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 NGL WATER SOLUTIONS PERMIAN, LLC FOR APPROVAL OF A SALTWATER DISPOSAL WELL IN LEA COUNTY, NEW MEXICO. CASE NO. 20658

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

August 8, 2019

Santa Fe, New Mexico

BEFORE: LEONARD LOWE, CHIEF EXAMINER
MICHAEL McMILLAN, TECHNICAL EXAMINER
DANA Z. DAVID, LEGAL EXAMINER

This matter came on for hearing before the New Mexico Oil Conservation Division, Leonard Lowe, Chief Examiner; Michael McMillan, Technical Examiner; and Dana Z. David, Legal Examiner, on Thursday, August 8, 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.

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

FOR APPLICANT NGL WATER SOLUTIONS PERMIAN, LLC:

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EXHIBITS OFFERED AND ADMITTED

(8:33 p.m.)

EXAMINER LOWE: Our first case for today will be Case Number 20658, application for NGL Water Solutions Permian, LLC for approval of a saltwater disposal, Lea County, New Mexico.

Call for appearances.

MS. BENNETT: Good morning, Mr. Examiners. My name is Deana Bennett, and I'm here on behalf of NGL Water Solutions Permian, LLC, and I'm from Modrall, Sperling.

EXAMINER McMILLAN: Any other appearances?

MS. BENNETT: No.

I'm handing out the exhibit packet to you right now, and I have one witness, Mr. Neel Duncan.

NEEL L. DUNCAN,

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

MS. BENNETT: Good morning.

EXAMINER LOWE: Good morning.

MS. BENNETT: Thank you for being here.

DIRECT EXAMINATION

BY MS. BENNETT:

Q. Good morning, Mr. Duncan.

A. Good morning.

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

A. Neel Lawrence Duncan.

Q. And for whom do you work?

A. Integrated Petroleum Technologies.

Q. And have you been retained as a consultant by NGL?

A. I have.

Q. And what are your responsibilities for NGL?

A. Drilling and development of saltwater disposal wells in southeastern New Mexico within Eddy and Lea Counties.

Q. And so your responsibilities specifically include management and oversight of drilling SWDs?

A. Yes.

Q. Have you previously testified before the Division or the Commission?

A. I have.

Q. Were your credentials accepted as a matter of record?

A. Yes, they were.

Q. And are you familiar with the application that NGL filed in this matter?

A. I am.

Q. Are you familiar with the saltwater disposal well which is the subject of this application?

A. Yes.

MS. BENNETT: At this time I'd like to tender Mr. Duncan as an expert in operations and engineering matters.

EXAMINER LOWE: He is so qualified.

MS. BENNETT: Thank you.

Q. (BY MS. BENNETT) Mr. Duncan, let's turn to the exhibit packet that I prepared and that you have in front of you. Let's turn to Tab 1. Is Tab 1 the application that I filed on NGL's behalf for the Osprey saltwater disposal well that NGL is seeking approval of?

A. Yes.

Q. And what does NGL seek approval of in terms of the formation and the size of tubing and the maximum injection rate?

A. Yes. We seek approval for a Devonian, air quotes, injection well, injection below the Woodford Shale. And in this application, we were looking for installation of tubing of 7-inch-by-5-1/2-inch tapered design. So the casing will be big enough to accommodate an injection rate of 50,000 barrels per day.

Q. And NGL has previously requested the same tubing size; is that right?

A. That's correct, and we have approval orders for those.

Q. And just for Mr. David's sake, NGL has

submitted a number of applications to the Division; is that correct?

A. That's correct.

Q. And you've testified at the hearings on all of those applications?

A. Yes, I have.

Q. In fact, NGL met with the Division before going to the first hearing with --

A. Yes, last year.

Q. With Mr. Goetze?

A. Yes.

Q. And when NGL met with Mr. Goetze and -- representatives of NGL met with Mr. Goetze, did NGL provide examples of the exhibits that NGL intended to present at hearings and get confirmation from Mr. Goetze that those were the types of exhibits he intended to see.

A. Yes, we did.

Q. And did NGL discuss using specific experts with Mr. Goetze?

A. Yes.

Q. And were those experts Mr. Scott Wilson?

A. Scott Wilson was one of them.

Q. Yeah. And Dr. Kate Zeigler?

A. Dr. Zeigler for the geology --

Q. And Dr. Steven Taylor?

A. -- and Dr. Steve Taylor in geophysics.

Q. What's the benefit -- I think at this point, these larger Devonian wells -- these high-volume, deep Devonian wells are all asking for this larger tubing size, is that right? All operators are?

A. Yes, they are.

Q. What's the benefit of the larger tubing size?

A. The benefit is lower friction and reduced horsepower requirements, therefore, less energy to put the water into the ground.

Q. And with less energy and higher volume, does that mean fewer wells that are needed?

A. Yes. It's about a third fewer wells required.

Q. And so Exhibit 1 contains the application that I filed, plus the C-108 that is required for saltwater disposal well applications?

A. Yes.

Q. And the C-108 was prepared by Chris Weyand, a consultant that NGL uses?

A. Yes, under my direction.

Q. And the C-108 that we've included looks complete and accurate in your estimation and according to what Mr. Weyand has previously submitted?

A. Yes, it does.

Q. Let's turn to Tab 2. A moment ago we talked about Mr. Wilson. Is Mr. Wilson a reservoir engineer that NGL retained?

A. Yes. He's a senior reservoir engineer, vice president of Ryder Scott, and he's been retained by NGL, and his qualifications have been accepted by the Division.

Q. And he has previously -- yes. He has previously testified before the Division?

A. Yes.

Q. A number of times, right?

A. Yes.

Q. And he's testified on behalf of NGL?

A. Yes.

Q. And has he provided -- for this case, for Osprey, has he provided an affidavit, which is included in Exhibit 2, as well as a copy of his reservoir engineering study that he prepared for this well?

A. Yes.

Q. Is that the same type of materials that Mr. Wilson or that NGL presented to Mr. Goetze when NGL met with Mr. Goetze a year or so ago?

A. Yes. And it's the same type of material that we've submitted to get previous orders approved.

Q. And in this affidavit, does Mr. Wilson confirm

that an increase in the tubing size for this well will reduce friction in the wellbore?

A. Yes, he does.

Q. Does he also confirm that using increased tubing sizes will only have a very small impact on pore pressures in the formation?

A. Yes. That is correct.

Q. And is it his opinion that increasing the tubing size will not cause fractures in the formation?

A. Yes.

Q. Does he also conduct a study looking -- or a study that models migration of fluids that are injected into this well?

A. Yes. And he's determined that the fluids injected over a 20-year period will stay nominally within one mile of the well.

Q. And all of that information is contained in his study?

A. That's correct.

Q. And his study is found on pages 30 through 47?

A. Yes.

Q. And when he models the wells, he uses -- he doesn't just model the proposed well, right? He uses wells that he knows of in the area that are both proposed and active?

A. Yes, the surrounding wells in the pending application.

Q. And so his study is a broad study. It's not just limited to this particular well?

A. Yes. It's broad.

Q. Let's turn to Tab 3 now. A moment ago we talked about how NGL has retained a geologist, Dr. Kate Zeigler. And has Dr. Zeigler testified before the Division before?

A. Yes, she has, for NGL, and her qualifications have been accepted.

Q. And here is there a copy of Dr. Zeigler's affidavit?

A. Yes, behind Tab 3.

Q. And also behind Tab 3, is there a copy of Dr. Zeigler's study that she prepared for this well?

A. Yes.

Q. And does that study include a Broadhead chart on page 53?

A. Yes.

Q. And then isopach on pages 54 through 58?

A. Yes.

Q. And then does it also contain a cross section on page 59?

A. Yes, it does.

Q. And is this the same type of material that NGL presented to Mr. Goetze about a year or so ago?

A. Yes. It's geological evidence to show that the injected fluids are contained within the strata that we intend to inject in.

Q. And so in her affidavit, does Dr. Zeigler talk about the injection zone?

A. Yes, she does.

Q. And does she conclude that it's a good zone because of its permeability and porosity for injection?

A. Yes.

Q. And does she talk about upper and lower permeability barriers?

A. Yes.

Q. And does she conclude that based on the geology of the upper permeability barrier, that it will act as a reasonably good permeability barrier?

A. Yes.

Q. And does she reach the same conclusion for the lower permeability barrier?

A. Yes. Yeah. They're both confining layers.

Q. Does she conclude that there will be very little, if any, impacts on freshwater resources?

A. That's correct.

Q. Does she reach any conclusion about impacts on

correlative rights?

A. They will not impact correlative rights.

Q. And is that because there aren't any hydrocarbons or very few hydrocarbons, in her opinion, in the injection zone?

A. That's correct.

Q. And is that also because of the permeability barrier?

A. Above and below, yes.

Q. Let's turn to Exhibit 4. A moment ago we talked about Dr. Steven Taylor who is a seismologist; is that right?

A. Yes, he is.

Q. And has he been retained by NGL?

A. He has, and his qualifications have been accepted by the Division.

Q. And he has previously testified on NGL's behalf?

A. Yes.

Q. Does Dr. Steven Taylor operate a series of seismic monitoring stations in and around NGL's wells?

A. Yes, he does. In fact, he operates the stations in Colorado, New Mexico and Texas.

Q. And so he has -- he, in fact, has monitoring stations right at NGL's -- some of NGL's existing wells?

A. Yes.

Q. And is his affidavit included as Exhibit 4?

A. Yes.

Q. And behind Exhibit 4 on pages 63 to 67, are those the pages that encompass Dr. Taylor's study?

A. Well, yes, it's included in his study.

Q. And does Dr. Taylor look at both his own seismic monitoring data, as well as USGS monitoring data?

A. Yes, he does.

Q. And did he conclude that there is very little seismic activity in this area?

A. Yes.

Q. And that's based on his own observations of his seismic monitoring?

A. His own observations on the sites that he monitors for NGL plus the public data.

Q. Also included with Dr. Taylor's affidavit and study is a study prepared by Todd Reynolds of FTI Platt Sparks; is that right?

A. Yes. That's correct.

Q. And what is Mr. Reynold's study?

A. Todd's -- Mr. Reynold's study, he uses the Stanford Zoback model to model fault slip potential in known faults.

Q. And Mr. Reynolds has testified before the Division before, right?

A. Yes, he has.

Q. And his credentials were accepted as a matter of record?

A. Yes, they were.

Q. And Mr. Reynolds has testified about the Stanford fault slip probability analysis tool that he uses?

A. Yes.

Q. And do you know if the Division has approved of his use of the fault slip probability analysis tool?

A. Yes.

Q. And is his fault slip probability analysis contained on pages 60 to 83?

A. Yes. Rather, it starts --

Q. Sorry. At 68.

A. Exhibit 4B.

Q. Yeah. 68 to 83?

A. Uh-huh.

Q. And his -- the first few pages of his report outline the inputs that he uses, right?

A. Yes, they do.

Q. And then the next few pages, starting on page 72, that actually begins his fault slip probability

analysis?

A. Yes.

Q. And he includes any faults that are nearby --

A. Yes.

Q. -- in relative terms?

A. Yes.

Q. And he also models not just the potential for fault caused by this particular well but other wells in the area?

A. Yes.

Q. And did Mr. Taylor -- I'm sorry. Did Mr. Reynolds find that there is very little risk of induced seismicity?

A. Yes. It takes a real high pore pressure to move these faults. And the pore pressure would have to be more than 8,000 psi, and our maximum impact over 20 years is less than 1,000.

Q. And that's shown on -- his conclusions over time are on page 82, right? That's at year 2045?

A. Yes. Yes.

Q. And in the green -- sort of the highlighted with green on the right-hand side of the page, it shows fault slip for all of the faults he's identified at zero, right?

A. Yes.

Q. So even at 2045, he calculates, using this tool, that there will be zero percent of fault slip probability?

A. Yes. This is a very safe area for injection.

Q. And is this the same type of study and information that NGL presented to Mr. Goetze a year or so ago?

A. Yes.

Q. Let's turn to Exhibit 5. And Exhibit 5 is an affidavit prepared by me discussing the notice of this hearing?

A. Yes.

Q. On page 85, is that a list of names and addresses of folks to whom notice was provided?

A. Yes, it is.

Q. On page 87, is that a transaction report detail that shows whether those same entities or individuals actually received notice?

A. Yes.

Q. Is page 88 an Affidavit of Publication showing that notice of this hearing was provided in the "Hobbs News-Sun" --

A. Yes.

Q. -- on July 19th, 2019?

A. Yes. Yes. And it includes a legible copy of

the application.

Q. Were Exhibits 1 through 5 created by you, prepared under your supervision or direction or compiled from company business records?

A. Yes.

Q. In your opinion, does the granting of this application promote the prevention of waste and the promotion of correlative rights?

A. Yes, it does.

MS. BENNETT: At this time I would like to move that the exhibits behind Tabs 1 through 5 be admitted into the record in Case Number 20658.

EXAMINER LOWE: All exhibits pertaining to this case will be admitted to the hearing.

MS. BENNETT: Thanks.

(NGL Water Solutions Permian, LLC Exhibit Numbers 1 through 5 are offered and admitted into evidence.)

MS. BENNETT: At this time I have no further questions for Mr. Duncan.

EXAMINER LOWE: Do you have any questions, sir?

EXAMINER DAVID: No. I don't have any questions.

CROSS-EXAMINATION

BY EXAMINER McMILLAN:

Q. I just want to be clear. In Kate Zeigler's work, where does she say -- where does it say there is no connection between the injection zone and underground sources of drinking water? I just want to make sure it's clear for the record. That's all I'm doing.

A. Okay. Yeah. By -- with her statement, it's confined to the --

Q. It's in there?

A. -- to the Woodford Shale. Yeah. It's in --

MS. BENNETT: And if I can just clarify, it's in paragraph 11 of her affidavit.

EXAMINER McMILLAN: Perfect.

Q. (BY EXAMINER McMILLAN) I assume Dr. Taylor updated -- it's the same basic information, and he updated it for this one, right?

A. Yes. Yes.

Q. Okay. I'm trying to get that all clear for the record.

A. Yes.

MS. BENNETT: Yes. And if I can just point out, on page 64, Dr. Taylor has included more recent activity, including an event that happened on June 8th, 2019 and an event that he recorded July 17th, 2019. So

he does update his report with new events as they occur, and so that's on page 64, the last two events. So that does evidence the fact that he does update his report in advance of preparing these exhibits.

EXAMINER McMILLAN: Okay. That's --

EXAMINER DAVID: On second thought, I do have a couple of questions. Are you finished?

EXAMINER McMILLAN: I'm finished.

EXAMINER DAVID: Okay. Counsel, just for the record, looking at Exhibit 1, in the application document, I notice it was signed by Christopher Weyand. So what's Mr. Weyand's capacity to bind [sic] the Applicant?

MS. BENNETT: He's a consultant retained by the Applicant, and he has submitted -- he has prepared all of the C-108s on behalf of NGL that have been submitted to date.

EXAMINER DAVID: And so Mr. Weyand has a contract that allows him to make statements on behalf of the Applicant?

MS. BENNETT: I'm not entirely familiar with his contract with NGL, but what I would say is that this is a normal practice, to hire a consultant to prepare the C-108s. And, in fact, a number of SWD operators hire consultants, including Mr. Weyand's firm.

But I haven't personally seen what his contract is with Solaris -- I'm sorry -- NGL. I'm sorry. Their firm is also employed by Solaris, which is why I made that slip of the tongue.

EXAMINER DAVID: That's quite all right, Counsel.

I notice some of the notices were returned or undelivered. Was there any follow-up made to determine where the person would be located?

MS. BENNETT: No, sir. We do not do any follow-up, but we publish as a matter of course to ensure that any undelivered or returned letters, that there is publication notice, constructive notice, at least for those folks. So those folks are all identified in the publication notice.

EXAMINER DAVID: So in your legal opinion, the failure of delivery is not -- is not fatal to the notice requirement?

MS. BENNETT: No, it's not. Under the regulations -- the adjudication regulations, we have the opportunity to publish if notice fails. If actual notice fails, we can publish to cure any defects in actual notice, and we do that as a matter of course.

EXAMINER DAVID: Thank you, Counsel. I'm finished.

CROSS-EXAMINATION

BY EXAMINER LOWE:

Q. I've got a question. You indicated -- or you stated the larger the tubing is, there will be less friction?

A. Yes.

Q. Do you have a number behind that, like an example number, like a coefficient of friction?

A. Yes. In fact, it's been established in previous cases. You know, you can be up to 85 -- 85 percent of your surface-injection pressure can be friction. So yeah, it's -- with the 7-inch tubing going down to basically the top of the Wolfcamp, there is also no friction in that, and then there is friction in the 5-1/2 that's below that.

Q. Okay. And the tubing -- and then I just want to clarify from my end. You stated that you what you -- what you have operated as is less than 1,000 psi, is that correct, and then what you think is catastrophic is greater than --

A. Oh, okay. That is part of the fault slip --

Q. Okay.

A. -- that you're referring to. And so the pore pressure increase at the faults would be less than 1,000 psi, and it would take 8,000 psi to split those faults

because of their orientation.

Q. Okay.

A. But yeah, that's -- that and surface-injection pressure are different things.

Q. Okay. All right. Thank you.

MS. BENNETT: May I ask a follow-up question?

EXAMINER LOWE: Sure.

REDIRECT EXAMINATION

BY MS. BENNETT:

Q. Mr. Duncan, if you look at Exhibit 1, page 1, in paragraph four, does that identify the surface pressure or the average pressure that NGL intends to use for this well?

A. Yes, it does. That's -- that's initial assignment based on the .2 psi per foot that is allowed under the regulation.

Q. And so it's the .2 psi times the depth of the proposed depth of the well?

A. The anticipated depth, yes.

Q. To give you the proposed psi?

A. Yes. If that depth changes -- if we find it deeper, that pressure will go up a little. If we come in shallower, it goes up slightly.

Q. And just to confirm that, this depth -- or this

psi in paragraph four is different than the fault slip probability?

A. Yes. It's surface-injection pressure versus pore pressure.

Q. Great. Thank you.

RECROSS EXAMINATION

BY EXAMINER LOWE:

Q. And that average pressure that's stated here is like surface and downhole pressure? Is that what you mean by average?

A. No. That's over time.

Q. Over time.

A. Yeah.

REDIRECT EXAMINATION

BY MS. BENNETT:

Q. But it's the injection pressure?

A. Yes. Yeah. This -- actually, the 3,622 [sic] is the .2 psi per foot.

Q. Okay.

A. Yeah. And then the 27,017 [sic] is what we'll probably see initially. But those pressures will go up. Rates will go down over time.

Q. Okay.

MS. BENNETT: If there are no further questions, I would ask that Case Number 20658 be taken

under advisement.

EXAMINER LOWE: Case Number 20658 will be taken under advisement.

MS. BENNETT: Thank you very much.

(Case Number 20658 concludes, 8:56 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 19th day of August 2019.

MARY C. HANKINS, CCR, RPR
Certified Court Reporter
New Mexico CCR No. 20
Date of CCR Expiration: 12/31/2019
Paul Baca Professional Court Reporters