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 BLACK RIVER WATER MANAGEMENT COMPANY, LLC TO AMEND ADMINISTRATIVE ORDER SWD-1682 FOR A SALT WATER DISPOSAL WELL LOCATED IN EDDY COUNTY, NEW MEXICO.

CASE NO. 15854

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

October 12, 2017

Santa Fe, New Mexico

BEFORE: PHILLIP GOETZE, CHIEF EXAMINER
DAVID K. BROOKS, LEGAL EXAMINER

This matter came on for hearing before the New Mexico Oil Conservation Division, Phillip Goetze, Chief Examiner, and David K. Brooks, Legal Examiner, on Thursday, October 12, 2017, at the New Mexico Energy, Minerals and Natural Resources Department, Wendell Chino Building, 1220 South St. Francis Drive, Porter Hall, Room 102, Santa Fe, New Mexico.

REPORTED BY: Mary C. Hankins, CCR, RPR
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APPEARANCES

FOR APPLICANT BLACK RIVER WATER MANAGEMENT COMPANY, LLC:

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(10:09 a.m.)

EXAMINER GOETZE: Case Number 15854, application of Black River Water Management Company, LLC to amend Administrative Order SWD-1682 for a saltwater disposal well located in Eddy County, New Mexico.

Call for appearances.

MR. RANKIN: Mr. Examiner, Adam Rankin, with Holland & Hart, on behalf of Black River Water Management Company, LLC. We have two witnesses.

EXAMINER GOETZE: Any other appearances?

Will the witnesses please stand, identify yourself to the court reporter and she will swear you in.

MR. ELSENER: William Thomas Elsener.

MR. LANGE: Adam Lange.

(Mr. Elsener and Mr. Lange sworn.)

WILLIAM T. ELSENER,

after having been first duly sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. RANKIN:

Q. Good morning, Mr. Elsener.

A. Good morning.

Q. Will you please state your full name for the record?

A. William Thomas Elsener.
Q. By whom are you employed?
A. Matador Resources.
Q. Will you please explain for the Examiner what the difference is between Matador Resources and Black River Water Management Company, LLC?
A. Black River Water Management Company is an affiliate of Matador Resources.
Q. All right. And what is your job title with Matador?
A. My job title is vice president of engineering and asset manager.
Q. And what is your profession by trade?
A. I'm a petroleum engineer by degree.
Q. And what is your -- what are your duties under that job title?
A. At Matador Resources, I'm responsible for multidisciplinary theme plans, designs and execute oil gas and saltwater disposal wells in southeast New Mexico.
Q. Have you previously testified before the Division?
A. Yes, I have.
Q. And have you had your qualifications as a petroleum engineer -- expert petroleum engineer accepted

and made a matter of record by the Division?
A. Yes.
Q. Do your responsibilities include management and oversight of saltwater -- drilling and development of saltwater wells?
A. Yes.
Q. And are you familiar with the specific well that was the subject matter of this case?
A. Yes.
Q. And are you familiar with the application that was filed to increase the tubing size from 4-1/2 inches to 5-1/2 inches in this case?
A. Yes.
Q. And have you also conducted a study of the lands within the injection wells area?
A. Yes.
Q. And have you also conducted a study of the injection interval where the target injection zone is located?
A. Yes.
Q. And have you also prepared exhibits reflecting your study and your analysis?
A. Yes.
Q. And are you prepared to discuss those exhibits today?

A. Yes.

Q. Have you drawn a conclusion based on your analysis?

A. Yes, we have.

MR. RANKIN: Mr. Examiner, I tender Mr. Elsener as an expert petroleum engineer.

EXAMINER GOETZE: He is so qualified.

Q. (BY MR. RANKIN) Mr. Elsener, will you please summarize, looking at Exhibit Number -- well, let's see. Let's start this way. What is it that Black River is seeking to -- with this application? What is it Black River is seeking with this application?

A. What we are seeking today is to increase the tubing size of the Rustler Breaks #2 well, the Devonian injection well. We are seeking to increase the tubing size from 4-1/2 inches to 5-1/2 inches.

Q. And would you -- are you also seeking to amend Administrative Order SWD-1682?

A. Yes.

Q. Has that been marked as Exhibit 1 in the exhibit packet?

A. Yes, it has.

Q. Is that the only change you're seeking to notify in that order, is the size of the tubing from 4-1/2 to 5-1/2 inches?

A. Yes. That's correct.

Q. And the Rustler Breaks #2, that's the well at issue; is that correct?

A. That's correct.

Q. And has that well currently been drilled?

A. That well has been drilled.

Q. Has it been -- is there any injection commenced in that well?

A. Not yet.

Q. So you're not seeking any other changes to the injection pressures or -- or any other modification to the order other than the size of the tubing?

A. That's correct, just the size of the tubing.

Q. And looking at Exhibit Number 2, Mr. Elsener, can you summarize for the Examiner the reasons for your request to increase the tubing size in this well?

A. Yes, sir. The reason we're asking to increase the size of the tubing from 4-1/2 inches to 5-1/2 inches is that we've determined that approximately 85 percent of the surface pressure that we are applying in a well with 4-1/2-inch tubing, 85 percent of that pressure is due to friction in the 4-1/2-inch tubing. And if we were able to increase the tubing size to 5-1/2 inches, we could significantly reduce the friction in the tubing, thereby increasing our ability to inject more fluid into the Devonian Formation.

The more water we can inject per well means we will have to drill fewer Devonian SWDs in our area of development. And these wells are -- these wells are very expensive, to the tune of $10 million per well. And they also -- we could also reduce the surface impact if we could have fewer saltwater disposal wells.

Q. Now, the well is located where exactly, Mr. Elsener? If you could look at Exhibit Number 3 and review for the Examiners the general location of this well.

A. Sure. Exhibit Number 3 is a zoomed-out locator map showing the location of the Rustler Breaks SWD #2. We are near the town Malaga in Eddy County. We're about 17 miles from the New Mexico-Texas border, and we're located in Township 24 South, Range 28 East in Section 6.

Q. And are there other -- and this is -- the Rustler Breaks #2 well is close injection to the Devonian Formation; is that correct?

A. That is correct.

Q. Are there other wells that are currently injecting into the Devonian within this area?

A. Yes, there are.

Q. Are those depicted on the next exhibit, Number

4?

A. Yes.

Q. Will you review those for the Examiners? Just review some of the wells in proximity to the Rustler Breaks #2.

A. Sure. So this exhibit shows a more zoomed-in version view of the area of interest, and the Rustler Breaks SWD #2 is located in Township 24 South, 28 East, Section 6, kind of there in the middle of the page. And what we've identified are a group of Devonian SWDs that are in various stages of their development.

There are currently two Devonian SWDs injecting on this map. Those two wells are the Cigarillo SWD #1 and the Black River SWD #1. Another well that we are -- that we're currently drilling is the Rustler Breaks SWD #3 there to the north, and then there are several that have been permitted but have not yet -- not yet been spud.

Q. You said currently drilling. But just to clarify, the Rustler Breaks has been drilled. It just hasn't been -- hasn't commenced -- hasn't been fully completed and hasn't commenced injection?

A. That's correct. The Rustler Breaks SWD #2 has been drilled, but it has not commenced injection yet.

Q. Now, are there other wells -- now, let me ask

you this. The distance between the Black River SWD #1 and SWD #2 that we're talking about today is approximately what? How far is that?

A. It's approximately one mile.

Q. Okay. And do you consider the -- based on your analysis, the SWD #1 to be an analog for the SWD #2?

A. We do. We consider it based on the proximity, and the next exhibit will have a cross section showing the difference.

I would also like to add that several of the wells on this map have been approved for tubing sizes larger than 4-1/2-inch tubing. For example, the Black River SWD #1 has been approved for 5-inch tubing by 7-inch casing. The Striker 3 SWD #1 has been approved for 5-1/2-inch by 4-1/2-inch in a tapered configuration, tapered being the larger casing on top, tapering down to the smaller tubing on the bottom. And the Trove Energy SWD #1 has been approved for 5-1/2 tubing by 5-inch tubing.

Q. Just to clarify, since you bring it up, Mr. Elsener, this application is requesting 5-1/2-inch tube down to the open-hole interval; is that correct?

A. That's correct. The entire tubing string, we are requesting 5-1/2-inch tubing.

Q. Now, you mentioned that the SWD #1 -- Black

River SWD #1 analog and the next exhibit helps establish basis for that; is that correct?

A. That's correct.

Q. So looking at Exhibit Number 5, will you review for the Examiner what this log cross section shows?

A. Yes. Exhibit Number 5 is a cross section going from A to A prime. A is the Black River SWD #1 located to the north, and A prime is the logs we gathered on the Rustler Breaks SWD #2 approximately one mile to the south.

And if I just walk you through what these log tracks are, on the far left-hand side is the gamma ray track. And if you look down about midway through the page, you can see where we've identified the top of the Devonian Formation. The Devonian Formation is that lower -- lower gamma ray response that's kind of there in the white portion of the page. Going across the log, the next -- the next track over is the PE curve showing the lithology. That's the, kind of, orange and gray color. And the next one over is the neutron porosity, which is there in the yellow. The next log over to the right is the resistivity, which has been shaded, anything over ten ohms, in green. But I just want to make it clear, there have been no signs of hydrocarbons in this zone. Also, no hydrocarbons detected by the mud logs either.

Going over to the A prime at the -- at the well we're discussing today, the Rustler Breaks SWD #2, you can see that the gamma ray signature very closely correlates and looks very similar to the Black River SWD #1. So our team has deducted that these wells are going to have very similar rock properties that behave in a very similar way.

Q. Mr. Elsener, can you just clarify for the Examiner the -- I know it's depicted here on the chart, but what the injection zone is for both of these wells?

A. Yes. The top of the injection zone is located approximately 13,700 feet, and it's that -- that very low gamma ray signifying the dolomitic aspects of the Devonian Formation.

Q. And you indicated earlier in your testimony that you anticipate approximately 85 percent of the injection pressure to be accounted for by friction within the injection well; is that correct?

A. That's correct.

Q. How do you know that to be the case, or how do you -- what's your basis for expecting that to be the case?

A. Sure. On the Black River SWD #1, we conducted a pressure-injection test using a downhole gauge set at the bottom of the 4-1/2-inch tubing, and the results of that test were depicted on the next exhibit, which is Exhibit Number 7.

Q. Or Exhibit Number 6?

A. My bad. It's Number 6.

Q. Can you review the result of the step-rate test from the SWD #1 for the Examiners?

A. Sure. So just a little background on this injection test. We ran a quartz downhole gauge and set it at the bottom of the tubing string, and we monitored the bottom-hole pressure and the surface pressure to measure the effect of increasing the injection rate at several different rates to measure the amount of friction in the bottom-hole pressure response to those injection rates.

On this chart are the results of that -- of those tests. And the y-axis is pressure, and the x-axis is the injection rate and barrels per day. And some of the lines drawn on this chart, I'll walk you through.

The top red line is the bottom-hole pressure limit based upon the approved permit surface-pressure limit of 2,740 psi, plus the hydrostatic gradient of the 0.45 psi per foot. So that's 896 psi. So we are not -- not exceeding those -- those limits.

The next line down, the blue line, is the measured bottom-hole pressure from the pressure from the downhole gauge. And the dark blue data is the actual data we ascertained from the test. And then the dashed blue line is the projection out of what that reservoir pressure would have been at higher injection rates.

The next horizontal red line down is the surface pressure of 2,740 psi. That is the -- that is the maximum allowed injection pressure per the permit.

And the very bottom of the graph, in the gold bars and the blue bars, are the percentages of the surface pressure that are coming from the friction in the tubing and the increased pressure on the formation, what we're calling the formation entry pressure. The projection of that -- of that data is the gold dashed line, which goes out further than the rate that was performed during the step-rate test to approximately 21,700 barrels per day. That is our theoretical max injection rate for this well as it stands with 4-1/2-inch tubing.

Q. During the step-rate tests, were you also able to identify or measure any other reservoir parameters?

A. Yes, we did. As part of the injection test, we were able to determine properties such as the initial reservoir pressure and the permeability height of the injection zone of the Devonian.

Q. Indicated on this chart, there is a text box on the left where you indicate here that the reservoir parameters are K-H. Is that the porosity that you're discussing?

A. K is the permeability --

Q. Permeability.

A. -- and H is the height.

Q. Height. Okay. Gotcha.

So then you also indicate on this -- this chart that you used that data to do some additional tests; is that correct?

A. That is correct.

Q. And what additional studies did you do based on the data you obtained from the step-rate test?

A. Our team utilized this data to perform what is called a nodal analysis of -- of the -- of the -- of the performance between the reservoir and the tubing.

Q. For my benefit, if not the Examiners, would you please review the basic terms of what nodal analysis is when you're trying to determine by conducting --

A. Sure. Nodal analysis is an industry-standard procedure that engineers commonly use to determine certain -- certain pressures and rates in a wellbore and how they might improve or optimize the combination of reservoir pressures and inflow through tubing. One example is to optimize the tubing size of different types of wells.

Q. So you did that analysis in this case comparing the 4-1/2-inch tubing to 5-1/2-inch tubing?

A. That's correct.

Q. To determine what the injection rates would be?

A. That's correct.

Q. And also what the bottom-hole pressures would result from those injection rates?

A. Yes.

Q. And those results are depicted on the next exhibit, Number 7; is that right?

A. That's correct.

Q. All right. Will you walk through what your nodal analysis indicates to you?

A. Sure. If you turn to Exhibit Number 7, the summary of this -- of this result of this nodal analysis is by increasing the tubing from 4-1/2-inch to 5-1/2-inch tubing, we would increase the injection rate of the well from approximately 21,700 barrels per day to 38,000 barrels per day with the 5-1/2-inch tubing. And I'll walk you through the chart.

On the left, on the y-axis, is the bottom-hole pressure. On the x-axis is the liquid rate in barrels per day. There are two inflow curves at -- designated for the -- the heavy blue line being the 4-1/2-inch tubing inflow curve, and the dashed red line being the 5-1/2-inch tubing curve that is the calculated amount from correlations. The bright yellow dots represent the outflow curve into the -- into the reservoir.

And as this well stands right now, the theoretical max injection rate of the 4-1/2-inch tubing is 21,700 barrels per day. Extrapolating out the reservoir performance to where it intersects with the 5-1/2-inch tubing curve is how nodal analysis is performed. Therefore, the projected maximum injection rate for the 5-1/2-inch tubing is 38,000 barrels per day.

Part of the -- part of the reason we want to increase the tubing size from 5-1/2 -- I'm sorry -- from 4-1/2 to 5-1/2-inch tubing is for a relatively small increase in reservoir pressure, we can inject an additional 16,000 barrels per day of water.

Q. Now, this data that you use to derive this nodal analysis is principally based on the step-rate test that you conducted on the Black River SWD #1, correct?

A. That is correct.

Q. And you also intend, once the well is completed, to do a step-rate test on the Rustler Breaks SWD #2 as well?

A. That is correct.

Q. But based on your determinations, as you testified, you believe that the Black River SWD #1 well serves as a -- as a -- as very good analog for you to derive these numbers and assume that they would be correct for the Rustler Breaks SWD #2; is that right?

A. That is correct.

Q. I just wanted to make that clear.

A. One other thing I'd like to add to this chart, referring back to some of the other approved authorizations to inject, there have been several of the tapered strings that would allow the operators of those wells to increase the injection rates to somewhere between the 4-1/2-inch tubing and the 5-1/2-inch tubing. For example, a well that was allowed to inject with the majority of the tubing being 5-1/2-inch tubing and the remainder being 5-inch tubing would probably fall around 35,000 barrels per day max injection rate at the maximum allowed surface pressure.

Q. And when you say the majority of that tubing being 5-1/2-inch, what do you know about the well designs for these tubings that have been approved, what

is the approximate length of the 5-1/2-inch?

A. The approximate length of the 5-1/2-inch tubing is around 9,000 feet. The remaining 4-1/2 or 5-inch tubing, depending on which well it is, would be about 5,000 feet of additional -- additional tubing. So that would be about -- 65 percent or so of the total tubing length would be 5-1/2-inch tubing.

Q. So based on this nodal analysis, have you reached any conclusions as to what the impact would be on the proposed tubing size increase to the formation pressure?

A. Our conclusion from this analysis is that the increased bottom-hole pressure in the reservoir would be relatively minor, only a few hundred psi.

Q. That is indicated on the y-axis over here where it intersects with your red tubing curve?

A. That is correct.

Q. Now, did you do a further study to analyze in more detail what the potential impacts would be on the pore pressure response in the formation you're injecting into should you increase the tubing size to 5-1/2 inches?

A. We did.

Q. And is that reflected in the next exhibit, Number 8?

A. Yes, it is.

Q. Will you please review for the Examiners what exactly this chart shows and how it is that you came to derive the lines on the chart?

A. Yes. Exhibit Number 8 is the projected pore pressure impact over -- over 20 years at different radiuses from the saltwater disposal well. This modeling was performed in the Stanford University Fault Slip Probability [sic] tool to project what the impact on pore pressure would be over the life of the well.

On the y-axis is the calculated increase in pore pressure or psi, and the x-axis is the distance from the wellbore in kilometers. The green line represents the base case of the 4-1/2-inch tubing at approximately 20,000 barrels per day. The orange curve represents a middle case that might represent a 5-inch tubing over the life of the well. In the high case, the blue case, at 40,000 barrels per day, represents what might be achieved with 5-1/2-inch tubing.

What we've learned from this analysis is that the incremental pressure from the 4-1/2-inch case to the 5-1/2-inch case is a relatively small increase in reservoir pressure. For example, approximately 150 psi increased pressure would be about a 2 percent increase in reservoir pressure, which we don't believe is enough to cause any additional issues.

Q. And that's the difference 150 -- actually, less than 150 psi is the difference between your base case and the green line and what the approximate injection rate would be using the 5-1/2-inch tubing as represented by the blue line; is that correct?

A. That's correct.

Q. And that pore pressure response of approximately -- in this case, I think it's more like 125 psi. Is that fair?

A. Yes, sir. As you get further and further away from the injection well, that difference in pressure gets smaller and smaller.

Q. So that number -- that figure, 2 percent increase, is really just at the wellbore?

A. That's correct.

Q. So as you -- as you move away from your injection wellbore, that pore pressure response drops off rapidly?

A. That's correct.

Q. Is that a fair statement?

A. Yes, it is.

Q. So not only does the -- is your proposed injection rate resulting in only a 2 percent increase in the pore-pressure response relative to what the

injection rates are currently permitted -- correct?
A. Yes, sir.
Q. -- but tell us about how that pore-pressure response relates to the overall pore pressure -- rather the overall formation pressure that currently exists in that injection zone.
A. It's a very small increase in the initial reservoir pressure.
Q. And approximately -- if you put in this with the number of percentage, like what percentage increase would that -- does this injection rate represent at the wellbore over -- relative to the injection zone pressure?
A. It would be an approximately 2 percent increase.
Q. Okay. 2 percent increase.
And that response, say, at six kilometers -- can you put that in percentage of six kilometers out from the wellbore?
A. Just kind of eyeballing it, at six kilometers, that increase in pressure is like 40 psi, and that would be -- that would be less than -- certainly less than 1 percent increase in pore pressure.
Q. In the formation?
A. In the formation.

Q. Now, what are your conclusions overall what the potential impact would be to the injection formation by switching from the 4-1/2-inch tubing to 5-1/2-inch tubing down to the injection interval?

A. Our conclusion from this analysis is that increasing from 4-1/2-inch tubing to 5-1/2-inch tubing would have marginal increase in the formation pressure.

Q. And will this increase injection rate -- using the 5-1/2-inch tubing, will the well still be operating within its permitted pressure limits?

A. If we -- with 5-1/2-inch tubing, we would stay under the maximum allowed surface pressure of 2,740 psi.

Q. Now, the model that you referenced from Stanford University, is that a model that has been -- is now considered an industry accepted model or are other people within the industry using it for this purpose?

A. Yes.

Q. Does this model and this chart represented in Exhibit 8, does it account for other wells that are injecting into the Devonian in the area around the Rustler Breaks #2?

A. This model does not.

Q. Okay. Can you talk a little bit about, based on your evaluations, what you would expect the -- those other wells to be cumulatively with the proposed Rustler

Breaks #2 well?

A. Yes. At the time of this application, if you flip back to Exhibit Number 4, the zoomed-in locator map, you can see that there are only two other active Devonian injection wells at this time. The Cigarillo SWD #1 has injected approximately 13 million barrels over its life. I believe it's been on line for close to a decade. The Black River SWD #1 has injected about 3 million barrels at this time. No other SWDs are actively injecting into the Devonian, to our knowledge, in this area of investigation. So we believe that the impact on these wells will be -- will be very small and not have significant impact.

Q. And you can make that conclusion because when you look at Exhibit Number 8, those wells are approximately what, a little more than a mile or so from your Rustler Breaks #2 well?

A. Yes, sir. They're approximately a mile away.

Q. And if you look at Exhibit Number 8, that's a little more than two kilometers distance? Fair to say?

A. A little under but approximately.

Q. A little under two kilometers?

A. Oh, you're right. Sorry.

Q. So at that location, at that distance, the pore-pressure response in the formation is expected to

be on the order of like -- well, something less than 2 percent for this one well, but in combination, it will still be relatively insignificant compared to the overall formation pressure. Is that fair to say?

A. That's correct.

Q. Okay. So your conclusion is that -- that the proposed 5-1/2-inch tubing with the increased injection rate is likely to have little or insignificant impact on the formation even in consideration with the additional existing injection wells in the area. Is that fair to say?

A. That's correct.

Q. Okay. And so just to kind of summarize, in your opinion, does this analysis that you've conducted suggest that there is capacity for injection within the Devonian for a proposed increased injection rate?

A. Yes, it does.

Q. For the life of the well?

A. Yes.

Q. In summary, if you could just summarize for us what the benefit of the increased tubing size is in this particular instance?

A. So in summary, increasing our tubing size from 4-1/2-inch to 5-1/2-inch will allow us to inject an additional 16,000 barrels of water per day, a marginal increase in reservoir pressure, and it will increase the -- it'll increase the cost effectiveness of the wells -- of the saltwater disposal wells and reduce surface impact, and we think it's a prudent and acceptable practice at this location.

Q. Now, Mr. Elsener, I'd like to just shift gears a little bit, if I could just talk about an order that was entered by the Division previously so we can address some of the issues raised there.

MR. RANKIN: If I might, Mr. Goetze, just approach, for your convenience --

EXAMINER GOETZE: Please.

MR. RANKIN: -- and distribute a copy of the record that we're going to reference.

Q. (BY MR. RANKIN) Mr. Elsener, I've passed out to you a copy of Order Number 14392. Do you have that in front of you?

A. Yes, I do.

Q. This is an order by the Division denying application to increase tubing size filed by Mesquite SWD, Incorporated. And in it, they asked to increase the tubing size to 5-1/2-inch; is that correct?

A. That's correct.

Q. Are you familiar with the order?

A. Yes, I am.

Q. And have you previously reviewed it?

A. Yes.

Q. I'd like to just talk with you about a couple of the issues that were raised in the denial, if we could. I'll ask you to turn to page 4 of the order and look at paragraph six. Let me know when you've found that paragraph.

A. Okay.

Q. Do you see in that paragraph is referenced a letter from the BLM indicating some concerns about the proposal in that case? Do you see that?

A. Yes, I do.

Q. And it looks like, based on the paragraph, that the BLM raised concerns about the increased tubing size and the volumes potentially being injected into the formation reaching potentially formation fracture pressures. Do you have any concerns about that issue with this particular application and this formation?

A. We -- well, we take that very seriously, which is one of the reasons why we conducted the step-rate tests on our Devonian well, to determine how much the reservoir pressure would increase. Given the relatively small increase in reservoir pressure, we do not believe that we will be anywhere near the fracture gradient of the Devonian Formation.

Q. And switching over to the next page, on page 5, I'll ask you to look at paragraph 11. Let me know when you've found that paragraph and have a chance to review it.

A. Okay.

Q. In this paragraph, the Division raises the concern that construction of an injection well with 5-1/2-inch tubing may be deemed to be considered a best management practice for all future applications. And I would just like for you to address whether or not you're asking in this case for 5-1/2-inch tubing to be determined -- or be deemed to be best management practice for all future Devonian injections.

A. We are not requesting at this time that the larger tubing be used as a blanket best management practice for all Devonian saltwater disposal wells. We -- we still believe that -- and what Matador and Black River Water Management currently do is we design these wells individually based upon the specific well at hand.

Q. And so what you're asking or what you propose is whether or not an injection well should be permitted to operate with a 5-1/2-inch tubing is case by case based on criteria factors appropriate for each individual case?

A. Yes.

Q. Looking at -- on that same page, the bottom of paragraph 15, it goes on to the next page on the order. Will you just review that paragraph for me, and let me know when you've had a chance to do it?

A. Okay.

Q. That paragraph raises questions about induced seismicity. Based on your evaluation and the model and data that you've looked at and the models you've run, what is your opinion about any concerns regarding induced seismicity in the specific area for the Rustler Breaks #2 well?

A. It is the opinion of our team -- well, first I'd like to say we take this very seriously, and Matador has taken great lengths and spent a lot of money to acquire a full 3D seismic volume across this -- across this area. It's probably cost around $4 million and taken over two years to complete. We've analyzed that seismic data to look for any hazards. We have -- we have reviewed the increase in pore pressure and -- through our step-rate modeling and our nodal analysis testing. We have also included that data into Stanford's Fault Slip Probability [sic] tool to understand -- to better improve our understanding of what it might take to move -- to cause any induced seismicity. The result of all that work has been that we believe we are in a very low-risk environment, and we do not feel that there is going to be any induced seismicity through the increased pore pressure by us increasing the tubing size from 4-1/2-inch to 5-1/2 inches.

Q. Did you also use the 3D seismic data that you've been able to obtain, proprietary data, to locate the location for this well relative to any other hazards in the area?

A. That's correct.

Q. So in your opinion, the issue or concern raised in paragraph 15 of this order, is that -- is that an issue or concern for this particular application?

A. No.

Q. Mr. Elsener, I'd like to move up on to kind of wrap up here. In your opinion, based on your analysis, would a prudent operator switch, if permitted, from 4-1/2-inch tubing to 5-1/2-inch tubing down to the injection interval in this case?

A. Yes.

Q. And in your opinion, would approving the application here impair any correlative rights in the area?

A. No, it would not. There is -- there is no oil and gas production out of the Devonian in this area.

Q. Is there any reason to suggest, based on the increased injection rates and the marginal response to the formation pressure, that there would be any risk of contamination of any freshwater sources or freshwater supplies in the area?

A. No.

Q. Would approval, in your opinion, be in the best interest of conservation?

A. Yes.

Q. And would it, in your opinion, protect against waste?

A. Yes.

Q. I think that's all my questions.

Were Exhibits 2 through 8 prepared by you or under your supervision?

A. Yes.

MR. RANKIN: Mr. Examiner, with that, I would move the admission of Exhibits 2 through 8 with -- I guess I'll move 1 through 8 --

EXAMINER GOETZE: Go ahead.

MR. RANKIN: -- and make them a matter of record, please.

EXAMINER GOETZE: Exhibits 1 through 8 are so entered.

(Black River Water Management Company, LLC Exhibit Numbers 1 through 8 are offered and admitted into evidence.)

MR. RANKIN: With that, I pass the witness.

EXAMINER GOETZE: Mr. Brooks?

EXAMINER BROOKS: No questions.

CROSS-EXAMINATION

BY EXAMINER GOETZE:

Q. Okay. Let's start. I notice that Mr. Rankin referred to that "a prudent operator" would increase. We have some unprudent operators that would also increase it.

So let's get to the point about your modeling. That will be the Zoback?

A. Yes.

Q. Considering that we're doing this as a case-by-case basis, would it be possible that you provide us a copy of what your results were of the actual model without -- I mean, we'd like to see it so that we can use it as a guidance.

A. I don't know at this time.

Q. Okay. Let's see what you can do as far as making it available.

MR. RANKIN: Can we ask if what you're

asking is to make it a record of the case or just
something so that the Division would be able to --
EXAMINER GOETZE: Well, if you feel there
something is proprietary in there -- what the Division
is interested in is this being a guidance for the
future, and so we'd like --
THE WITNESS: Yeah. The seismic that we --
that we -- that we've acquired is proprietary --
EXAMINER GOETZE: I understand.
THE WITNESS: -- and that is the key -- one
of the most key inputs into -- into the modeling.
EXAMINER GOETZE: But realize that the
Division would have to defend itself in making the
selection and the recommendation based upon something
other than just a testimony. We'd like to be able to
see it. So if we have something that is either clean --
We don't do very well with proprietary,
right?
EXAMINER BROOKS: Well, we have some
procedures we're supposed to follow in proprietary, and
we do not really have the tools in place to -- when a
proprietary confidential material is offered into
evidence, we're required by -- we're not prohibited from
admitting it or considering it, but we're required to
take certain measures to -- to maintain the

confidentiality -- well, let me put it another way. We're required to take uncertain measures to maintain the confidentiality, and we have no guidance either in our rules nor in our internal procedures as to exactly how that is to be done. So if it is possible to decide a case without having proprietary or confidential trade-secret information offered in evidence, we prefer it that way.

MR. RANKIN: Right. I think what we would like to be do is confirm that none of the model results are proprietary and confidential, but we would offer to sit down with the Division to --

EXAMINER GOETZE: Well, what my concerns are is that I'm going to have an NGO step in and say, How did you make that choice? And if I could have something other than testimony, because it will be science that will be required to be the test.

MR. RANKIN: Yeah.

EXAMINER GOETZE: And, again, realize this is a learning process for you and for us as far as if, in the future, we do use the Zoback, which is very attractive and has been proposed, then, you know, we're going to have to provide that information to some extent. So see what you can do.

MR. RANKIN: I think we'd like to just, you know, review the model results and determine whether or not there are proprietary issues, but then certainly be able to, at the very least, present it to you so you can see what the results are.

EXAMINER GOETZE: Let's go with that as an alternative. But let's see what you can do as far as being able to transmit and supplement.

THE WITNESS: We'll consider that.

EXAMINER BROOKS: Well, of course, my advice was not in the sense of saying that it is illegal for us to consider -- for us to admit and consider proprietary or -- or confidential information, though there's not information here where they've tendered confidential or proprietary information, but in order to make a proper recommendation to the Director, we need information that they consider to be proprietary, then I guess it's our duty to take the bull by the horns and figure out how to do it. So I leave that to your judgment.

EXAMINER GOETZE: Well, I thank you for the all the -- for the bull and the horns. Thank you.

Let's go with first something you feel comfortable with providing so that we can use it, at which point, if you feel that it is proprietary in nature and you cannot submit it without that proprietary information in making an argument, then let's seek an alternative. This is not a contested case so we can have communications with no ex parte.

Q. (BY EXAMINER GOETZE) Next item, we have a model for 20 years. Is that what we assume the life of this well is going to be?

A. It very likely could last for 20 years.

Q. And for my simple thought process, this well -- the wells in the areas are complete over the entire Devonian and Fusselman interval?

A. Just the Devonian.

Q. Just Devonian. We're not into Fusselman?

A. I don't believe. I'm not a geologist, but I believe we're just in the Devonian Formation.

MR. RANKIN: Mr. Examiner, to help you, the injection zone extends from 13,700 feet to 14,000.

EXAMINER GOETZE: We understand that.

MR. RANKIN: Okay.

EXAMINER GOETZE: When we actually issue the permit, sometimes we ask the operator -- and we may have in here. We didn't in this one. But typically we ask you to come back with corrections on the log showing that our intervals are matched up.

MR. RANKIN: Okay.

EXAMINER GOETZE: Do take a look at that.

I don't know if this has been in this case, but you do tend to want to make your permit ironclad with regards to what you completed in, because we know you are projecting into this area.

Q. (BY EXAMINER GOETZE) So what my -- what my thoughts are is we have two wells we're comparing as the injection interval the same as far as general characteristics and length?

A. Yes.

Q. And I would also ask: Do we go into Montoya with any of these wells?

A. No.

Q. Okay. We're not into Ordovician?

(The court reporter requested a repeat of the last word.)

A. (No response.)

Q. So assuming a well life of being 20 years, how far out do you think the injection fluids will reach considering the total column you have injecting into? My concern here is that we have the .5 mile notification, and we do have correlative-rights issues. And this has already been brought forth. Do you have any idea how far out from the well that 40-year -- or 10-year that fluids are going to be?

A. Let me just kind of make a clarification.

Exhibit Number 8, the pore-pressure impact, that is the pressure response --

Q. Yes.

A. -- not necessarily the fluid --

Q. Yes.

A. -- transfer distance.

Q. Yeah. And that's the thing where our correlative rights comes in. You've reached into someone else's mineral estate or notification requirements. How do we -- how do we know when we've done that and if we have done that?

MR. RANKIN: I would just state, Mr. Examiner, that one of the -- that issue has not been modeled. It's often modeled, in the case of the AGI wells, the concerns of acid gas leaching in for more of the human health and safety concerns. So in those cases, the plume extent has been modeled as part of that demonstration more for human health and safety. You know, under the regulations, it is only required to provide notice to the half-mile area of review.

EXAMINER GOETZE: That's true. It was approved in 1983 when people were only putting in 1,000 barrels a day. And so now we have a very, very large increase in volume. And how do we know that we protect correlative rights with regards to not only this, but, looking in the area, we're going to have them stacked one upon the other?

MR. RANKIN: Right. So I think, in response to that, unless the rule changes, you know, that issue has not been analyzed because there's been --

EXAMINER GOETZE: Well, it's coming up on the docket, so it's pending.

MR. RANKIN: So at this point, that issue has not analyzed, what the plume might be or what it might be over time.

But I guess Mr. Elsener can address the question because there are a number of -- numerous Devonian injectors that have injected large volumes over time and for a long period of time, and I guess the question is whether or not, as a practical matter, any correlative rights have been impacted.

THE WITNESS: In the course of our team analyzing this -- these types of wells, there are some pretty old Devonian injectors that have injected over 60 million barrels of fluid in their life.

Q. (BY EXAMINER GOETZE) Actually, there is one with over 100 million over by Carlsbad.

A. Is there?

Q. Yes.

A. Wow.

Q. So now that we're stacking them, getting close, still the Division internally has to figure out what is the best way to deal with these in the sense that we do have the .5. So the Devonian wells are now representing the best, along with what OWL has brought forth in a depleted reservoir approach. How do we satisfy these notification issues such that you're protected and we don't see an issue in the future that you have impacted someone else's correlative rights without notification?

MR. RANKIN: Just going back to the AGI as an analog, in the past, where the Commission has requested more extensive notice, the operators have given notice out to one mile, based on the Division's request. So, you know, if that's a preference, even before the rule is changed, I think that's something that we could do, is to provide an additional half mile, to make it a full mile notice, if that's a serious concern or would satisfy the Division's concerns about adequate notice.

EXAMINER GOETZE: I still have a question, and I don't have an answer.

MR. RANKIN: Right. Doing those plume studies is an expensive -- it's not --

EXAMINER GOETZE: Well, you can do -- I mean, the plume studies are different. I mean, again, you're dealing with something at a 100 ppm, immediate danger to life and health, and we're also looking for the impact that it inhibits drilling in other -- this industry which does have rights under the Mineral Act. So the concern for us is that okay, someone do a calculation, sit down -- it's not that difficult to do -- and figure out what you would estimate to be, say, in ten years where you're going to be. And let's look at one more round of notification.

MR. RANKIN: Let me ask this, Mr. Examiner: If we are able to, based on the permeability and porosity that we may have already --

EXAMINER GOETZE: You logged it. We should have something.

MR. RANKIN: -- is it possible to run a calculation to determine based on projection what, you know, the plume may be based on -- I'm not an engineer so --

EXAMINER GOETZE: Well, we do ask for these in the exempted aquifer program, so, I mean -- go ahead.

THE WITNESS: I was going to say what I'm testifying to today is the incremental impact from the 4-1/2-inch tubing line here, the green line, to the 5-1/2-inch tubing size, which is a relatively minor increase in reservoir pressure over what has already been approved and what the Commission has already approved in other examples for larger tubing size wells. So it's the incremental effect, which is --

EXAMINER GOETZE: And the Division understands. What you've presented here is a very good argument with regards to the fact we should not be worried too much about pressure, and you have successfully also presented that in another case, too. So, again, we're addressing this thing of correlative rights. And, again, this was something that was brought to our attention, and hopefully -- I'm just saying that we have approved in the past -- you know, this is one of our downfalls, is that our bad habits continue into the future. So what you're entering into is the fact that this is something that will be open -- the door will open and it will become an administrative procedure with what you present here.

MR. RANKIN: Right.

EXAMINER GOETZE: So we have discussed this as part of an effort with NMOGA, and what you're laying here is a foundation of what we'll use in the future. So you've satisfied my need to have something in writing. Let's take it a little bit farther, and let's give some supplemental information, which would include -- let's look at the radius of influence, see where you're going. Does our .5 protect us in the sense of correlative rights? And let's look at the Zoback model, how you ran it. I think that's -- we're very attracted to that, so let's bring that as far as we can, and you decide what is proprietary and what is not proprietary. And we'll take a look at that.

MR. RANKIN: I might -- just to make a proposal.

EXAMINER GOETZE: Yes.

MR. RANKIN: I guess, if it's possible, after conferring on the calculation, what the point is raised based on projected volumes and so forth and if our engineers are able to determine that that radius of influence is less than a half mile or within the half mile of current notice, may we provide that information to you?

EXAMINER GOETZE: Yes.

MR. RANKIN: And if you're satisfied, then we will maintain the notice as is. And if not, we will increase the notification to a one-mile area.

EXAMINER GOETZE: Let's look at that.

MR. RANKIN: Okay. I'll try to get that to you in a timely way so we can provide you with an order.

Thank you.

EXAMINER GOETZE: I'm just making sure I

haven't left out anything.

So we have another case dealing with that.

Q. (BY EXAMINER GOETZE) And do you understand that BLM has final design plans on their wells no matter what we say?

A. Our -- our next -- our next witness will address some of the design components of the wellbore.

Q. I understand that. But still, our authority extends over state and fee land wells. What we put in an order is about injection authority and not necessarily well construction.

MR. RANKIN: Any changes, I guess, we would -- any changes imposed by BLM, we will notify the Division.

EXAMINER GOETZE: Oh, we'd know about it, but even if we grant the 5-1/2, they could come back and say, We still only want to see 4-1/2. I just want you to realize that there are other components in this effort that have still not been addressed, and we are hoping to --

MR. RANKIN: It's not on federal land.

EXAMINER GOETZE: No, it's not. But --

MR. RANKIN: For future --

EXAMINER GOETZE: Yes. You realize -- come on, folks. Once you write an order, it comes back time and time again. So once we open the door, let's give people a pathway to figure it out. Otherwise -- because we're -- you know, we're seeing this, and we realize the cost and the benefits of having a larger tubing size, but I'm also realizing that south of the border in Pecos, I have a new swarm of earthquakes happening. So we are trying to keep ourselves a little bit ahead of the game so once the door opens and it's an administrative process --

MR. RANKIN: Yeah.

EXAMINER GOETZE: -- that we have things in place.

So the next witness will deal with fishing and the fun stuff when things go bad?

THE WITNESS: That's correct.

EXAMINER GOETZE: At this point I really don't -- I think the items that I requested, the items I expressed concern for in an order, let's go ahead and get this information and go from there. Okay?

MR. RANKIN: Okay. Thank you.

THE WITNESS: Thank you.

EXAMINER GOETZE: Thank you very much.

MR. RANKIN: Mr. Examiner, I have one final witness, Mr. Adam Lange.

ADAM C. LANGE,

after having been previously sworn under oath, was questioned and testified as follows:

DIRECT EXAMINATION

BY MR. RANKIN:

Q. Mr. Lange, please state your full name for the record.

A. Adam Charles Lange.

Q. And by whom are you employed?

A. Matador Resources.

Q. And how long have you worked with Matador?

A. Five years.

Q. And what is your job title at Matador?

A. Senior drilling engineer.

Q. What are your job duties in that capacity?

A. I plan, design, write procedures for and oversee drilling of oil and gas and saltwater disposal wells.

Q. And have you previously had the opportunity to testify before the Division?

A. Yes.

Q. And have you previously had your credentials as an expert in petroleum engineering accepted and made a matter of record for the Division?

A. Yes.

Q. Are you familiar with the specific injection well that is the subject of this application?

A. Yes.

Q. And are you familiar with the application's request to increase the tubing size?

A. Yes.

Q. Have you conducted a study or review of the proposed tubing in this case?

A. I have.

Q. Are you prepared to present your conclusions and analysis?

A. I am.

MR. RANKIN: Mr. Examiner, I tender Mr. Lange as an expert in petroleum engineering.

EXAMINER GOETZE: He is so qualified.

Q. (BY MR. RANKIN) Mr. Lange, let's discuss your analysis of the proposed well casing and tubing and size. What is the existing approved diameter of the casing in this well?

A. That's 7-5/8.

Q. That will not change, correct?

A. That will not change.

Q. And that's currently in the well that's been drilled?

A. Yes, sir.

Q. Have you analyzed whether or not there is sufficient clearance between the 7-5/8-inch casing and the proposed 5-1/2-inch tubing?

A. Yes, sir.

Q. And is that presented in Exhibit Number 9?

A. It is.

Q. Will you review for the Examiner what Exhibit 9 shows in your analysis?

A. Exhibit Number 9 shows a cross-sectional view from a bird's eye of tubing inside of the casing. On both diagrams, the inner thick, black circle is the injection tubing body, and the outer thick, black circle is the 7-5/8 casing. The dotted line between the two circles is representative of the tubing coupling.

The annotations on each side -- so the left side, we have 4-1/2 tubing with 7-5/8 casing, and the right, we have 5-1/2 tubing and 7-5/8 casing. The annotations on both show the annular gap both between the body of the tubing and the casing and the coupling of the tubing and the casing. In the 5-1/2 tubing case that is a gap of 1.265 inches between the body of the tubing and the casing, and .715 inches between the coupling and the casing.

Q. Now, have you also looked at -- you're familiar with the Black River SWD #1 well that was recently

approved by the Division; is that correct?

A. I am.

Q. And have you looked at the clearance in the -- between the casing and the tubing in that well design?

A. Yes.

Q. And how does that compare with what is proposed to the clearance in this case?

A. Exhibit Number 10 shows a comparison between these two designs. On the left is the 5-inch tubing inside 7-inch casing, and on the right is the 5-1/2-inch tubing inside 7-5/8 casing. The format is the same as the previous slide. The one on the left is as approved on the Black River SWD #1, and the one of the right is the application for approval that we have now. And you can see that in both the clearance between the body of the tubing and casing and the coupling of the tubing and casing, this design has greater clearance than the 5-inch tubing inside 7-inch casing. And we believe both designs use appropriate and adequate annular clearance.

Q. So that determination or conclusion that the clearance is sufficient is based on the ability of standard fishing tools to extract any tubing that may get hung up; is that correct?

A. It is.

Q. And do you have an exhibit that would reflect

what the standard tools are and how they would be able to fish this tubing with the clearance that you propose?

A. That would be Exhibit Number 11. Exhibit Number 11, on the left is a Bowen series 150 overshot with spiral grapple. I have a few overshot ODs and the corresponding maximum catch size. An overshot with an OD of 6-5/8 inches has a catch size of 5-1/2-inch, which is adequate for the body of this tubing. The 7-5/8 casing that we have ran in this well is 6.64 inches for API drift, and that is greater than the overshot OD. So this overshot could be used without any modification.

On the right are some spearfishing tools with -- with catch sizes and catch ranges. These -- so the overshot on the left could be used to catch the pipe body, and in the event that a coupling is looking up on the tubing, it can be caught with a spear, or it can be burned over -- the coupling can be burned over, and it can be caught with the overshot on the left.

Q. So in another case, you can use a spear or an overshot to extract any tubing?

A. That is correct.

Q. Now, in addition to spear -- fishing tools, is there also a concern about the wellbore itself, deviations making it difficult to get the tubing in or out with a narrow clearance?

A. Exhibit Number 12 is an as-drilled profile of the well. On the left -- both of these have TVD for the y-axis. On the left, we have the easting. On the left plot, we have the easting as the x-axis. This is a relatively vertical wellbore. On the right, we have a dogleg severity on the y-axis. There are no significant doglegs in this well that would prevent installation or fishing of the tubing.

Q. Based on the clearance that is -- for the tubing and the casing?

A. Yes.

Q. Yeah.

So in your view, standard -- standard fishing tools can be employed to extract the tubing with the clearance you are proposing and with the deviation in wellbore as drilled?

A. Yes.

Q. In your opinion, is there unreasonable enhanced risk to the wellbore as a result of using 5-1/2-inch tubing with the clearance you propose?

A. No, there is not.

Q. Are you aware of recent Devonian Formation injection well designs approved by the Division with tapered well designs?

A. I am.

Q. And in brief, if you could summarize what those tapered well designs look like.

A. The tubing in these wells, as discussed by the previous witness, is typically 5-1/2 for the top section tapered down to 5-inch or 4-1/2-inch tubing for the bottom section.

Q. Okay. Now, is that -- that tubing design, is that the preference that Black River currently has?

A. So the designs with tapered tubing strings are currently being permitted and drilled implementing a 7-inch or 7-5/8 liner inside of 9-5/8-inch casing. While this is a competent wellbore design, Black River prefers running that 7-5/8 as a long string and running it all the way back to surface. This gives an additional barrier between wellbore fluids and formation, and it also eliminates risks associated with liner hangers, which are always present.

With a long string, we can achieve a greater cement overlap between the two strings, and we also are not depending on an elastomer seal to isolate between those two strings. We believe this gives us greater confidence in the mechanical integrity of this part of the well for the life of the well.

Q. Okay. So it's just preference -- your well design preference over the taper designs that have been

approved?

A. That is correct. At this time, although it costs more money, Black River prefers running the 7-5/8 long string, and we believe it is worth the extra cost at this time.

Q. Would a taper design such as the ones that you've just described and have been approved, would that be an improvement to the current-approved 4-1/2-inch tubing in this well?

A. Yes, sir. Any amount of 4-1/2 that can be exchanged for 5-1/2 tubing will increase the potential injection rates on these wells, and the result of that would be we would have to drill less of them.

Q. So in conclusion, you don't see any concerns -- you have no concerns about the retractability or fishing ability on the standard tools to withdraw or pull out the tubing in this case?

A. No.

And actually going back to that last question, I'd like to mention that even in our tubing design, at the packer, we still have to cross over to 4-1/2-inch tubing, so there is still some 4-1/2-inch tubing even in the, you know, quote, "full 5-inch tubing design."

Q. Okay. Thank you.

Moving on to notice, the last part of this presentation, did Black River review and update the entities who were provided notice under the administrative application under SWD-1682 pursuant to Division rules?

A. Yes.

Q. Is Exhibit 13 a copy of the affidavit prepared by me indicating that we have provided notice in accordance with the Division rules?

A. It is.

Q. And on the pages following that affidavit, are those copies of the letter that was issued providing notice to those entities that we updated?

A. Yes.

Q. And on those following pages, is that a list of all the entities who were issued notice under this case?

A. Yes.

Q. And in the pages following, are those the green cards and green card receipts for each of the letters that were sent out giving notice to those entities?

A. Yes.

Q. And Exhibit 14, is that a copy of the Notice of Publication -- Affidavit of Notice of Publication that was published in the "Carlsbad Current-Argus"?

A. Yes.

Q. So notice was also provided through publication?

A. Yes.

Q. In your opinion, Mr. Lange, would a -- would a prudent operator, given the opportunity, operate with 5-1/2-inch tubing that this well has been designed to have?

A. Yes.

Q. In these circumstances?

A. Yes.

Q. In your opinion, is there any basis for concern that granting the application could impair correlative rights within the Devonian Formation?

A. No.

Q. Would you be -- would approval be in the best interest of conservation, in your opinion?

A. Yes.

Q. And in your opinion, would approval protect against waste?

A. Yes.

Q. Were Exhibits 9 through 13 prepared by you or under your direct supervision?

A. Yes.

MR. RANKIN: Mr. Examiner, I would move the admission of Exhibits 9 through 14, with the note that the affidavits were prepared by me and my office and that Exhibit Number 14 was prepared by the publisher at the "Carlsbad Current-Argus."

EXAMINER GOETZE: Exhibits 9 through 14 are so entered and noted.

(Black River Water Management Company, LLC Exhibit Numbers 9 through 14 are offered and admitted into evidence.)

EXAMINER GOETZE: I notice you sent off a return receipt to Marbob. That's very good.

MR. RANKIN: I think it was "of record."

EXAMINER GOETZE: (Laughter.)

CROSS-EXAMINATION

BY EXAMINER GOETZE:

Q. Okay. So with regard --

EXAMINER GOETZE: Mr. Brooks?

EXAMINER BROOKS: I have no questions.

EXAMINER GOETZE: He just gets me into trouble.

Q. (BY EXAMINER GOETZE) Your current design policy per se, is that you taking the production casing all the way down to the top of the Devonian?

A. Yes, sir.

Q. Is that something you were going to hold on to, that you perceive as an extra good protection in the

sense of the life of the well?

A. Yes, sir. We set that string in the -- right after the Woodford in the Devonian carbonate.

Q. Just out of curiosity, why are you going to 4-1/2 on the packer? Is that because the packer --

A. It's -- it's -- it's the design of the packer. It's just to have the clearance for the elastomers and the slips and all that.

Q. Okay. But there is nothing on the market that will satisfy the 5-1/2 inside the -- would you have -- can you upgrade the packer, or is it just --

A. We haven't seen anything in what we've looked for.

Q. Okay. And this is a shot into the future. Would it be that Matador would be interested in going to 7-inch, as is being considered, as far as tubing size? Have you been asked to consider 7-inch?

A. I have not considered 7-inch for tubing size. That -- that 10-3/4-inch casing is primarily just so that we do not have to run 7-5/8 flush casing. We can run full 7-5/8. It's not to try and upsize tubing any more.

Q. And this is something in consideration, too. We understand -- we're asking for retrofitting of the existing well. We're also looking down the road because

there will be -- Oklahoma and Texas already have 9-inch tubing, which is really 9-inch casing, so I feel the pressure will be, you know, to go bigger and larger. But given the information you have here and what was presented also with other cases, so you've given good argument on fishing.

And I have no further questions for you at this time. Thank you.

THE WITNESS: Thank you.

MR. RANKIN: Nothing further. But we'll be following up with additional information on the --

EXAMINER GOETZE: Yeah, the tubing. Actually, you've got three requests. Let's look at the log and make sure our -- our permitted interval and complete interval -- if need be, get us a letter saying: This is the final completion, and we'll amend the order. If nothing else, you'll get an amended order out of this showing that your well and the footages are correct. Okay? So it'll protect you on that side.

And so, Attorney -- my attorney --

EXAMINER BROOKS: Yes, sir.

EXAMINER GOETZE: -- would this best be continued, or should I take it under advisement and then --

EXAMINER BROOKS: Well, if you think there is a significant chance that we'll need to have another hearing, then you probably should continue it.

If you are satisfied that other things can be done by other methods short of a formal hearing, then I think you can take it under advisement. The problem is if we go to re-open, we have to go through a procedure.

EXAMINER GOETZE: Yeah, I know. I don't want to do that.

And seeing how all the items you brought up were in the order brought in -- as a matter of fact, did we enter that or just going to --

MR. RANKIN: Thank you for raising that. I would ask that, Mr. Examiner, you take that under -- hearing administrative notice of Order R-14392.

EXAMINER BROOKS: Well, I think there are prior orders. There is legal precedence --

MR. RANKIN: Yeah.

EXAMINER BROOKS: -- which can be treated as legal precedence and do not have to be admitted as evidence, although we often do it.

EXAMINER GOETZE: And seeing how what you've brought in testimony has addressed the items presented, let's go ahead and I'll take this under advisement and I'll communicate with the information.

MR. RANKIN: Thank you, Mr. Examiner.

EXAMINER GOETZE: Okay?

Thank you.

(Case Number 15854 concludes, 11:25 a.m.)

STATE OF NEW MEXICO

COUNTY OF BERNALILLO

CERTIFICATE OF COURT REPORTER

I, MARY C. HANKINS, Certified Court Reporter, New Mexico Certified Court Reporter No. 20, and Registered Professional Reporter, do hereby certify that I reported the foregoing proceedings in stenographic shorthand and that the foregoing pages are a true and correct transcript of those proceedings that were reduced to printed form by me to the best of my ability.

I FURTHER CERTIFY that the Reporter's Record of the proceedings truly and accurately reflects the exhibits, if any, offered by the respective parties.

I FURTHER CERTIFY that I am neither employed by nor related to any of the parties or attorneys in this case and that I have no interest in the final disposition of this case.

MARY C. HANKINS, CCR, RPR
Certified Court Reporter
New Mexico CCR No. 20
Date of CCR Expiration: 12/31/2017
Paul Baca Professional Court Reporters