E A R A N C E S

FOR CHESAPEAKE OPERATING, INC.:

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By: W. THOMAS KELLAHIN

FOR CHARLES B. GILLESPIE, JR.:

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* * *

WHEREUPON, the following proceedings were had at 9:06 a.m.:

EXAMINER STOGNER: At this time I'll call Case Number 11,750, which is in the matter of this case being reopened pursuant to the provisions of Order Number R-10,848, which order established temporary special rules for the Northeast Shoe Bar-Strawn Pool in Lea County, New Mexico, in particular, 80-acre spacing, and I believe there were some well-location requirements.

So at this time I will call for appearances.

MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of the Santa Fe law firm of Kellahin and Kellahin, appearing on behalf of Chesapeake Operating, Inc., and I have one witness to be sworn.

EXAMINER STOGNER: Okay, will the one witness that you're presenting in this case, has that witness previously testified today?

MR. KELLAHIN: No, sir, my witness is a petroleum engineer.

EXAMINER STOGNER: Okay. Any other appearances?

MR. BRUCE: Mr. Examiner, Jim Bruce of Santa Fe, representing Charles B. Gillespie, Jr., and I have two potential witnesses.

EXAMINER STOGNER: Okay, any other appearances?

Okay, I count three witnesses or potential

witnesses in all. Let me have all three stand at this time.

(Thereupon, the witnesses were sworn.)

EXAMINER STOGNER: Mr. Kellahin?

MR. KELLAHIN: Yes, sir, thank you.

EXAMINER STOGNER: Or, I'm sorry, is there any need for some opening remarks today, or any statements?

MR. BRUCE: Mr. Examiner, Mr. Gillespie is just here in support of the existing 80-acre spacing. That's all I have to say in introduction.

EXAMINER STOGNER: Okay, then Mr. Kellahin?

MR. KELLAHIN: Thank you. Mr. Examiner, you heard this case back on May 1st of 1997, and in July of that year you entered an order. This is a request originally by Chesapeake Operating Company to establish special rules for a Strawn oil pool.

The process was to do what had been done previously, and that was to establish 80-acre spacing on a temporary basis. The statewide GOR of 2000 to 1 applied, and we have a depth-bracket oil allowable of 445 a day.

The well-location rules are relaxed from the prior convention so that this pool is subject to 330 setbacks from the outer boundary of the 80.

Subsequent to your approval of the Chambers 7 well as the discovery well and the adoption of these

special rules, there have been a number of wells drilled in this vicinity, all of which are subject to these pool rules.

We are here to present you an engineering presentation and a request that you now make these rules permanent, based upon our technical conclusion that the temporary rules are still appropriate, they provide a reasonable opportunity to drill the minimum number of wells necessary for exploiting the Strawn reservoir involved in here.

With that introduction, Mr. Examiner, we're going to present Mr. Randy Gassaway. Mr. Gassaway is a petroleum engineer.

EXAMINER STOGNER: Okay, let's see, Mr. Kellahin, what did you say the allowable was on this pool?

MR. KELLAHIN: It's 445 a day for oil, and it's got the statewide GOR of 2000 to 1.

EXAMINER STOGNER: The reason I was asking, I was reviewing Order Number R-10,848. In paragraph 6, on page 6, they talk about that portion of Chesapeake's application seeking special pool rules, and they look like that they mirror the -- what would have been -- or what they would be afforded under the general rules.

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: So that's all that dismissal

was for; is that correct?

MR. KELLAHIN: That's right.

EXAMINER STOGNER: Okay.

MR. KELLAHIN: It was my choice of drafting to notify all the interest owners of what the entire rules would look like. I recognize that 2000 came out of the statewide rule book; a lot of people might not have found that. So that's how it was handled in the order.

EXAMINER STOGNER: Okay. And then the original -- I guess the main effect was that the original well, for discovery allowable, was dismissed. That would have given it an additional production ability.

MR. KELLAHIN: Yes, sir, that's right.

EXAMINER STOGNER: Okay. All right. Thank you, Mr. Kellahin.

MR. KELLAHIN: Mr. Gassaway, Mr. Examiner, is here to report to you on what has happened with the Chambers well and the subsequent wells that have been drilled in this area. We'd like to start with Chesapeake Exhibit Number 1, which is a general locator map.

I want to give you a copy of what *Byram's* reports to be the current boundaries of the pool. This is out of the January, 1999, supplement. We believe it's still accurate. We've checked with the District Office. There may be some small difference in nomenclature, but all the

wells are -- as indicated on Exhibit 1, are the ones we believe are currently subject to the pool rules.

RANDY G. GASSAWAY,

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. Gassaway, for the record, sir, would you please state your name and occupation?

A. My name is Randy G. Gassaway. I'm a petroleum engineer with Chesapeake Energy Corporation in Oklahoma City.

Q. Mr. Gassaway, summarize for us your education.

A. I graduated from the University of Oklahoma with a bachelor of science in petroleum engineering in 1982. I've been employed with various organizations since that time. I started employment with Chesapeake in November of 1998.

Since that time, I started employment with Chesapeake in November of 1998.

Q. At my request, did you inventory the wells that are subject to the pool rules for this pool?

A. Yes, sir.

Q. And based upon that request, have you analyzed and evaluated all the available pressure data for the wells

that are currently subject to the pool?

A. Yes, sir.

Q. In addition, have you done certain drainage calculations at my request on some of these wells?

A. Yes.

Q. Let's turn to Exhibit 1. Now, the arrangement of the surface was provided to you by Lynda Townsend and the land people at Chesapeake?

A. That is correct.

Q. Superimposed upon that land ownership are some well locations, and then associated with each well is a blue rectangle, correct?

A. That's correct.

Q. Let's start in Section 7, and let's find the Chambers 1-7 well. That is the discovery well for the pool, is it not?

A. Yes, sir, it is.

Q. And its spacing unit is the south half of the northeast quarter of Section 7?

A. That is correct.

Q. There are other wells shown on this display, are there not?

A. Yes, there are.

Q. And these represent other wells that are currently subject to the pool rules for the pool?

A. Yes.

Q. Let's keep the locator handy so we can find out where these wells are. If you'll set that aside for a moment, let's look at your tabulation on Exhibit Number 2. And if we'll start up with the pressure data points, let's look at the first row for the Chambers 1-7. What have you found?

A. Okay, the well was -- penetrated the Strawn mound growth in November of 1996, and on the 9th of November a drill stem test was performed on that interval, and the drill stem test proved production and also indicated an initial reservoir pressure of 4223 p.s.i.

Q. What does a pressure at that range indicate to you about the Strawn?

A. In pressures, that indicates it's a virgin, undrained, newfound reservoir, or discovery.

Q. Based upon your study of these wells, can you give us a general characterization of the type of Strawn reservoir you're dealing with here?

A. It's very similar to what Mr. Hefner presented before. They're localized algal-mound growths. They're not continuous. They're relatively discontinuous over a lateral extent.

Q. The strategy for locating the optimum place in these various pools for wells is what, sir?

A. Eighty acres.

Q. And the strategy within an 80-acre tract is to find a location where?

A. Where you have the highest chance of production, as structure and growth.

Q. Do the current rules that the Division adopted for this area provide that flexibility in well locations?

A. Absolutely.

Q. Are you satisfied, Mr. Gassaway, that the 80-acre spacing is appropriate for this area?

A. Yes, I am.

Q. Let's talk about the reasons that support that conclusion. First of all, let's look at the area around the Chambers well. You've talked about the Chambers well. Let's talk about what you calculate to be its drainage area. Is that shown on Exhibit Number 2?

A. Yes, sir, it is. If you'll go down to the volumetric area of review, and it's simply -- that table below it is in alphabetical order. The Chambers would be the second entry on there. Based upon the log response characteristics and the estimated ultimate recovery, as determined by decline-curve analysis, we estimate the drainage area to be 94 acres.

Q. When you look at the estimated ultimate recovery column, how did you obtain that number?

A. Again, that was decline-curve analysis based on almost -- a little over two years' production.

Q. Did you use the same methodology for calculating the drainage area for all the wells on the tabulation?

A. Yes.

Q. Now, let's find the Chambers well and look over in Section 8 and look at the Alston well.

A. Yes.

Q. When the Alston well is drilled, it's got a date of April 22nd of 1997?

A. Yes.

Q. It's a year later. What were the pressures reported for the Alston 1-8 well?

A. Okay, again, on 4-22-97, after penetrating the algal-mound Strawn interval, a drill stem test was performed prior to completing the well, and we found that the initial reservoir pressure was 3472, and the fluid was very similar in characteristics to the Chambers.

Q. Did you find any pressure depletion in this area between the Chambers and the Alston well?

A. Yes, since the initial pressure of 3472 is approximately 800 pounds, or p.s.i., less than what the discovery pressure is, it tends to indicate that perhaps the Chambers well had an influence in that area.

Q. When we look at where the Chambers and the Alston

well are located in relation to each other, you have inferred or concluded that there is pressure communication between those two areas?

A. Yes, sir.

Q. This is an area being developed on 80-acre spacing, is it not?

A. That is correct.

Q. If this was reverted back to 40 acres, would the wells be drilled too closely together?

A. Yes.

Q. Let's look at the third well in this vicinity, the Runnels well. What did you find out about the Runnels well's pressure?

A. The Runnels well actually indicated that the pressure was a little bit less upon completion than what was found in the Alston. Although we don't have a drill stem test, we can infer that, based upon the initial well tests after the well was perforated. Estimated to be approximately 3300 p.s.i.

Q. Once we leave the Chambers area, let's go over and look to the north in Section 6. There's a three-well area, two of which you've described, the Watson well and the Little well?

A. That's correct.

Q. Describe for us what's occurring between those

two wells.

A. Okay, the first well in -- at least the Chesapeake-operated, was the Little 1-6. It was drilled -- penetrated the Strawn mound July 4th of 1997, and it had an initial bottomhole pressure, as determined by drill stem test, of 4228 p.s.i.a.

Q. That's indicative of virgin pressure in the Strawn?

A. Again that indicates that that is an initial discovery in an isolated growth.

Q. And that's no surprise to you, is it, that the Chambers well and the Little well are in discrete portions of unique algal mounds?

A. No.

Q. Do you see that difference as a reason to try to separate each of these areas into individual pools?

A. Not particularly.

Q. It could be done, I guess, right?

A. Sure.

Q. As a matter of practicality for both the Division and the operators, is it appropriate to continue to apply 80-acre spacing with the appropriate well locations for this entire area?

A. Absolutely.

Q. Let's look at the Little and Watson area, then,

and see what kind of drainage you calculated for those two wells.

A. Okay. Again, we go to the volumetric review of area, bottom, and the Little well is going to be alphabetically the fourth entry in this table. Based on the log characteristics and the expected ultimate recovery from this well, the drainage area is determined to be 105 acres.

Q. Okay. Let's move into the third area now. You've got another area of the pool identified by the Lovington well and the Bus Barn?

A. That's correct.

Q. Summarize for us what you have concluded concerning that area.

A. Again, the Lovington was -- penetrated the algal mound, and its initial pressure was estimated to be 4300 p.s.i., based upon its fluid level initially, right after completion.

And then the Bus Barn was drilled approximately nine months later, and its pressure indicates that it was somewhat less than the 4300, at 3900, which indicates that the Lovington was having some pressure communication with the Bus Barn well.

Q. In summary, then, Mr. Gassaway, is it your engineering opinion that the current rules that apply for

this area ought to be made permanent at this time?

A. Yes.

Q. And in doing so, would it be in the best interests of conservation, the prevention of waste and the protection of correlative rights?

A. Yes, it would.

MR. KELLAHIN: We move the introduction of Chesapeake Exhibits 1 and 2.

EXAMINER STOGNER: Exhibits 1 and 2 will be admitted into evidence, if there's no objection.

MR. BRUCE: No objection.

EXAMINER STOGNER: Thank you, Mr. Kellahin.

Mr. Bruce, do you have any questions?

MR. BRUCE: I have no questions of Mr. Gassaway.

EXAMINATION

BY EXAMINER STOGNER:

Q. Mr. Gassaway, what is the drive mechanism in this reservoir?

A. We -- The drive mechanism appears to be depletion -- depletion drive, solution gas drive, if you will.

Q. Are these wells making any water at all?

A. Some wells do make water. Some wells are actually -- like the Carlisle, makes more water than it does hydrocarbons.

Q. But the water is not a factor as far as reservoir

energy? There's no water drive?

A. There doesn't appear to be mobile water, no, sir. It's totally depletion.

Q. Of the wells that you show here on your Exhibit Number 1, how many of these algal mounds are represented?

A. It appears that there's three separate, distinctive algal-mound growths, as indicated by the pressure on this map.

Q. And that would be -- the Lovington and the Bus Barn share in the production of one of the algal mounds?

A. Yes.

Q. And then the Little and the Snyder and the Watson would be -- in Section 6, would be another one?

A. Most likely, yes.

Q. And then it looks like you might have a pretty big on here with the Carlisle and the Chambers and the Alston and Runnels wells?

A. That is correct.

Q. Okay. Do you see a common GOR in these algal mounds? Do they differ slightly, or what?

A. There would be very slight differences in production characteristics between the mounds.

Q. And that slight difference, would that be more the makeup of the algal mound, or is there some sort of a gas-oil-ratio factor?

A. It -- I don't really -- I would say that it would be mainly related to reservoir pressure, as far as the fluid makeup.

Q. As far as the Little and the Watson wells, what kind of pressure are you seeing now?

A. We have not taken any bottomhole pressure tests since the initial ones.

Q. Okay. And the Lovington Bus Barn, has there been any pressure status since then?

A. No, sir, only production.

EXAMINER STOGNER: Any other questions of this witness?

Thank you, sir, you may be excused.

Mr. Kellahin?

MR. KELLAHIN: That completes our technical presentation, Mr. Examiner.

EXAMINER STOGNER: Mr. Bruce?

MR. BRUCE: I have a couple witnesses, very brief witnesses, Mr. Examiner.

LYNN S. CHARUK,

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

DIRECT EXAMINATION

BY MR. BRUCE:

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

A. Lynn Steven Charuk.
Q. Spell your last name, please.
A. C-h-a-r-u-k.
Q. Where do you reside?
A. Midland, Texas.
Q. What is your occupation?
A. Petroleum geologist.
Q. What is your relationship to Mr. Gillespie in this case?
A. I am Mr. Gillespie's geological consultant.
Q. Have you previously testified before the Division?
A. No, sir.
Q. Would you summarize your educational and employment background for the Examiner?
A. I graduated Penn State University in 1979 with a BS in geological sciences and subsequently moved to Midland after graduation. And I was employed for several oil operators in Midland. Most memorable one was J.C. Williamson. I've done work for Carey Petroleum of New York, and I've been an independent petroleum geologist for the last ten years. I'm an active member of the AAPG, and my certification number is 4162.
Q. And are you familiar with the Strawn geology in this area?

A. Yes, I've spent several of the past years doing exploration in the Strawn trend through Lea and Eddy Counties, New Mexico.

MR. BRUCE: Mr. Examiner, I would tender Mr. Charuk as an expert petroleum geologist.

EXAMINER STOGNER: Any objection?

MR. KELLAHIN: No, sir.

EXAMINER STOGNER: Mr. Charuk is so qualified.

Q. (By Mr. Bruce) Mr. Charuk, could you identify Exhibit 1 for the Examiner and just briefly tell him what this shows?

A. Exhibit 1 is a portion of a trend map. It's basically a schematic locator for Strawn fields producing in and around Lovington in Lea County, New Mexico. And the one that is dashed in red is the northeast Shoe Bar-Strawn field.

Q. It's a portion of the pool?

A. A portion, uh-huh.

Q. And that in particular is the porosity pod where Mr. Gillespie's well is located?

A. Yeah, it's the bioherm.

Q. Okay, let's move on to your Exhibit 2. Would you identify that for the Examiner and go through the exhibit and tell him what it shows?

A. Exhibit 2 is a combination north-south structural

cross-section, a three-well cross-section, through Chesapeake's Watson well, Little 1-6, and Charles Gillespie's Snyder A Com Number 1.

It has three main components that are marked on the cross-section: the top of the Strawn carbonate, which is the first marker on the three-well cross-section; and then the top of the porosity and the base of the porosity, through the three wells.

And you can see, based on log analysis, an oil-water contact in there and a small assumed gas cap to the south of the Snyder A Com Number 1, updip to the oil production in the other two wells.

You can see -- Basically, that's kind of an outline of the bioherm itself, the way I've -- you know, from subsurface mapping control.

To the south there is the structure map with structural going updip direction to the south and also an oil-water contact in blue, the oil column in green, and an estimated gas-oil contact at the very southern edge of this particular bioherm.

Q. Now, you show the Chesapeake Watson and Little wells and Mr. Gillespie's Snyder well in one separate porosity pod, do you not?

A. Uh-huh, yes, sir.

Q. You don't disagree with Mr. Gassaway that there's

several pods?

A. No, in fact, I agree totally with Randy.

Q. Do you have anything else on this map, Mr. Charuk?

A. No, sir, it's pretty self-explanatory. Completion dates, IPs, DST information, pressures.

Q. Let's go on to your final map, Exhibit 3, and identify for the Examiner -- and I think our next witness is going to go over a little bit of this, but just tell him what it shows and maybe describe the Strawn geology just a little bit in this area, for the Examiner.

A. Well, this is basically a Strawn production field data map, showing all the information that we were able to assemble on all the wells in this particular area, with the Shoe Bar-Strawn Northeast area outlined in yellow. It shows initial IPs, it shows all the information we could find out on initial bottomhole pressures for the Strawn, it shows current production rates, as near as we could get up to current. And also an important factor here would be, also, current GORs.

And all these outlines are based on my interpretation, or Mr. Gillespie's, Inc., interpretation of all the Strawn bioherm buildups in this particular area.

Q. Is the Strawn in this area -- It's a porous reservoir, is it not?

A. Very, uh-huh. Very porous, very good permeability also, horizontally and vertically.

Q. Just from a geologic standpoint, based on the geology, do you agree with the current 80-acre spacing for this pool?

A. Yes.

Q. Okay. Were Exhibits 1 through 3 prepared by you or under your direction, Mr. Charuk?

A. Yes, they were prepared by me.

Q. And in your opinion, is the continuance of the existing pool rules in the interests of conservation and the prevention of waste?

A. Yes.

MR. BRUCE: Mr. Examiner, I move the admission of Gillespie Exhibits 1 through 3.

EXAMINER STOGNER: Exhibits 1 through 3 will be admitted into evidence, unless there's a problem, Mr. Kellahin?

MR. KELLAHIN: No, sir, no problem.

EXAMINER STOGNER: Thank you, Mr. Bruce.

Mr. Kellahin, your witness.

MR. KELLAHIN: Thank you, Mr. Examiner.

EXAMINATION

BY MR. KELLAHIN:

Q. Do you see any reason to separate out the current

pool into three or more pods and give them different names, do something different with them?

A. They're separated out based on my interpretations of initial bottomhole pressures and current GORs and drawdowns on production rates in that particular area.

Q. But do you see any reason that the Division should create three separate pools?

A. Yes.

Q. Are you proposing that we take the three pods that appear to operate and manage themselves in the same way and break them apart?

A. Oh, well --

Q. Are we looking at the same thing?

A. Are we talking about the northeast Shoe Bar area?

Q. Well, I'm looking at the Watson-Little pod --

A. Oh, okay, maybe I don't understand your question here.

Q. Yeah, I thought we were miscommunicating here.

When we look down in the southeast within the area of this particular pool, we're dealing with the northeast Shoe Bar-Strawn, and I'm looking at Chesapeake's Lovington-Bus Barn pod.

A. Uh-huh.

Q. I'm looking to the west and seeing the Gillespie Snyder and the Chesapeake Watson-Little pod?

A. Uh-huh.

Q. And then to the south we've got the Chambers and the Alston pod?

A. Right.

Q. All right. My question was, do you see any reason that the Division or the operator should break this apart as three different pools?

A. I think they're three separate bioherms.

Q. I understand that. But in terms of reservoir management, do you think it's necessary --

A. No.

Q. -- to separate them as separate pools?

A. No.

Q. For this area, then, it appears that 80-acre spacing and the flexible 330 well locations is doing what it's supposed to do?

A. Yes.

Q. And that is to minimize the number of wells drilled and to create flexibility to get yourself the best location in these bioherms?

A. Yes.

MR. KELLAHIN: No further questions.

EXAMINATION

BY EXAMINER STOGNER:

Q. In looking at Exhibit Number 2, this exhibit

shows a very poor reservoir. As far as the encasement material that's encasing this bioherm, what is the makeup of that matrix?

A. It's primarily limestone carbonate, with vugular porosity in it.

Q. Now, I'm talking about the sealing, the sealant.

A. The porosity, basically the top of the porosity and the bottom of the porosity are what control the production of the oil and gas. You have to have a minimum of, in this particular area, I feel like, 3-percent porosity, to be commercially economic.

Q. Okay. How about the surrounding material, on top and on the bottom?

A. It's denser limestone.

EXAMINER STOGNER: I have no other questions of this witness.

Mr. Bruce?

MR. BRUCE: Call Mr. Mladenka to the stand.

MARK MLADENKA,

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

DIRECT EXAMINATION

BY MR. BRUCE:

Q. Would you please state your name and city of residence for the record?

A. My name is Mark Mladenka. I live in Midland, Texas.

Q. And could you spell your last name for the court reporter?

A. M-l-a-d-e-n-k-a.

Q. Who do you work for and in what capacity?

A. I work for Charles B. Gillespie, Jr., in Midland as a production manager.

Q. Are you an engineer by profession?

A. That's correct.

Q. Have you previously testified before the Division as a petroleum engineer?

A. Yes, I have.

Q. And were your credentials as an engineer accepted as a matter of record?

A. They were.

Q. And are you familiar with engineering matters related to the Strawn pools in this area?

A. Yes, I am.

MR. BRUCE: Mr. Examiner, I tender Mr. Mladenka as an expert petroleum engineer.

EXAMINER STOGNER: So qualified.

Q. (By Mr. Bruce) Mr. Mladenka, again, do you agree that 80-acre spacing should be continued in effect?

A. Very much so.

Q. And the question Mr. Kellahin asked Mr. Charuk, for purposes of reservoir management, is there any need to create separate pools for each of these porosity pods?

A. As long as the field rules stay in place, no.

Q. Let's go to Exhibit 3. I think both Mr. Kellahin and you and I are almost painfully familiar with the Strawn geology in this area over the last five or six years, Mr. Mladenka, but why don't you go through this and describe the Strawn pools in this area and the development and what the 80-acre spacing has shown?

A. All right. We're showing about four recognized pools by the Commission: the West Lovington-Strawn Pool, the Big Dog-Strawn, the Big Dog-Strawn South, and the Northeast Shoe Bar-Strawn.

The West Lovington-Strawn Pool consists currently of 15 wells over approximately 2500 acres. Roughly that's 160 acres per well. It is a pressure-maintenance project. One gas-injection well in the northwest corner of Section 1, 16 South, 35, that well is in pressure communication with every well in that 15-well pool, over a mile and a half away.

It is currently under the pressure-maintenance project maintained in -- the original -- I agree with Randy Gassaway with Chesapeake about the initial reservoir pressure of these Strawn pods, appear to be around 4300

pounds. On the West Lovington-Strawn pool it was 4300, and currently it's at 3300 under the pressure-maintenance project.

The initial gas-oil ratios from fluid combination and so forth that we determined, gas-oil ratios in this reservoir are between 1500 to 1800 GOR. Bubble point, somewhere around 4100 pounds.

I'll just go to the Big Dog-Strawn field. This well, in my opinion, pretty much set up this whole thing. It was drilled by Mitchell Energy in 1986. Initial pressure, 4300 pounds. However, this is a one-well pool. It essentially made this 25,000 barrels within five months and another 700 barrels over the next ten years or more.

The Big Dog-Strawn South was determined to be in a separate pool. The discovery well on it was the Mobil State Number 1, in Section 2. Initial pressure there was 4350.

And you can just see the stepwise progression whenever a well is drilled within a common porosity pod or pool. You'll look at the second well drilled in that pod, the Baer Number 2, in Section 32, it had an initial pressure of 3310, essentially five months later. Then the Gallagher State was 2656. It is also in Section 2, south of the Mobil State well.

Q. So that indicates excellent pressure

communication among these wells?

A. Excellent. Vertically, like Lynn discussed also, what happens is that the structurally high part of the reservoir pod, once it goes below the pool, goes below the bubble point, you start forming the gas cap, and the gas-oil ratio then reflects the structural position of each one of these wells on this bioherm or porosity pod.

Q. Mr. Mladenka, as you go through the South Big Dog-Strawn, you come to the two Yates wells, the Field "APK" State Numbers 1 and 2. Those don't appear to be very good wells, do they?

A. No, they were the last two drilled in this and adhered to the -- I believe this South Big Dog is also the same 80-acre spacing. They drilled these wells two years after the discovery well. And the one well we do have pressure information was the Field "APK" State Number 2, in Section 2, southeast of the Mobil State well, and it had a bottomhole pressure of 1515. The initial gas-oil ratio there was 5052. The cum production on it is less than 23,000 barrels as of December, 1998. I doubt very seriously the Field "APK" 1 and 2 will pay out.

Q. Now, there's two other wells, the Gillespie well and the Ocean Energy well, in that pool, which appear to be doing much better. What does that indicate to you?

A. That's a hard one to call. I think there may be

a -- Due to the fact the State "D" 8 initial reservoir pressure was 3644, indicating it was not this 4300 pounds' bottomhole pressure, there must be some type of communication with another pod or -- of the South Big Dog-Strawn, which we have that well depicted in there.

Q. So it may be in a separate porosity pod?

A. That is correct. You look at the current gas-oil ratio of 8051, it is pretty close to being what the South Big Dog-Strawn is and only communicated with the South Big Dog-Strawn. You would tend to think the West Lovington-Strawn might have some influence, but the gas-oil ratio on that reservoir is 2900, and the current rate of this well is 30 barrels a day, versus any well in the -- any flowing well in the Strawn Pool in the West Lovington is significantly higher.

The Townsend State Number 1, very little information on that available. It's depicted in the South Big Dog-Strawn for illustration purposes. However, this is the only well in the South Big Dog-Strawn that makes any significant amount of water. That is a horizontal -- I believe 700-foot leg within the Strawn reservoir itself. I'm not sure, very little information available.

Q. But based on what you've seen in the Big Dog-Strawn Pool and the South Big Dog-Strawn and the West Lovington-Strawn, would that information also support the

current 80-acre spacing in the Northeast Shoe Bar?

A. Yes, it would.

Q. Mr. Mladenka, we've got a few other exhibits. Just briefly, what is Exhibit 4?

A. Exhibit 4 is the tabular data of the Baer Well Number 1 in the Big Dog-Strawn field, once again showing that most of this production was within the first year, 95 percent of the production was in the first year.

Q. The production sloped significantly after that?

A. I say 95 percent, it was --

Q. The Exhibit 5 is production data from the South Big Dog-Strawn?

A. That is, that is correct. It's -- The production curve itself shows a drop, but that's due to the timing of some of the wells reporting.

But you can see the gas-oil ratio that I was referring to initially below 2000. Once these wells got below the bubble point, the decline rate of this field dramatically increased.

Q. And what does that increase in GOR indicate to you?

A. It is communicated with the gas cap.

Q. Okay. And finally Exhibit 6, what is contained in that exhibit?

A. This is, once again, the cumulative pool

production for each well within -- in a combination of the pool's production.

Q. And it's really --

A. Once again, we said that this thing has probably got three separate pods within this pool. It's very hard to tell from a cumulative standpoint what each pod is doing.

Q. So this is for informational purposes --

A. That is --

Q. -- for the Examiner?

A. That's correct. Just data to support the -- what I call the curiosity map.

Q. To support Exhibit 3.

Mr. Mladenka, in your opinion is the continuation of the current pool rules in the interest of conservation and the prevention of waste?

A. Yes.

Q. Okay, and were Exhibits 4, 5 and 6 prepared by you?

A. Yes, they were.

MR. BRUCE: Mr. Examiner, I'd move the admission of Exhibits 4, 5 and 6.

EXAMINER STOGNER: Exhibits 4, 5 and 6 will be admitted into evidence unless there's an objection.

MR. KELLAHIN: None.

EXAMINER STOGNER: No objection.

Mr. Kellahin, your witness.

MR. KELLAHIN: No questions.

EXAMINER STOGNER: I have no questions of this witness. You may be excused.

Does either party have anything further?

I do need one clarification, Mr. Bruce. What's Gillespie's interest in this pool? Are they an operator, or are they an interest owner within the pool?

MR. BRUCE: In the Northeast Shoe Bar, Mr. Gillespie operates one well, and I believe he is the 100-percent working interest owner in that well.

MR. MLADENKA: Eighty-seven and a half.

MR. BRUCE: Eighty-seven and a half.

EXAMINER STOGNER: Okay, so he is an operator?

MR. BRUCE: Yes, sir.

EXAMINER STOGNER: Mr. Kellahin, is there only two operators in this pool?

MR. KELLAHIN: I believe that's correct.

EXAMINER STOGNER: Okay, and they're both here today?

MR. KELLAHIN: Yes, sir.

EXAMINER STOGNER: Okay. If there's nothing further in the reopening of Case 11,750, then this matter will be taken under advisement.

Is there anything further to consider in Docket Number 7-99 today?

Then this hearing is adjourned.

(Thereupon, these proceedings were concluded at 9:50 a.m.)

* * *

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 11750 (Reopened) heard by me on 4 March 1999.

, 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 March 6th, 1999.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 2002