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 LONGWOOD WATER MANAGEMENT COMPANY, LLC FOR AUTHORIZATION TO INJECT INTO THE RANDY ALLEN FEDERAL SWD NO. 1 WELL FOR PURPOSES OF DISPOSAL, EDDY COUNTY, NEW MEXICO.

CASE NO. 20484

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

June 14, 2019

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 Friday, June 14, 2019, 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.

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APPEARANCES

FOR APPLICANT LONGWOOD WATER MANAGEMENT COMPANY, LLC:

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EXHIBITS OFFERED AND ADMITTED

(8:25 a.m.)

EXAMINER GOETZE: Good morning, ladies and gentlemen. This is the continuation of Docket Number 20-19, Friday, June 14th. My name is Phillip Goetze. I will be your examiner today. To my right and to your left is Mr. Brooks. He will be counsel for the Division.

This is a continuation of the docket, and we'll follow through with what is already in order. We'll start with case number 74, which is Case Number 20484, application of Longwood Water Management Company, LLC for authorization to inject into the Randy Federal SWD No. 1 well for purposes of disposal, Eddy County, New Mexico.

Call for appearances.

MR. RANKIN: Good morning, Mr. Examiner. Adam Rankin, with the law firm of Holland & Hart, on behalf of the Applicant. We have three witnesses this morning.

EXAMINER GOETZE: Any other appearances?

Would the witnesses please rise, identify yourself to the court reporter and be sworn in, please?

MR. ROBINSON: Bradley Mason Robinson.

DR. FROST: Edmund Locke Frost.

MR. VERSCHOYLE: Marshall Brooks

Verschoyle.

(Mr. Robinson, Dr. Frost and Mr. Verschoyle sworn.)

MR. RANKIN: Mr. Examiner, I'd like to call my first witness, Mr. Brooks Verschoyle.

EXAMINER GOETZE: So call your first witness.

THE WITNESS: Good morning.

MARSHALL BROOKS VERSCHOYLE,

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

DIRECT EXAMINATION

BY MR. RANKIN:

Q. Good morning, Mr. Verschoyle. Will you please state your first [sic] name and spell it for the court reporter?

A. Marshall Brooks Verschoyle, V, as in Victor, E-R-S-C-H-O-Y-L-E.

Q. And by whom are you employed?

A. Matador Energy Company.

Q. And is Matador Energy the company -- the Applicant in this case, or are they a related entity to the Applicant in this case?

A. Longwood Water Management Company is the Applicant, which is an affiliated MRC Energy.

Q. Okay. And what is your role with MRC Energy?

A. I am the surface land manager for MRC Energy and all the related entities.

Q. And what do your job duties entail as the surface land manager?

A. I deal with all surface matters as it relates to the midstream and the E&P side of the business and negotiate all surface agreements, including water disposal agreements and things of that nature.

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

A. No. This is my first time to testify.

Q. Would you please briefly review your educational background and your relevant work experience as a petroleum landman?

A. I'm a graduate of the University of Mississippi. I have a degree in business with a minor in petroleum land management. I've been employed with MRC Energy for five years now in certain various capacities as a landman up to my current position as surface land manager. I've worked in the Eagle Ford Basin, as well as primarily the Delaware.

Q. So you're familiar with the application that was filed in this case?

A. That's correct. Yes.

Q. And you have conducted a study of the lands and the ownership of the lands of the parties who were entitled to notice under the Division rules?

A. Correct.

MR. RANKIN: Mr. Examiner, I would now tender Mr. Verschoyle as an expert witness in petroleum land matters.

EXAMINER GOETZE: He is so qualified.

MR. RANKIN: Thank you, Mr. Examiner.

Q. (BY MR. RANKIN) Now, Mr. Verschoyle, will you please just review, sort of give a summary -- I know you're a landman and not a technical witness, but if you would just kind of summarize what it is that Longwood is seeking with the application in general.

A. Longwood is seeking authorization for disposal injection -- injection disposal of produced water into the Devonian Formation through the Randy Allen SWD No. 1 situated in Section 12 of 26-31 in Eddy County, New Mexico.

Q. And approximately how many barrels of produced water is Longwood seeking to inject?

A. We're seeking to inject on average 40,000 barrels a day maximum up to about 45,000.

Q. And I think you already mentioned this, but the proposed injection interval will be the Devonian

Formation?

A. That's correct.

Q. Do you know what the intervals will be?

A. Roughly 16,883 feet to 17,863 feet.

Q. And, again, there is going to be an engineer who will address this, but what are the maximum surface injection pressures for this well?

A. The maximum pressure will be 3,376 psi on an average of 2,500 psi.

Q. Will this be an open or closed system?

A. This will be a closed system.

Q. And it will be -- serve as a commercial well?

A. It will serve as a commercial well.

Q. And what is the status of the land on which the well is located -- is going to be located?

A. This -- this is BLM surface and BLM minerals.

Q. And has the company prepared an exhibit, a C-108, that lays out all the information necessary for approval of this application?

A. Yes. Correct. Brian Wood of Permits West prepared the C-108.

Q. Has that been marked as Exhibit A in your exhibit packet before you?

A. Yes.

Q. And Permits West prepared the C-108 at

Longwood's direction based on publicly available information and business records provided by Longwood to Mr. Wood?

A. Correct.

Q. Does the C-108 contain all the information, to your understanding, that's required for approval?

A. Yes.

Q. And is this an existing project or -- is it an expansion of an existing project, or is this a new application, new project altogether?

A. This is a new project altogether.

Q. I think you already kind of gave a callout to the location of this well, but if you turn to what's been marked as Tab Number 3 in your Exhibit A, will you please review for the examiners the general location of the proposed well and situate us generally?

A. Yeah. Generally speaking, this well is located approximately 23 miles southwest -- or excuse me -- southeast of Malaga, New Mexico. It's located in Section 12 of 26-31. It'll be, more specifically, in the -- the southwest of the southeast right along the section line.

Q. Now, is the next page behind that map a draft C-10- -- C-102 designation plat showing the location of the well within that section?

A. Yes.

Q. The footages are the same footages that you're proposing today?

A. Correct.

Q. Now, Mr. Verschoyle, to whom has notice been provided of this application?

A. We have provided notice to all operators and leasehold interests, if not -- not -- leasehold interests and to all operators.

Q. And then what about the surface owner in this case?

A. And surface owner as well, which is the BLM.

Q. So if there was an operator, then you've given us the operator, but you didn't -- in that situation, you wouldn't have given notice to the lessees?

A. Correct.

Q. So let's dig a little bit into that. And to what extent did you give notice?

A. To a one-mile radius around the surface-hole location.

Q. Okay. So let's dig into that a little bit. Turn to what has been marked as Tab Number 4 in the exhibit before you. What does this exhibit show?

A. Exhibit -- Exhibit B will show you the surface-hole location, exact coordinates, as well as the

one-mile radius. And all the operators were notified within the one mile.

Q. Okay. Within this one-mile radius -- this map shows also the wells that are within the one-mile radius of this proposed well?

A. Correct.

Q. If you flip to the next page, this is a list of all those wells; is that correct?

A. Correct.

Q. And when you get past that tabulation of the wells, the next page is a map showing the two-mile radius of all the wells within that area?

A. Correct.

Q. Now, looking at the next tab, Number 5, in your exhibit packet, does this map reflect all the actual leases within the one-mile area of review?

A. Yes.

Q. And the next page, is that a table reflecting the operators for each of those leases and then, in addition, the lessees of record?

A. Yes.

Q. So where there was no operator, a lessee of record would have been noticed --

A. Correct.

Q. -- if they were the current lessee of record?

A. Correct.

Q. Now, flipping to Exhibit B, which is in your exhibit packet, Mr. Verschoyle, is this a copy of the affidavit prepared by my office reflecting that we have given notice to the parties identified by you who are entitled to notice within the one-mile area of review?

A. Yes.

Q. And the next page, is that a copy of the letter that was sent out to each of those parties reflecting that this application was set for hearing yesterday, June 13th, and continued to today?

A. Yes.

Q. And the following pages, are those USPS postal service tracking information sheets showing that we provided notice of that hearing?

A. Yes.

Q. And if you follow through to the very end -- not quite the very end, I suppose, two pages before the end, is that a list of all the parties who you identified for me as being entitled to notice of this hearing, surface owners, as well as those within the one-mile area of review?

A. Yes.

Q. And the page after that, is that a copy of the Affidavit of Publication indicating that we provided

notice of this hearing in the "Carlsbad Current-Argus" giving notice to each of the parties by name of the spacing unit?

A. Yes.

Q. Now, again, you oversaw the work identifying each of these notice parties?

A. Correct. I did.

Q. And notice was provided based on the title of the lands and the county records and BLM operator records and OCD operator records?

A. Correct.

Q. As of the time the application was filed?

A. That's correct.

Q. Now, in your opinion, did Longwood undertake a good-faith effort to identify and locate all the correct parties and valid addresses and correct addresses of all the persons and entities entitled to notice today?

A. Yes, we did.

Q. Were there any unlocatable interests, that is, parties of whom you were unable to identify correct addresses?

A. No.

Q. To the best of your knowledge, are the addresses that we used to provide notice valid and correct?

A. Yes, to the best of our knowledge.

MR. RANKIN: Mr. Examiner, at this time I would move the admission of Exhibits A and B into the record.

EXAMINER GOETZE: Exhibit A and B are so entered.

(Longwood Water Management Co., LLC Exhibits A and B are offered and admitted into evidence.)

MR. RANKIN: No further questions. Pass the witness.

EXAMINER GOETZE: Thank you.

Do you have any questions?

EXAMINER BROOKS: I have no questions.

CROSS-EXAMINATION

BY EXAMINER GOETZE:

Q. Good morning.

A. Good morning.

Q. So this is a subsidiary owned by Matador?

A. Correct.

Q. And how does this work with Black River Water Management?

A. It's a sister company.

Q. Okay. So we have multi-companies?

A. Yes. We have multi-companies.

Q. Okay. So we're looking at commercial. That means you're going to accept waters from other parties other than Matador?

A. Correct.

Q. And your analysis will represent that; is that correct?

A. Correct.

Q. Was any state land involved within the one-mile radius?

A. No, sir.

Q. Okay. I will ask you, though, if we go to the great Exhibit Number 5, that you resubmit Exhibits D and E such that the circle does include lands so that we just have this on record. The radius goes outside.

A. Of?

Q. There is a one-mile radius. There is the legend. I don't think you notified the legend. So if you could extend the map a little bit so that when other people come in and want to take you on, that we've done notice properly and your exhibit does show it. Okay?

A. Okay.

Q. So resubmit that --

A. Yes, sir.

Q. -- so it's not challenged.

MR. RANKIN: Understood.

THE WITNESS: Yes.
EXAMINER GOETZE: Other than that, I don't have any further questions for you.
THE WITNESS: Okay. Thank you.
EXAMINER BROOKS: Well, Mr. Goetze --
EXAMINER GOETZE: Yes.
EXAMINER BROOKS: -- what is the radius of the circle?
EXAMINER GOETZE: It's one mile.
EXAMINER BROOKS: Are these sections or -- that doesn't fit with the pattern.
EXAMINER GOETZE: Well, it does because here's 12 and here's 13 (indicating), so the quarter-quarter bottom over here should be included.
EXAMINER BROOKS: Oh, I see. Yeah. The radius is one mile. The diameter is much larger because it's times the radius.
EXAMINER GOETZE: There you go.
Anything else?
EXAMINER BROOKS: No.
EXAMINER GOETZE: Okay. We're done.
EXAMINER BROOKS: Mr. Rankin was laughing probably because I mentioned pi, which a person my age, who's been a lawyer all this time, probably wouldn't know about pi unless he learned it in junior high

school.

MR. RANKIN: We used to calculate the radius distances for NSLs before they changed the rules. So lawyers were doing math problems --

EXAMINER BROOKS: Well, we used to have to do all kinds of things like that to write title opinions before they got computers. You had to make a decision on a title opinion to come out to 100 percent and that wasn't easy.

MR. RANKIN: Thank you, Mr. Verschoyle. You may be excused.

THE WITNESS: Thank you.

MR. RANKIN: Mr. Examiner, I'd like to call our next witness, Dr. Ned Frost.

EXAMINER GOETZE: Very good. So you have three witnesses, Dr. Frost, and who's your third witness?

EDMUND "NED" L. FROST III, Ph.D.,

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

DIRECT EXAMINATION

BY MR. RANKIN:

Q. Good morning, Dr. Frost. How are you?

A. Doing well.

Q. Please state your name for the record.

A. Edmund Locke Frost III.

Q. By whom are you employed?

A. I'm employed by MRC Energy.

Q. And, again, MRC Energy is -- what's the relationship with Longwood?

A. It's an affiliate with Longwood.

Q. In what capacity are you employed?

A. I'm the vice president of geoscience for MRC Energy and all the affiliates.

Q. Have you previously had the opportunity to appear before the Division?

A. I have.

Q. And at that time, were your credentials as an expert in petroleum geology accepted and made a matter of record?

A. Yes.

Q. Are you familiar with the C-108 application that's filed in this case?

A. I am.

Q. Did you conduct a study of the lands and the geology in the surrounding areas that are the subject of this application?

A. Yes, I have.

MR. RANKIN: Mr. Examiner, I would move to retender Dr. Frost as an expert witness in petroleum

geology.

EXAMINER GOETZE: He is so qualified.

Q. (BY MR. RANKIN) Now, Dr. Frost, you've conducted a study of the geology in the area?

A. I have.

Q. And if you look at the C-108 form, there is a requirement under Roman numeral VIII that certain geologic information be included within the application. Does the C-108 contain all the geologic information that you understand is necessary for approval?

A. Yes, it does. And I believe that starts on the bottom half of page 3 of the C-108.

Q. That would be behind -- I believe it's behind Tab 2?

A. That is correct.

Q. Just referring to those pages and the sort of overview there, formation tops of the area, can you just kind of give a general overview for the Division on what the geology is here in the area and the stratigraphy?

A. Sure. So we're basically in the center of the Delaware Basin here. The stratigraphy is really a quaternary and, I guess, Cenozoic rocks from the surface down to the Rustler anhydrite, which is about 1,300 feet. And then below the Rustler, we get into the Salado and Castile, both of which are evaporite

successions. Below the Castile, at 4,277, we start into the Delaware Mountain Group, which is a series of sandstones, and that's the Bell, the Cherry and the Brushy Canyons Formations. And below that, at 9,134, we come into the Bone Spring Formation, which is a mix of deep-water lime and deep-water sands.

Beyond that succession, we come into the Wolfcamp at roughly 11,500 feet. The Wolfcamp extends down into the Pennsylvanian, which we start with the Strawn. The Wolfcamp's a mix of carbonates and shales and, to a lesser degree, sands. Strawn, Atoka, Morrow make up the Pennsylvanian section. And then we have the Barnett at 16,226, the Mississippian lime at 16,418, the Woodford at 16,754, and that, again, is a shale. And then we come into the Devonian carbonates at 16,873. And then our disposal interval is roughly 1,000 feet thick, and then below that, the Montoya would be projected at 17,873. And then beyond the Montoya, we would have shales of the Simpson Group, and then we get down into the Ellenburger below that.

EXAMINER BROOKS: Is there an exhibit that shows all this?

THE WITNESS: Yes. So it's on page 4 of our C-108, and that's in Tab 2.

EXAMINER BROOKS: Page 4.

MR. RANKIN: So, Mr. Brooks, if you were to find Tab 2, the first page --

EXAMINER GOETZE: Keep going.

EXAMINER BROOKS: The pages are actually numbered.

EXAMINER GOETZE: Yeah.

MR. RANKIN: I may have made it more confusing by inserting tabs, but --

EXAMINER GOETZE: Yes, you did (laughter). You can't win, but that's okay.

Q. (BY MR. RANKIN) Thank you, Dr. Frost.

Now, the target here is within the Devonian, and, in your opinion, is the Devonian Formation in this zone in this area capable of accepting the volumes and the rates you're proposing with this well?

A. Yes. The Devonian's about 1,000 feet thick. It's an interval of lumpy dolomite and limestone, and I think it's suitable for injection.

Q. And what's the basis for your opinion that it's capable of receiving these volumes?

A. So from the MRC affiliates, other SWDs, in Eddy County, those have all been successful offset SWDs in the area and then proprietary log and seismic data that MRC holds.

Q. All indicate --

A. Yes.

Q. -- that the zone is capable of receiving --

A. Yes.

Q. And that's, in fact, the practice they have?

A. Yes.

Q. Now, you've examined the available geologic data on this reservoir? Obviously, we're talking about some of this data.

A. Yes.

Q. Now, has Longwood also now included a written, signed geologic statement that the available geologic engineering data has been reviewed, and there is no evidence of a hydrologic connection between the proposed injection interval and the underground sources of drinking water?

A. Yes.

Q. Is that contained in the C-108 behind what's been marked as Tab Number 8 within Exhibit A?

A. Yes. That's correct.

Q. And that was signed by Mr. Jake Carrington; is that right?

A. Yes.

Q. Is he a colleague of yours?

A. Yes. He's one of my direct reports.

Q. Okay. Now, in your opinion, will not only the Devonian be capable of accepting the fluids here you're injecting, but will it be able to contain within the zone the volumes you're injecting?

A. Yes. There are impermeable layers above and below. As we mentioned earlier, the top seal would be the Woodford Formation, which is, I believe, in this area a 700-foot-thick shale. And then below that, you would have the Simpson Group as a basal seal, and that is also a shale interval.

Q. Okay. So in your opinion, there is no -- no ability for the fluids to -- to -- to migrate out of the zone?

A. No. An analysis of the seismic shows that there are no faults around the injection site that would provide any type of fluid to escape.

Q. What about prospectivity for hydrocarbons? Is the Devonian at all prospective in this area?

A. Not to my knowledge.

Q. And are there any other prospect zones above or below the Devonian here?

A. The primary zones that the industry is interested in right now would be the Delaware Mountain Group, the Bone Spring sands and the shale of the Avalon Formation, and that would be within the Bone Spring, and

then the various intervals within the Wolfcamp.

Q. And because of those seals that you just identified, are those prospective zones at risk at all for flooding or impairment from the injection from this well?

A. No. You have a significant vertical offset between the injection zone and the -- and the lowest-producing zone.

Q. Okay. What about fresh water? Are there freshwater zones within the area below the injection zone?

A. Yes, there are.

Q. What -- what formations would be containing fresh water?

A. So fresh water primarily in this area comes out of quaternary sediments, and those -- the wells we've identified are really 700 feet or less. So --

Q. The most shallow formation is where the fresh water has been identified and being used within the area?

A. That's correct.

Q. Are there any freshwater wells that Longwood is able to identify within the one-mile area of review?

A. Not on the State Engineer's site, but there was a windmill that was found about 2,800 feet, I believe,

to the southeast of the location.

Q. And that's the -- I think that's actually been included in the C-108. If you turn to what's been marked as Tab 6, is that a map depicting the one-mile radius around the proposed well?

A. It is.

Q. And I think -- is that -- can you identify for the examiners where that windmill is located?

A. Yeah. So right where it says "Sample Point," the Battle Axe West Windmill in Section 13.

Q. And the next page, is that a -- is that a stage nearest the database reflecting the search that was done to identify wells within a two-mile radius?

A. Yes, it is.

Q. And then the tab after that, Tab Number 7, is this the water chemistry analysis for the water that was collected from the windmill site?

A. It is.

Q. Now, in your opinion, Dr. Frost, will this proposed injection at this location pose a threat to any source of underground drinking water or fresh water in the area?

A. No.

Q. And is that your opinion because the sealed strata will contain the injection fluids within the zone

you're targeting?

A. That's -- that's part of it. We think the seals are capable above and below, and then you have close to three miles of vertical separation between the injection zone and -- and the shallow aquifers.

Q. Okay. Now, let's switch gears a little bit here and talk about an additional analysis that you've done in light of the high rate of volumes of injection that are proposed in the Devonian. Did you also undertake an analysis of the potential -- fault slip potential as a result of these injections -- this injection into the Devonian?

A. Yes.

Q. And has that been marked as Exhibit Number [sic] C in your exhibit packet?

A. Yes.

Q. This is a summary of the analysis you undertook; is that correct?

A. That's correct.

Q. Will you review for the examiners what -- just sort of the inputs, what you did, what you looked at? Will you walk through your methodologies and then talk about what you concluded as a result?

A. Okay. So for every SWD location that MRC Energy or its affiliates undertakes, we first and

foremost analyze the location against our 3D seismic data set. I will come in and build a fault framework, identify any faults throughout the section, map those. And then we will utilize Stanford's Fault Slip Potential program, identify which of those faults are hazards. It's basically Matador's policy not to inject by any fault. So that is a first step, is to locate the faults.

In this case we used the Randy Allen location at 40,000 barrels a day until the year 2020 -- or 2050 -- sorry -- and seven other offsetting wells all injecting at 40,000 barrels. Within this study area, which here is a 46-square-mile seismic cube that Matador has licensed, we identified 26 faults. However, in the interest of minimizing risk, we took that fault population and used their orientations and then stochastically located a population of 500 faults. So we modeled far more faults than we identified, and we kind of view that as a more stringent task of evaluating fault slip potential.

So we took that fault population, plugged that into Stanford's fault slip code, and then really the other inputs come from Matador proprietary data or data that has been provided by the Stanford Center for Induced Seismicity, induced seismicity group. So Mark

Zoback and Jens Lund Snee have put together a number of papers giving stress orientations in the area and then have also plugged in sort of the faulting styles there. So we use their data primarily. We've vetted that data with our own data and pilot holes elsewhere, and we're comfortable with its usage, and then we -- we use either data collected from our own pilot holes or other data sets. And that's summarized on the second page of the Exhibit C. We have our input parameters at their variability and then their sources.

Q. In addition, on that second page of the exhibit, is the table that reflects each of the eight wells, including the Randy Allen, that you used to model the injections over that period of time?

A. Yes. That's correct.

Q. And based on those inputs and your assessment, what, in your view, are your conclusions about the relative risk of the faults?

A. So at the end of 50 years -- or 30 years -- sorry -- at 2050, we see a modest increase in pore pressure across the study area. The pore pressure increases by about 210 psi, and at that depth, that's basically twelve-hundredths of a -- of a psi per foot, so a pretty modest pore pressure increase, but there is a noticeable increase.

And based on the model inputs and the faults that we've put in here, we're basically seeing less than a 10 percent -- actually, really less than a 5 percent fault slip potential on any of the features here. So we view this as a low-risk setting. And, again, I think it's worth reiterating that this location was placed to avoid faults, so I think that also decreases the risk.

Q. In your opinion, Dr. Frost, will the granting of this application be in the best interest of conservation, the protection against waste and protection of correlative rights?

A. Yes.

MR. RANKIN: Mr. Examiner, at this time I would move the admission of Exhibit C into the record and pass the witness.

EXAMINER GOETZE: Exhibit C is so entered.

(Longwood Water Management Co., LLC Exhibit C is offered and admitted into evidence.)

EXAMINER GOETZE: Questions?

EXAMINER BROOKS: No questions.

CROSS-EXAMINATION

BY EXAMINER GOETZE:

Q. Welcome back, Dr. Frost.

A. Happy to be back. Thank you.

Q. Before we go on, as far as clarity of the interval, when you say Devonian, we're going to say Siluro-Devonian so it covers everybody, and we will make that part of the record, because we have a bunch of geologists coming together, and everyone has a different opinion.

A. Yes.

Q. So let's just go ahead and make sure it covers everything to the top of the Ordovician.

A. Okay.

Q. I like the model. I would request --

EXAMINER GOETZE: And I'm going to make my lawyer upset.

And let's see. Is Deanna here?

MS. BENNETT: I'm here.

EXAMINER GOETZE: Currently we have a case going on involving Case Number 20472, involving Mesquite and the Baker SWD No. 1. I would ask that you go ahead and rerun the model with that included in it, if you could, please.

THE WITNESS: Okay.

EXAMINER GOETZE: And we'll get that sent via to us, and it will be available.

MS. BENNETT: Thank you.

THE WITNESS: Okay.

Q. (BY EXAMINER GOETZE) Don't go away yet.

So source of the seismic information, how much of it was proprietary?

A. Of the seismic, all of it is proprietary. Matador has licensed close to 1,500 square miles, but all of that is still proprietary.

Q. So this is a third-party holder, or is it your own?

A. No. It's FairfieldNodal who holds the data, but under the terms of our agreement with them, this data is meant to be held confidential.

Q. Very good. I just wanted to get clarity on that.

And your porosity selection, 1,000 feet, is that -- 200, is that variable? Above and below that, you're looking at 800, 1,200 as being -- is that what you're working with?

A. Beg your pardon?

Q. For the model, we say 1,000?

A. Yeah. So the plus or minus on that is to account for potential reservoir variations. We, at this point, haven't drilled the well, so we don't know exactly how thick it is, but from offsets, we believe it's within the 1,000-foot range.

Q. Okay. That's what I wanted to see.

EXAMINER GOETZE: I have no further questions for this witness.

MR. RANKIN: Thank you, Mr. Examiner.

EXAMINER GOETZE: Thank you.

MR. RANKIN: Request that he be excused.

THE WITNESS: Thank you.

MR. RANKIN: I'd call our third and final witness in this case, Mr. Brad Robinson.

BRADLEY M. ROBINSON,

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

DIRECT EXAMINATION

BY MR. RANKIN:

Q. Mr. Robinson, will you please state your full name for the record?

A. Bradley Mason Robinson.

Q. By whom are you employed?

A. MRC Energy.

Q. And what is your job title with MRC?

A. I'm the executive vice president of reservoir engineering and the chief technology officer at MRC Energy.

Q. What do those job duties entail?

A. Two things primarily. I'm in charge of all reservoir engineering-related projects for both

production and saltwater disposal wells. My group also does the corporate reserves for the company, which we file semiannually with the SEC.

Q. And do those responsibilities include oversight of the activities for Longwood in the Permian Basin?

A. Yes.

Q. And have you previously had the opportunity to testify before the Division and had your credentials as an expert petroleum engineer accepted as a matter of record?

A. I have.

Q. And you're familiar with the application filed in this case and the C-108 that was prepared?

A. I am.

Q. Have you conducted a study of the well, its operation, design and the offsetting wells in the area?

A. Yes, I have.

MR. RANKIN: Mr. Examiner, at this time I would retender Mr. Robinson as an expert in petroleum engineering.

EXAMINER GOETZE: He is so qualified.

MR. RANKIN: Thank you, Mr. Examiner.

Q. (BY MR. RANKIN) Let's move in to the well that Longwood's proposing. Let's look at -- talk a little bit about the well design and its components. If you

turn to Tab 1 in Exhibit A. Just review for the examiners sort of generally what the well construction will be and what it will look like.

A. So yes. Exhibit A shows the proposed casing design program and drilling program for the Randy Allen Fed SWD No. 1. You can see that we've designed multiple casing strings to cover the shallow and intermediate depths for the well, and then -- so there will be three strings of casing set prior to drilling the final portion of the hole, in which case we will set a liner there, a 7-5/8-inch liner, all the way down to the top of the Devonian -- or the Siluro-Devonian at roughly 16,880 feet.

Q. Okay. And how will Longwood monitor the injection integrity of the well?

A. So we'll be setting a 5-1/2-inch tubing, is the proposed tubing size, with a packer at the base of the liner. We will fill that annular space with an inert packer fluid to protect both the casing and the tubing, and it will be monitoring surface pressure at the wellhead to see if there are any leaks or anything like that that are established.

Q. How about the integrity of the cement prior to injection? Does Longwood propose to do anything to confirm its cement in this well?

A. Absolutely. We'll be running some sort of cement integrity logs, either the acoustic type of bond logs or temperature surveys to establish the top of the cement and the quality of the bonding to the casing.

Q. And prior to injection, are there any plans for stimulation of any kind?

A. We'll do an acid treatment on the Devonian in order to stimulate the rocks somewhat. We anticipate there could be some mud damage associated with drilling the Devonian, so we'll want to clean up the formation to allow maximum injectivity.

Q. And let's talk a little bit about your engineering review of the wells in the one-mile area of review. Flip to Tab Number 4 in your packet. And this, again, is the one-mile radius around the well; is that correct?

A. Uh-huh. Uh-huh.

Q. And this identifies the wells in the offset one-mile area of review; is that right?

A. That's correct.

Q. And the next page is a tabulation of all those wells; is that correct?

A. That is correct. It shows all the wells within that one-mile radius around the well.

Q. Are there any wells that you've identified in

the area that actually penetrate the Devonian or even the injection interval?

A. No. No. All these wells are shallower than the Devonian interval.

Q. So in your opinion, is there any risk that the integrity of these wells and offsetting wells will function as a conduit for this injected fluid into any other zones around this area?

A. No, they shouldn't. They're all shallower by several thousand feet.

Q. Now, in that case no remedial work is required?

A. Shouldn't be any remedial work required either.

Q. Okay. Right.

Now, are there any other Devonian injectors that you've identified nearby?

A. Not within the one-mile radius. There is one Devonian injector about 1.6 miles to the northeast of us, and so -- but it's outside the one-mile radius.

Q. I think if you look on Tab 4, there is a one-mile map there.

A. Yes.

Q. Can you identify and locate that SWD on this map?

A. Yeah. If you look up in Section 6, you'll notice one of the well symbols there with "SWD" beside

it. That is the other saltwater disposal well that's in the Devonian.

Q. Is that Mesquite's Paduca --

A. Yeah, the Paduca well.

Q. -- SWD No. 6?

A. Yes, it is.

Q. Now, let's talk about the operations of this proposed well. What's the maximum operating surface injection pressure for this well?

A. So we will not exceed the state-mandated .2 psi per foot, or that calculates out to be around 3,376 psi. We anticipate the surface injection pressure will be much less than that.

Q. And just remind us what the volumes -- what you expect the volumes to be on average, maximum?

A. So on average of around 40,000 barrels per day, but we do not expect to exceed 45,000 barrels per day.

Q. And at those rates, do you expect to stay within the maximum operating pressure?

A. Yes. Based on my calculations, we should be well below and within the operating pressure.

Q. Now, is that a consequence in part of using this 5-1/2-inch tubing, a little bit larger tubing diameter size?

A. That's very big part of it. We're able to

inject the larger volumes at much lower surface injection pressures as a result of running the larger tubing.

Q. Explain why that is.

A. Well, the friction pressure, primarily. When you think about pumping down, you know, almost three miles of pipeline, you do build up quite a bit of friction pressure, and so the larger diameter helps lower that surface injection pressure, so that keeps us below the maximum.

Q. So besides the operation, what are some of the other benefits that you are seeing as a result of using these slightly larger injection tubing sizes?

A. Well, one thing, it will allow us to drill fewer SWD wells, and I think that's probably as big a benefit as anything. It lowers our surface footprint. Again, we can drill fewer saltwater disposal wells and, of course, saves Matador or MRC Energy money when we drill fewer disposal wells.

Q. Now, talking about the injection here, we haven't yet addressed what are the sources of fluids you'll be injecting. Do you have a sense of what the different formations will be?

A. Yes. There is production -- Matador anticipates drilling a substantial number of wells in

this area out of both the Bone Spring and the Wolfcamp, possibly some Delaware Mountain Group wells. So waters from each of those different types of formations are expected to be injected into this disposal well.

Q. And Matador has included -- rather, Longwood has included an analysis of the water chemistry for the source liquids in this C-108. Are those contained behind Tab Number 5? No. Sorry.

A. Yes. Yes.

Q. Yes. They are behind it. Yes. They are the last page of that series of --

A. Right. I believe it's labeled Exhibit F, where we've obtained water samples from various formations in the area, and we've reviewed the chemistry and the chemical analysis for those waters.

Q. My fault. Yeah. They are the last series of pages behind Exhibit -- Tab 5. Sorry.

EXAMINER GOETZE: Your tabs do you well.

THE WITNESS: It's easier for me to put this together.

Q. (BY MR. RANKIN) Right.

Now, if Longwood -- I think that's right. Yeah.

And based on your prior history of injecting these same source fluids into the Devonian,

are you -- have you done any risk of compatibility issues or scaling or other harm that might result to your well as a result of the mixing of these fluids?

A. We don't think so. We -- we have prior experience, as you mentioned, with other Devonian saltwater disposal wells within our Rustler Breaks area, same formation, same water chemistry, roughly, that we're injecting up there. We mentioned the Paduca well a little earlier. They've been injecting water from these same formations, almost 12 million barrels, I believe, cumulatively, and there is no public record of any issues with that well. So we don't anticipate that we'll have any problems.

Q. In your opinion, Mr. Robinson, will the granting of this application be in the best interest of conservation of resources, protection against waste and the protection of correlative rights?

A. I do [sic].

MR. RANKIN: Mr. Examiner, at this time I would pass the witness for further questions.

EXAMINER GOETZE: Thank you.

Mr. Brooks?

EXAMINER BROOKS: No questions.

CROSS-EXAMINATION

BY EXAMINER GOETZE:

Q. Welcome back.

A. Thank you. It's great to be back. Y'all just --

Q. Yes. We're perfect hosts.

(Laughter.)

A. Perfect weather, yes. Thank you.

Q. Two items: One, are we going to have some sort of SCADA system on this as far as -- well, I'll expand. Are we going to have a surface facility, and then are we going to have a SCADA system to this?

A. We will have SCADA in the context that we're going to be monitoring everything electronically 24/7, pressures especially and volumes. So yes. I mean, we'll have a facility there. We will track all the volumes, both Matador volumes and any third-party volumes that we may accept, and, of course, transfer the waters, measure the volumes and the injection pressures.

Q. I just wanted to see what scale, what we're looking at, since it's a singular well in this area. We have the other one, the Jack -- what is it? -- the Jack Hammock Federal that you're also proposing.

A. Uh-huh.

Q. So this is part of an effort by Matador to

support its own system?

A. Primarily. That's our number-one goal here. We're going to be drilling some wells nearby, BLM acreage that we acquired last fall. And the primary purpose of this well is to handle all of the Matador-produced water, and if we have some capacity left over, we'll entertain a third party.

Q. Okay. Any thoughts on going up to 7-5/8 on the upper portion of this like other folks have done?

A. We talk about it.

Q. Okay.

A. We're happy. We're in a good place right now, but that's something that we certainly are talking about and thinking about. Our drilling department, operations department are looking at designing wells to handle the larger injection tubings, but right now we're just proposing the 5-1/2-inch.

Q. So you'd be satisfied with 5-1/2 in the order as far as restrictions?

A. Currently, based on our plans, this is all we believe we'll need. If there is reason to need more, we will certainly come back --

Q. Okay.

A. -- to the Commission and have that discussion.

Q. Well, I wouldn't require that, but once we

issue the order, backtracking is a little harder for us to do. So we will go on the assumption that you'll scale up at some point.

A. That's probably a good assumption.

Q. Thank you.

With that, this is a federal, so it will be BLM doing the final design. But I will note that the 9-5/8, you're probably going to be running cement to top of casing if you're issued an order as opposed to just tying into the 13-3/8.

So other than that, I have no further questions.

MR. RANKIN: Mr. Examiner, if I may just clarify one thing. Is it the Division's position that should Longwood seek to increase the -- go up to 7-5/8, that they can do so administratively?

EXAMINER GOETZE: Yeah, that's the problem, once we put it in the black and white of a hearing order, then you have to revisit us, before an examiner. So it's something that is --

EXAMINER BROOKS: In my experience with SWD orders -- which you know how to do it and I don't. But my experience was that in some contexts, we would put in a hearing order a provision that certain modifications could be made by administrative order. And I see no

reason why it would be illegal to do that, since under our rules, hearing orders prevail over rules.

EXAMINER GOETZE: And we also include in the hearing order the aspect that if you do a step-rate test, you can get an increase in pressure. So we'll put a clarity into that and state that it is also something that the director can approve provided you give enough information to give us the ability to evaluate it.

MR. RANKIN: Yeah. I think if we could include some flexibility to approve that increase administratively with the submission of additional information, I think that would be an ideal situation.

EXAMINER GOETZE: You might be a trendsetter.

We'll do it that way.

No further questions?

EXAMINER BROOKS: No questions.

MR. RANKIN: Mr. Examiner, I would ask that this case be taken under advisement.

EXAMINER GOETZE: Thank you. Case Number 20484 is taken under advisement.

We're going to take a ten-minute break.

(Recess, 9:15 a.m. 9:34 a.m.)

(Case Number 20484 concludes, 9:15 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.

DATED THIS 27th day of June 2019.

MARY C. HANKINS, CCR, RPR
Certified Court Reporter
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