STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

ORIGINAL

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CASE 15322

APPLICATION OF KEY ENERGY RESOURCES, LLC FOR APPROVAL OF A SALT WATER DISPOSAL WELL, EDDY COUNTY, NEW MEXICO

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

(Continued from July 23, 2015)

August 20, 2015

Santa Fe, New Mexico.

BEFORE: MICHAEL McMILLAN, CHIEF EXAMINER
WILLIAM V. JONES, EXAMINER
GABRIEL WADE, LEGAL EXAMINER

This matter came on for hearing before the New Mexico Oil Conservation Division, Michael McMillan, Chief Examiner, William Jones, Examiner, and Gabriel Wade, Legal Examiner, on August 20, 2015, 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 THERESE MACFARLANE
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I N D E X

CASE NUMBER 15322 CALLED

APPLICANT CASE (continued)

BC OPERATING CASE (continued)

E X H I B I T I N D E X
Exhibits offered and admitted

KEY ENERGY RESOURCES, LLC

(Time noted 9:50 a.m.)

HEARING EXAMINER McMILLAN: Good morning. My name is Michael McMillan, and I will be handling Case No. 15-222, Application of Key Energy Resources, LLC, for approval of a Salt Water disposal Well, Eddy County, New Mexico. This case was continued from July 23, 2015.

Call for appearances.

MR. LARSON: Good morning, Mr. Examiner. Gary Larson of the Santa Fe office of Hinkle, Shanor appearing for the Applicant Key Energy Services.

EXAMINER McMILLAN: Any other appearances?

MR. FELDEWERT: If it please the examiner, Michael Feldewert with the Santa Office of Holland & Hart on behalf of BC Operating, Inc. and Crown Royal Partners V.

EXAMINER McMILLAN: Okay. I would like us to start with opening statements.

MR. LARSON: I have no opening statement.

MR. FELDEWERT: Mr. Examiner, we have our geologist back here today to testify on the issue that you identified in your August 6th email that you required additional testimony on, and that is how he got to the 0.036 RW at the last hearing. We are prepared to do that, and ready to proceed when you are.

EXAMINER McMILLAN: Okay. What we would

like to do is we had requested a Notice from the Applicant, and that's how we are going to proceed. That would be the first order.

MR. LARSON: Certainly. I have two witnesses, Mr. Examiner.

EXAMINER McMILLAN: If the witnesses would please stand and be sworn in.

MR. FELDEWERT: Mr. Examiner, I have one. Would you like him to be sworn, as well?

EXAMINER McMILLAN: Just when he testifies. We'll do it that way.

(Note: The presenting witnesses for Key Energy Resources were duly sworn.)

MR. LARSEN: May I proceed, Mr. Examiner?

EXAMINER McMILLAN: Please.

LESTER WAYNE PRICE,

having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. LARSON:

Q. Mr. Price, will you state your name for the record.

A. Lester Wayne Price.

Q. And you provided testimony at the previous hearing on July 23rd, did you not?

A. Yes, I did.

Q. And do you recall your testimony at the previous hearing regarding the provision of Notice to affected persons within a half-mile radius of the proposed SWD well?

A. Yes.

Q. Has Key subsequently identified additional affected persons entitled to receive notice?

A. Yes.

Q. And was a title search conducted to identify those persons?

A. It was. Additional searches.

Q. And how many persons did the search reveal?

A. Four.

Q. Can you identify the document marked as Key Energy Exhibit No. 28.

A. Right. It's the newly identified affected persons, lists four of them, and there's an attached certified mail letter dated July 29, 2015.

Q. And there are also green cards included in that exhibit?

A. That's right. Three of them.

Q. Are the documents comprising Exhibit No. 8 true and correct copies?

A. Yes.

Q. And did Key send letters to the newly affected

persons informing them of today's hearing?

A. Yes.

Q. And do the green cards reveal that three of them received the Notice letter?

A. That's correct.

Q. What about the fourth entity, which is called Crump Energy Partners II, LLC?

A. Right. It's my understanding that Crump Energy Partners is also part of the same entity that's here today.

Q. Would a better term be "related to"?

A. Yes, related to.

Q. And did Key send a Notice letter to Crump on July 29th?

A. Yes.

Q. And was that letter returned for an incorrect address?

A. That is correct.

Q. Was another hearing notice letter sent to Crump Energy Partners II?

A. Yes.

Q. And was that second notice letter sent 20 days prior to today's hearing?

A. No.

Q. And given that, has Key addressed the issue of

timely notice of today's hearing to Crump Energy Partners II with Mr. Feldewert?

A. Yes.

Q. And would you identify the document marked as Exhibit No. 29.

A. Yes. It's the -- it's from Michael Feldewert, Holland and Hart, sent to Gary Larson, OCD Case 15322. It's an email and it basically confirms what you were just asking, and Mr. Feldewert had indicated likewise.

Q. And it also includes my email to Mr. Feldewert?

A. It does. It's a string, right.

Q. And is Exhibit 29 a true and correct copy of that email string?

A. Yes, it is.

Q. And does it confirm that Crump Energy Partners II is related to BC Operating, Crown Royal Partners V?

A. Yes.

Q. And does it also indicate that neither BC Operating, Crown Oil Partners V, nor Crump Energy Partners II will raise an issue regarding notice to Crump Energy Partners of today's hearing?

A. It does.

Q. Do you recall your testimony at the previous hearing regarding the provision of Notice to the State Land Office?

A. Yes, I do.
Q. What did that testimony entail?
A. It was basically that we had met with the State Land Office concerning this particular Application.
Q. And did you also testify that you had sent a Notice Letter to the State Land Office?
A. Yes.
Q. But there was no green card received?
A. For the State Land Office there was no green card received back.
Q. And do we know what happened to the green card?
A. We don't.
Q. And your previous testimony about a meeting with the State Land Office, what was the substance discussed at that meeting?
A. Well, our previous meeting was about the Application, the matter at hand here. And we had discussed it with them, and they -- at that time they indicated that they have reviewed it and they didn't have an issue with it.
Q. And have you had further communication with the State Land Office since the initial hearing on July 23rd?
A. I have, with a Mr. Terry Warnell of the State Land Office. And he's their -- I believe his title is Oil and Gas Director over there.

Q. And could you identify the document marked as Key Exhibit No. 30.

A. Yes. It's an email from Mr. Warnell to me, copied yourself and some Key folks. It basically indicates that SLO reviews all SW Applications, and they actually had reviewed this one on June 17th and had no problems with our Application as filed.

Q. And is Exhibit No. 30 a true and correct copy of your email correspondence with Mr. Warnell?

A. It is.

MR. LARSON: Mr. Examiner, I move the admission of Key Exhibits 28, 29 and 30.

EXAMINER McMILLAN: Okay. Exhibits 28 and 30 may now be accepted as part of the record.

My question is specifically to Exhibit 29. Does Crown have any objections to it. Do you have any objections at all to 29?

MR. FELDEWERT: I do not.

EXAMINER McMILLAN: Okay. Then 29 is accepted as part of the record regard.

(Note: Key Energy Exhibits 28, 29 and 30 were offered and admitted.)

MR. LARSON: And I will pass the witness.

MR. FELDEWERT: I have no questions -- Oh, wait, I do have two questions. I'm sorry.

CROSS-EXAMINATION

BY MR. FELDEWERT:

Q. Mr. Price, going to Exhibit 28.

A. Yes, sir.

Q. Khody Land & Minerals Company, do you recall what tract they have an interest in or whose interest they acquired?

A. I don't. I would have to look at the tract. I do not.

Q. Okay. Is that the same with the rest of the parties on here?

A. Without going and actually pulling the tract up and taking a look at it, I couldn't tell you.

Q. Okay. So we can --

A. I know they have an interest, but I mean I can't specifically tell you in what tract it would be without looking at the map.

MR. FELDEWERT: Okay. All right. I have no other questions?

EXAMINER McMILLAN: Okay. I have no questions for the witness, but do you have?

EXAMINER JONES: I think it would be good to have it on the record which tract, which tracts they do own interests in.

THE WITNESS: Okay. I would have to get

the --

EXAMINER JONES: Please send it to the attorneys.

MR. LARSON: I can certainly provide that.

I do know that they all took conveyances after the initial Application in 2012, but I wouldn't be able to identify the location of their interests.

MR. WADE: I don't have any questions.

EXAMINER McMILLAN: No further questions. Thank you.

THE WITNESS: Thank you.

EXAMINER McMILLAN: You know, where I'm coming from is that we wanted to give the Applicant the opportunity for the Notice issue, and then the other part that I want to discuss, bring in hearing, was the RW. And it would appear to me -- so with that in mind, I believe that Crown Energy should be -- should describe how they developed their RW.

MR. LARSON: Understood. And I'm fine with them going first. We brought Mr. Davis to address the materials that were submitted after the previous hearing. That's the sole purpose of his testimony. But I have no problem with him going second.

EXAMINER McMILLAN: Yeah, but his testimony relates back to their work.

MR. LARSON: That is correct.

EXAMINER McMILLAN: So that's how we are going to do it.

MR. LARSON: Understood.

THE WITNESS: That makes more sense to me, too.

MR. FELDEWERT: In that case, Mr. Examiner, we have a witness that needs to be sworn in.

MIKE MYLOTT,

having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. FELDEWERT:

Q. Would you please state your name, identify by whom you're employed and in what capacity.

A. My name is Mike Moylett. I'm a senior geologist with BC Operating.

Q. How long have you been involved with the Permian Basin in New Mexico?

A. Thirty years.

Q. And as a result are you familiar with the Delaware Basin?

A. Yes.

Q. Did you actually testify as an expert in petroleum geology at the July 23rd hearing in this matter?

A. Yes.

Q. Mr. Moylett, do you also have a background in petrophysics?

A. Yes. I have a Master's degree in geology and geophysics from the Missouri School of Mines. I've taken both load logging classes there from the petroleum engineering department and I've also taken a lot of offered industry courses in well log evaluation for the last 30 years.

Q. Throughout your 30-year career?

A. Yes.

Q. What does a petrophysicist do?

A. It's the study of the physical and chemical rock properties in relationship to fluids.

Q. And does that include, then, analysis of water saturation in a particular rock or depositional environment?

A. Yes.

Q. What does the RW, what does it measure?

A. It measures the formation's water resistivity.

Q. And are you back here today to address that with respect to the Delaware Formation in the subject area?

A. Yes.

Q. And in particular the Brushy Canyon where they seek to inject?

A. Yes.

MR. FELDEWERT: I would then tender Mr. Moylett as an expert witness in petroleum geology and petrophysics.

MR. LARSON: No objection.

EXAMINER McMILLAN: So accepted.

Q. (BY MR. FELDEWERT) Mr. Moylett, before we start, I want to note for the record, at the last hearing BC Operators introduced 10 exhibits, so we have some additional exhibits today that continue with that numbering sequence.

So with that in mind, Mr. Moylett, before we go to the additional exhibits, do you have in front of you a copy of the previous exhibits that were submitted at the hearing?

A. Yes, I do.

MR. FELDEWERT: Mr. Examiner do you have your copy?

And just to orient us all also here today, I would like to turn to what was marked and accepted as BC Exhibit No. 4.

Q. And this is a map that you discussed previously at the hearing, correct?

A. Yes.

Q. And just to get us reoriented, the area in question, the east half of Section 36, is hatched on this

exhibit?

A. Yes.

Q. And then you have shown the Delaware producers surrounding it in brown?

A. Yes.

Q. And identified what is Brushy Canyon production to Cherry Canyon.

A. Yes.

Q. Brushy Canyon being designated by BYCN?

A. Yes.

Q. And Cherry Canyon by CYCN?

A. Yes.

Q. You have circled on here three, what you testified to as highly productive nearby fields.

A. Yes.

Q. Then you also made note of an OXY well producing in the Brushy Canyon in Section 35 to the east of subject area?

A. Yes.

Q. Were you able to obtain any RW data from these nearby productive fields?

A. Not nearby, but I did four or five miles to the north-northeast.

Q. Are there published surveys that you were able to take advantage of the RW for various formations?

A. Yes.

Q. And when you mentioned the area four or five miles to the northeast, can we see it on this particular Exhibit No. 4?

A. It's up there, up in the very northeast. It's Section 9. The RW is actually to the section right east of it in Section 10.

Q. Okay.

A. We will have another map that shows where exactly those wells were.

Q. All right. And then with that in mind, if I then turn to the topic here today, were you able to locate a survey that identified an RW for the Delaware Formation at that location?

A. Yes.

Q. All right. Turn to what's been marked as BC Operating Exhibit No. 11. Is that the data you were able to locate?

A. Yes.

Q. And where would I find the number that was utilized for your calculations?

A. This is a Society of Petroleum Engineering report. It's on the third page. It's the Unocal Tracy well. It's highlighted in yellow, has an API number listed there, and it reports the depth the test was from

at 4,434 feet, reports a water resistivity of 0.047. And if you go back to the previous page, in yellow there, Note No. 2, it says the published RW are reported at 75 degrees Fahrenheit.

Q. Okay. So the RW, then, that is reported on the third page is at 75 degrees Fahrenheit?

A. Yes.

Q. Does the temperature impact the RW rating?

A. Yes.

Q. And you mentioned that this particular survey was at a depth of 4434 feet?

A. Yes. It's in the same interval as the proposed water injected.

Q. Brushy Canyon.

A. Yes, Brushy Canyon.

Q. What information, then, did you obtain in order to correlate that 0.047 to the depth and temperature that would be at issue?

A. Well, the next exhibit is the base map showing the Unocal Tracy well where the water resistivity sample was taken from, measured at 75 degrees. And then there's a well next to it, the Unocal Federal AJ-1 that was drilled to 4,500 feet. And using that log header, which is 4,500 feet, very similar in depth to the to 4434, and it's a 98 degree bottomhole temperature in the Unocal

Federal AJ-1.

And also on the following page you will see the log header in Unocal Tracy No. 1. It also reports a bottomhole temperature of 98 degrees in the Brushy Canyon.

Q. Okay. Let's stop right there. Let's go to Exhibit 12. You were just now on the first page, correct?

A. Yes.

Q. And that relates to the previous exhibit we examined, Exhibit No. 4?

A. Yes.

Q. And in the upper-right-hand corner of that you've identified the two wells you just described. Right?

A. Yes.

Q. And one of those wells was actually involved in a survey that we just examined in Exhibit No. 11.

A. Yes.

Q. Then you mentioned well logs.

If I go to the next page, is this one of the two well logs.

A. Yes.

Q. Is this one of the well logs for one of the two wells?

A. Yes.

Q. And which well is this?

A. This is the Unocal Federal AJ No. 1; it was drilled to a depth of 4,500 feet. And the reports -- I've highlighted on yellow on the bottom there that the reported bottomhole temperature was 98 degrees Fahrenheit.

Q. And is this the well that's adjacent to the well that was involved in the survey?

A. Yes.

Q. Then the next log in this exhibit, is that the actual log of the well that was involved in the survey?

A. Yes. The Unocal Tracing No. 1.

Q. And what does it reflect with respect to the bottomhole temperature at the proposed injection area?

A. On the first log and run, in the shallower section it also reports a bottomhole temperature of 98 degrees.

So I have two wells that both show it's 98 degrees Fahrenheit bottomhole temperature for the Brushy Canyon.

Q. With that in mind, then, is there a standard methodology for taking, for example, the RW that was seen in the survey at the 75-degree temperature and converting that to what it would be for a 98-degree temperature?

A. Yes, there is a published equation for that.

Q. If I turn to what has been marked as BC Operating Exhibit 13, does that contain the standard

methodology?

A. Yes. That is the book by George Asquith, Basic Well Log Analysis for Geologists, cover page. The second page is, you know, Published by American Association of Petroleum Geologists. And page 5 and 6 is actually the equation used to convert the resistivity at a measured temperature of 75 degrees, and you can convert it to the formation temperature, a viable temperature of 98 degrees.

Q. So did you utilize this formula on Exhibit No. 13 to actually calculate what the RW is at the proposed injection interval at 98 degrees?

A. Yes.

Q. If I turn to what has been marked as BC Operating Exhibit No. 14, does that contain your calculations?

A. Yes.

Q. And does it contain your result?

A. Yes.

Q. What is the RW at the injection interval at 98 degrees?

A. 0.366 ohm meters. And that's a very typical resistivity for the Delaware Sands in, you know, Lea County/Eddy County.

Q. Were BC Exhibits 11 through 14 prepared by or compiled under your direction and supervision?

A. Yes.

MR. FELDEWERT: Mr. Examiner, I would move the admission into evidence of BC Exhibits 11 through 14.

MR. LARSON: No objection.

EXAMINER McMILLAN: Okay. Exhibits 11 through 14 may now be accepted as part of the record.

(BC Operating Exhibits 11 through 14 were offered and admitted.)

MR. FELDEWERT: And, Mr. Examiner, that concludes our presentation on the subject you asked.

EXAMINER McMILLAN: Cross-examination.

CROSS-EXAMINATION

BY MR. LARSON:

Q. Now, Mr. Moylett, do I understand that the well that you focused your RW analysis on was the Unocal Tracy No. 1?

A. Yes.

Q. And did you look at any well records for the Unocal Tracy No. 1?

A. Yeah, there's some drill stem tests on the Unocal Tracy No. 1, and the RWs were all over the place on these drill stem tests.

MR. LARSON: That's all I have.

THE WITNESS: So I used the one that was in the book, published.

EXAMINATION

BY EXAMINER JONES:

Q. Why do you think the RWs were all over the place?

A. Well, depends on what the -- what some of the recoveries were, and whether there was oil, sulfur water. Also depends what the drilling fluid was at the time.

Q. Were they successful DSTs, or were they failures with --

A. They were successful drill stem tests.

Q. Hmm. With a blanket?

A. Uhm --

Q. Did they all --

A. -- I'm not sure. Back then it might have been a blanket. I'm not positive on that.

Q. What's the salinity that would relate to this RW?

A. Uhm, chlorides on that, it's -- I'm not positive but I may say 80,000 parts per million, if I had to...

Q. Is that typical of Delaware in this area?

A. Yes.

Q. The Brushy in this area?

A. If I remember cor- -- I'm pretty sure it is. I'm not positive, though. But the RW is so much of the

Brushy in the area at .036.

Q. How much does this vary between the Brushy and the Cherry?

A. Doesn't vary a lot. Delaware sands generally have the RW of .035, if you look in Lea County and Eddy Count, go through some of the other fields.

Q. But are we talking about the Lower Brushy here, like right on top of the Avalon?

A. On top of the Bone Spring lime?

Q. On top of the Brushy spring lime.

A. This test was taken in the middle Brushy Canyon.

Q. Middle.

A. Around up there. Which is actually the productive sands in the Carlsbad South Field right north of the Grace Carlsbad one.

Q. Okay. I'm at a disadvantage here, because I don't know exactly what you were tasked with, but if you did a Pickett plot of a log that you could find, what kind of RW would you get?

Did you do that?

A. Did not do that. I did not use a Pickett plot.

Q. Pardon?

A. Did not use a Pickett plot on that.

Q. Did not. There wouldn't be a clean sand -- could you see a clean sand that you could have...

A. You could have picked a clean sand and used your RO, and then...

Q. If you had additional logs available.

A. Yes, you could have run that. Or you can do it by hand.

Q. So is this a shaley sand-type thing?

A. The productive sand in the Carlsbad South Field is a real clean sand. There is no shale in that sand.

Q. So your AM&N would be what, 1 and 2?

A. Yeah. Yes.

EXAMINER JONES: Okay. Thank you.

EXAMINER McMILLAN: Any questions?

MR. WADE: No.

EXAMINER McMILLAN: Okay.

MR. FELDEWERT: I just have one additional follow up, if I may.

Mr. Moylett, if you go to Exhibit No. 11.

THE WITNESS: Yes.

REDIRECT EXAMINATION

BY MR. FELDEWERT:

Q. Survey of Resistivities in Water from Subsurface Formations in West Texas and Southeastern New Mexico.

A. Yes.

Q. Published by the Society of Petroleum Engineers?

A. Yes.

Q. Would you assume that in conducting their survey and arriving at the RW of 0.047 at 75 degrees, that they would have looked at the well logs?

A. Yes.

Q. And they would have done the appropriate analysis to determine and publish what that group, as a whole, determined the RW to be for that particular well?

A. Yes.

Q. Okay.

A. And if you look on that page 13 there, you will see a lot of the RWs reported are in the .04 to .05 range on that whole sheet when you look at that. Very similar RWs for many different fields in here, Lea County and Eddy County, in the area. At 75 agrees measured temperature.

MR. FELDEWERT: That is all the questions I have.

EXAMINER JONES: So this is lateral log country, right?

THE WITNESS: Yes. Yes.

EXAMINER McMILLAN: I have no further questions.

THE WITNESS: Thank you.

MR. LARSON: Call Mr. Davis.

BRIAN D. DAVIS,

having been previously sworn, was examined

and testified as follows:

DIRECT EXAMINATION

BY MR. LARSON:

Q. Good morning, Mr. Davis.

A. GOOD morning.

Q. Please state your full name for the record.

A. Brian D. Davis.

Q. And you previously testified at the hearing on July 23rd and were qualified as an expert in petrophysics?

A. Yes.

Q. And initially we have a housekeeping matter to address to correct a couple of typographical errors in your previous exhibits.

A. Yes.

Q. What was the RW that you used in the petrophysical analysis that you previously testified about?

A. I used a .1 but I actually recorded a .05 on the document.

Q. I ask you to identify what has been marked as Key Energy Exhibit No. 31.

A. That's -- yeah. That is -- yeah.

Q. Did you prepare this document?

A. Yes.

Q. And is it intended to create the previous

typographical error and replace the identical --

A. Yes.

Q. -- exhibit marked as No. 11?

A. Yes. The only change was the RW to .1 instead of .05. I had misread it off the scales, and when I went back in the program I noticed it was .1 and not .05.

Q. But .1 is what you used?

A. .1 was the math I used. And it doesn't change any of the petrophysics, because that was the value I actually used.

Q. And we have the same issue with what was previously admitted as Exhibit No. 12?

A. Yes.

Q. And I'll ask you to identify the document marked as Exhibit 32.

A. Yes.

Q. Could you identify that for the hearing examiner.

A. Yes, it's this one here.

Q. Could you describe it for the court reporter.

A. Yes. This is the summary on the Fed Com well, the original petrophysics with corrected RW set to .1.

Q. And is Exhibit 32 also intended to insert the correct RW?

A. Yes.

Q. And the only the difference between Exhibits 33 and -- I'm getting confused -- 32 and 12 is the RW numbers?

A. Correct.

Q. And again it doesn't involve any change in your petrophysical --

A. Everything else stayed the same. The average water saturations, everything, stayed the same.

Q. And prior to the hearing did you have an opportunity to review the materials that Mr. Feldewert admitted to the hearing examiner on behalf of BC Operating?

A. Yes, I did.

Q. And those are basically the documents that have been being admitted this morning as exhibits?

A. Yes, they were.

Q. And what is the calculated RW that is identified in BC Operating's submission?

A. They submitted .0366 at 98 degrees Fahrenheit or .047 at 75 from the actual report they used.

Q. And have you reviewed the drill stem test data from the Unocal Terry (sic) No. 1 well?

A. I did indeed.

Q. Could you identify the document marked as Key Energy Exhibit No. 33.

A. Yes. It's a four-page document. Three of the pages are directly from the OCD files, which are the actual drill stem tests that were performed on the well, and the fourth page is sort of a summation of those three previous pages.

Q. And. Did you prepare the summation that appears on Page 1 of Exhibit 33?

A. I did indeed.

Q. And are the remaining pages of Exhibit 33 true and correct copies of documents from the Division's well file?

A. Yes, they are.

Q. And what did your analysis of the drill stem data reveal?

A. Well, I basically looked at all three drill stem tests. And they were at three separate depths. I can start with -- I'll start with the first one.

The first drill stem test was --

Q. Excuse me. That's page 2 of Exhibit 33?

A. I don't have them stapled in order. So if you'll look at the top-left-hand corner right here, you'll see there should be the depths right there.

So we are looking at the 3360-foot drill stem test.

Now, that particular drill stem test is a

little above our injection interval, but I just wanted to bring all the DSTs out so that we could look at all the DSTs, because I don't like to project some and not the others.

If you'll look down there circled in red, we have resistivities at .18 at sixty, I believe it's two, degrees Fahreinheit.

There was also another drill stem test at 4286 feet.

MR. FELDEWERT: Excuse me. Are you on the last page of this exhibit?

THE WITNESS: It would be whichever one says 4286 right here. I should probably have highlighted the depths.

EXAMINER JONES: 3360?

THE WITNESS: Well, yeah, we'd already looked at the 3360, and that was the resistivity of .18 at 67 degrees Fahrenheit.

Like I said, I don't have the standard copy, so I've just got them in random order here. Or maybe you had them in the correct order and I took the paper clip off.

MR. WADE: In the packet that I have it's page 4 of Exhibit 33.

THE WITNESS: That's the 3360?

MR. WADE: .18 at 67 degrees.

THE WITNESS: So it would be last page.

Yeah, give me that one just to talk from and I'll give you these back.

MR. LARSON: Mr. Examiner, I'm handing Mr. Davis another copy that's stapled, so we we'll have the right --

THE WITNESS: So we won't be confused. My apologies.

A. (Continued) So that was the last page of the exhibit, 3260. We see the resistivity was .18 at 62 degrees Fahrenheit from the drill stem test. Okay?

The next drill stem test, which will be page 3, at 4286 feet we have a resistivity measured from the drill stem test at .078 at 66 degrees Fahrenheit.

And the third drill stem test, which is at 4434 feet -- and that's an important number because I'm going to reference back that 4434 feet in just a second -- you'll notice our resistivity is .095 at 75 degrees Fahrenheit. That's the squared value there. Okay?

This particular drill stem test, they recovered 120 feet of salt water, so they had a pretty decent column of salt water recovered from the formations.

If you will go to page 1, what I've attempted to do is normalize everything to 75 degrees

Fahrenheit, which was the same process the geologist had done and gone through when taking his .047 and moving it down to .036. I used the exact same formula, which I believe was their Exhibit 14. I used the exact same formula to convert the temperatures.

So what I did is, if you will look at at first value there, I've got .151 at 75 degrees Fahrenheit for the 3360 depth, then I've got .069 at 75 degrees Fahrenheit at the 4286 depth, and then I've got .095 at 75 degrees Fahrenheit at the 4434 depth.

Well, if you go back to their original survey of water resistivities from the report and if you look at that --

What exhibit was that? I can't remember what exhibit it was. It was the one that had the .047 number on it.

If you look at the depth next to that .047 number. And this will be Exhibit 11, page 3. If you will look at the depth there, it's 4434 feet. Now, I personally don't think that's a coincidence that that is the exact depth of that drill stem test of .095 at 75 degrees Fahrenheit. So I think that .047 number, I don't know where it came from, because I've got a 4434 depth marked next to that .03, and the drill stem test referencing back to a .095 at 75 degrees Fahrenheit.

So I don't believe that .047 is a valid number, because the drill stem test says differently. In fact, all three drill stem tests are all much higher than the .036 that they are proposing, and all three of the drill stem tests recovered water that was tested on site and the resistivities were actually measured.

Now, I personally think these resistivities may be a touch low. I think they're probably a little higher than this, because they didn't recover a lot of volumes of water, and if you looked at the log headers for the offset logs, which were Exhibits -- uh, 12, page 2. If you will look down at the offset Union Oil Company of California AJ well, you've have got RMs and RMFs - and now these are resistivities of mud filtrates -- at around .06, .031. They are very low.

So part of that drill stem test is going to be recovering some of that filtrate that's immediately near the well bore of these very low resistivities. And these lower resistivities, this is .031 at 98 -- keep in mind I'm talking about the resistivity of the mud filtrate not the resistivity of the formation water. So those are actually going to drag those drill stem tests down a little bit because this stuff is more saline.

So my contention is I believe that this RW out here is around a .01.

Or sorry, .1, not .01.

A. 0.1 Thank you.

Q. Do you recall the M factor that that Mr. Moylett proposed at the previous hearing?

A. I do indeed.

Q. And what was that?

A. It was 1.8.

Q. And have you run a petrophysical calculation based on an RW of 0.036 at formation temperature and an RM factor of 1.8?

A. I did indeed.

Q. And could you next identify the document marked as Exhibit No. 34.

A. Just a second here. I've got too much stuff.

Q. I'll bail you out.

A. Thank you. Again.

Yes, Exhibit 34 was the petrophysical summary. This was run with the exact same criteria that I ran my original petrophysical calculation on when I presented last time. I changed nothing except for the RW to .036, which is what they corrected and proposed, and I used the A of 1, the M of 1.8, which was testified to last time. I did notice a slight different answer was given this time and maybe he said 1, 2, and 2, but I ran it at 1.8 because that was the testimony I had at the time.

So all I did was change that up into the equation for the water saturation -- I ran the same cut-offs, everything else was exactly the same -- and I ended up getting 599 feet of pay over the interval from 3982 to 5019.5, which was 1,000 foot gross interval. The average porosity was 12 percent, and I got a 47 percent water saturation over the entire 1,000-foot interval of Delaware.

And this was sort of -- I testified this and kind of ran the number off the top of my head last time, but I actually put the numbers into the model and present those here to you today.

Q. And did you prepare the document marked as Exhibit 34?

A. Yes.

Q. And does it appropriately summarize your modeling based on the RW factor of 0.036 and the M factor of 1.8?

A. Yes.

Q. Would you next identify the document marked as Key Energy Exhibit No. 35.

A. Yes. Key Energy Exhibit No. 35 was an oil-in-place calculation using the RW of .036 and the M value of 1.8 as proposed by their geologist.

Q. And did you prepare this document?

A. I did indeed.

Q. And does it reflect the results of your modeling based on the RW and M numbers proposed by BC Operating?

A. It does indeed.

Q. What does it reflect?

A. What it does, is this is simply an oil-in-place calculation where I took the area, and I assumed a 40-acre-spaced well; I took the height, which is directly from Exhibit 34, which was the thickness of pay sands, 599.5 feet; I took the average porosity of .12, which is the fee; and I took the SW, which is .74 in the 1 minus SW portion.

And when you calculate that out on a 40-acre-spaced well, I get 11.7 million barrels of oil on a 40-acre-spaced well. So if we go 16 times that, that's approximately 180 million barrels per section in the Delaware as a result of using a .036 RW.

Q. And specifically in the Brushy Canyon?

A. Specifically in the Brushy Canyon.

MR. LARSON: Mr. Examiner, I move the admission of Key Energy Exhibits 31, 32, 33, 34 and 35.

EXAMINER McMILLAN: Any objection?

MR. FELDEWERT: No objection.

EXAMINER McMILLAN: Exhibits 31 through 35 may now be accepted as part of the record.

(Key Energy Exhibits 31 through 35 offered and admitted into evidence.)

MR. LARSON: And I pass the witness.

CROSS-EXAMINATION

BY MR. FELDEWERT:

Q. Mr. Davis, do you have in front of you the exhibit book that was previously entered into evidence by BC Operating?

A. I do not have that in front of me.

MR. FELDEWERT: May I approach the witness?

EXAMINER McMILLAN: You may.

Q. (BY MR. FELDEWERT: And just as a matter of housekeeping -- I'm sorry, first, before I give you that, Exhibit 31 that you introduced here, --

A. Yes.

Q. -- is that is a correction of -- what was the prior exhibit?

A. The prior exhibit was 11.

Q. 11. Okay. And then Exhibit 32 was a correction of the prior Exhibit 12?

A. Yes.

Q. Your analysis, then, you would admit, conflicts with what has been marked as BC Operating Exhibit 11.

A. Yes. Very much so.

Q. Okay. Are you familiar with the Society of Petroleum Engineers?

A. I am indeed. I am a member.

Q. Do you customarily utilize their information in your work?

A. I do.

Q. And in your experience is that information generally reliable?

A. Generally, yes.

Q. And it's subject to peer review?

A. Yes.

Q. But you say they did it wrong, based on your analysis.

A. From what I've seen, yes.

Q. Okay. So in your opinion we really don't have anything determinative on the RW in this area.

A. No, I think we do. I think we have three drill stem tests that show us what the RWs are -- about what they should be.

Q. That's what you marked as Exhibit 33.

A. Yes.

Q. Did you convert that or take into account the temperature at the depth at which you seek to inject in arriving at these numbers?

A. Yes.

Q. What's that?
A. Yes.
Q. Was there a conversion done for 98 degrees?
A. Yes.
Q. And what are those numbers at 98 degrees?
A. At 98 degrees the 4434 number was .074.
And I don't have that an exhibit. I can write that up if we need to. But I did the calculation
Q. 0.074.
A. Yeah.
Q. What about for the next one on your Exhibit 33?
A. We would have to calculate that one.
Q. You don't have it?
A. No, I did not convert it to 98.
Q. Do we have it for the last one on your exhibit?
A. No.
Q. And these RWs, at least on your exhibits, are kind of all over the place. Right?
A. Well, two of them are fairly close, but yeah, there is a bit of a spread.
Q. And if I look at Exhibit No. 11 at the third page, we see the Society of Petroleum Engineers, when they did their analysis of a number of logs, you see a fairly consistent range across the area for a depth of around 4- to 5,000 feet, don't you.

A. Yeah. But some of these wells are 30 miles away and different depths.

Q. What would you expect the water cut to be at your proposed RW?

A. At my proposed RW?

Q. Uh-huh.

A. 100 percent. I think it's 100 percent wet. I don't think there's any hydrocarbons down there in the well bore that I looked at.

Q. All right. Let me step back.

Taking away your suggestion that there's no hyrdrocarbons in that interval, with the RW that you have proposed, what would the water cut be?

A. 100 percent.

Q. 100 percent.

And at the RW that has been reflected on the Society of Petroleum Engineers and then corrected to account for the 98-degree temperature, so 0.036, what would you expect the water cut to be?

A. I don't know. You're going to produce 11.27 million barrels. I don't know. Probably a heck of a lot of oil there.

Q. What would you expect the water cut to be at the RW of 0.036?

A. Well, you have 50 percent water saturation in

the interval.

I don't know. It would depend on how the rock produces, if the rock holds the water back. I mean, there's all kinds of different ways. But --

Q. Let's assume there's 47 percent water saturation, which is what you testified to with respect to Exhibit 34. What would that count to? What would that be with respect to a water cut?

A. I don't know.

Q. You don't know?

A. No.

Q. Would it be 50 percent?

A. Possibly.

Q. What's that?

A. Possibly. Could be 30 percent, could be 50. I don't know. I don't know what the water cut would be.

Q. Okay. If I then -- now I want you to go to Exhibit No. 4.

MR. LARSON: Mr. Feldewert, is that BC Exhibit 4?

MR. FELDEWERT: BC Exhibit No. 4. I'm sorry.

Q. You were at the last hearing where this exhibit was discussed, correct?

A. Yes, I was there.

Q. There is a Brushy Canyon well located, you'll see, in Section 35 just to the east of the area in question, Section 36.

A. Yeah.

Q. That's an OXY well, correct?

A. I don't know.

Q. You didn't analyze it?

A. Did not.

Q. Didn't look at it?

A. No.

Q. You have no reason to disagree with the data on this exhibit, though, do you?

A. I don't know. I didn't prepare the data so I can't really comment on this.

Q. This has been testified to as an oil well in the Brushy Canyon, and if you look at the Division records it's still producing.

A. Okay.

Q. If you look at the numbers here, the second number, you would recognize that is a cumulative oil production in barrels. Correct?

A. On the field to the left, to the east?

Q. Well, in the southwest quarter Section 35, the round dot. I mean circle.

There's three numbers underneath there.

A. Okay.
Q. Granted they're a little small, but can you read that middle number of 12,404?
A. Yeah.
Q. Were you here when Mr. Moylett testified that that was the oil production --
A. I was.
Q. -- bsed on the Division records?
A. I remember that.
Q. Do you remember him also testifying that the cumulative oil -- water production for that well, based on the Division records, was around 103,000 barrels of --
A. I don't remember that number, but...
Q. I'll represent to you that's what's on this exhibit.
A. Okay.
Q. If you did the math on the cumulative oil and the water that was produced, doesn't it come up to about 89, 90 percent water cut?
A. Probably. I don't have a calculator.
Q. If I then go to the productive field to the north, which Mr. Moylett testified was on strike when you said it was...
Let's look at the very -- the well in the southeast of the southeast. Do you see that well?

A. Which section?
Q. Section 24 to the north.
A. 24 to the north. Yeah, got it.
Q. Okay. The well to the southeast and southeast.
A. Okay.
Q. Do you see the three numbers again?
A. Yeah.
Q. Cumulative oil production there was 82,000 barrels.
A. Okay.
Q. And the cumulative water production there was 761,000 barrels.
A. Yeah.
Q. And that would equate to an 89, 90 -- actually it would be a 90 percent water cut. Right?
A. Sure.
Q. What's that?
A. I guess. You're asking me the wrong questions. I'm at petrophysicist. You're asking me to start calculating waters cuts. You're kind of out of my depth here.
Q. I'm not looking at -- I'm looking at actual data.
A. No, I understand.
Q. And that would indicate a 90 percent water cut,

would it not?

A. If you say so. I haven't run the math.

Q. So actual production data out here for these fields in the Brushy Canyon show that they have a water cut in some circumstances at 90 percent.

A. Okay.

Q. Do you degree that evidence on an allowable, tolerable water cut is a better indicator of productivity rather than a specific number like an RW?

A. If you have a well that's producing, yeah.

Q. Okay. And --

A. But if you have a dry hole or well that has never produced, then you have no basis to measure it against.

Q. But would you agree with the proposition that for the Brushy Canyon in the Delaware in Southeast New Mexico, that the distinction between productivity and nonproductivity should be determined more by the allowable or tolerable water cuts than by a specific number associated with water saturation?

A. I believe that you can calculate a water saturation with an RW in zone.

Q. My question is: In determining whether it is potentially productive, do you agree with the proposition that you're better off looking at allowable or tolerable

water cuts based on producing wells, rather than a specific number associated with water saturation?

A. No, I don't.

MR. FELDEWERT: Okay. May I approach the witness?

EXAMINER McMILLAN: Yes.

Was Exhibit 15 introduced?

MR. WADE: I believe he said yes.

Q. (BY MR. FELDEWERT) Mr. Davis are you familiar with the Roswell Geologic Society?

A. No, I'm not.

Q. You are not aware that they periodically hold symposiums?

A. Never heard of them.

Q. Never participated in their events --

A. No, sir.

Q. -- or attended their symposiums?

A. No, sir, I have not.

Q. Okay. Do you ever utilize their publications?

A. No, sir, I have not.

Q. Okay. If you take a look at what has been marked as BC Operating Exhibit No. 15, this is a publication of the Roswell Geologic Society of Southeastern New Mexico, which is what we are talking about here, from 1995. Do you see that?

A. I do.

Q. And this was an analysis by two individuals that were presented at that society, all right, that symposium in 1995.

A. Yeah.

Q. And the nice thing about it is if you look at the second-to-the-last page of this rather lengthy paper, they thankfully summarize their conclusion and recommendations.

A. Yeah. But I'd also like to note on page 56, that this is Lea County, New Mexico. We're in Eddy County, are we not? So does this really have pertinence to our particular area? You're in a whole other county with this study.

Q. So if I look at their conclusions and recommendations --

A. Well, first let's -- I mean, should we not address the Eddy County/Lea County issue? We're in a different county.

EXAMINER McMILLAN: Allow him to finish.

THE WITNESS: Okay.

Q. (BY MR. FELDEWERT) If I look at their Conclusions and Recommendations on page 64 -- and I guess this is a document you've never taken the time to look at.

A. Never seen it.

Q. Okay. And they summarize their conclusions for us for this rather lengthy paper, correct?

A. I don't know. I haven't read the paper so I'm probably not qualified to comment on it.

Q. Let's go to the last page.

A. So...

Q. If you look at their Conclusion No. 11, would you read that out loud, please.

A. (Reading) The distinction between nonpay and pay should be determined by the allowable or tolerable water cut than a number; i.e. a water saturation.

Q. Do you disagree with that conclusion?

A. I do. If you have valid log data you can calculate a water saturation and determine if a well is productive or nonproductive. That's the whole purpose of log analysis.

Q. But based on the information we have on the productive Brushy Canyon fields surrounding the subject area, we see a tolerable water cut of 90 percent, correct?

A. Sure. But, you know, there's some other conclusions here you're not bothering to read that are also probably pertinent, as well.

I haven't had a chance to review this, and I think to be questioned on some paper that's thrown out of the middle of nowhere, is kind of a little silly. I

mean, I'm happy to keep answering questions but I don't even know what the paper says.

Q. I'm disappointed you think the symposium conclusions are silly, but --

A. I didn't say they were silly. I said it's silly that you're asking me to comment on a paper I've never read.

MR. FELDEWERT: I would move the admission of BC Operating Exhibit 15.

MR. LARSON: No objection.

MR. FELDEWERT: That concludes my examination, Mr. Hearing Examiner.

EXAMINER McMILLAN: Exhibit 15 now may be accepted as part of the record.

(Note: Whereupon BC Operating Exhibit 15 was offered and accepted.)

MR. WADE: Would you like the opportunity to redirect?

MR. LARSON: Briefly.

REDIRECT EXAMINATION

BY MR. LARSON:

Q. Mr. Davis, your original petrophysical calculation that you testified about at the previous hearing, what well was that based on?

A. That was the well based -- that was the -- oh, I

can't remember the number now, but -- sorry. The API number was...

It was Gulf Federal Com No. 4, which was 3001532560.

Q. Do you recall the distance between that well and the proposed SWD well?

A. Approximately half a mile. I think it was 2900 feet.

MR. LARSON: That's all I have.

EXAMINER McMILLAN: Okay.

EXAMINATION

BY EXAMINER McMILLAN:

Q. Going back to Exhibit No. 4, I believe it was BC Operating.

A. Okay.

Q. That well in the southwest southwest of 35, did you do log calculations on it?

A. I did not.

Q. Okay. Did you take a look at the log calculations for any of the wells that are listed in Exhibit No. 4 that's called the Carlsbad South Field?

A. Carlsbad South --

Q. That's Section 24, Township --

A. No, we did not do any log analysis.

Q. Likewise I'm going to ask you the same question:

Did do it for the Happy Valley Field in Section 33?

A. No, I did not.

Q. Did you do any log calculations using your RW for any of the producing fields within the general area?

A. No. I just did that one well.

EXAMINER McMILLAN: Please proceed.

EXAMINATION

BY EXAMINER JONES:

Q. Just quickly, on these drill stem tests, where is that well located on this map?

A. If you go to Drill Well Map 4 -- Well, I think there's a better map in their -- on Exhibit 12?

Yeah, if you look at 12, it's about, I don't know, six, seven miles away. It's up at the top up here, and the well is down...

Q. Oh, yeah, yeah.

A. Down here.

Q. There it is. It was...

A. Six or seven miles away, I'm guessing

Q. That is the drill stem test well.

A. Yes.

Q. I noticed on these three zones that they measured, that it looks like two of them are tight and one of them actually had some decent pressures during the...

And that one was the one at depth 3360?

Correct?

So what I mean is: On your A, B, C, D, E, F on the bottom of that exhibit where you see -- it's extremely hard to read: Initial flow pressure, final flow pressure. You actually had some numbers there --

A. Yeah. Yeah. Right.

Q. -- that responded.

A. That didn't show up as type.

Q. And then it says 36,000 chlorides. This was...

So that would be a higher RW.

A. Yeah. If you actually look, it says the drilling water below circ- -- oh, that's -- yeah, the water -- yeah, 36,000. You're correct. Absolutely.

Q. That was in the sample chamber?

A. Yeah.

Q. And it still could have been some water from the -- it says mud type at that depth of water, and I guess as they went deeper it says mud type brine water.

So they must have -- now, why do you think that happened.

A. You know, I mean I'm not sure. I mean, it's -- you know the resistivity is, you know, .18 at 67, and, you know, I would assume that they had the drill stem test set at one interval for the entire test. That's what I would assume.

Q. But why do you think they changed the mud type as they went deeper in the well?

A. Oh, in this particular well?

Q. Yeah.

A. I don't know enough about drilling to answer that, to be honest with you. I would assume it would be some kind of drilling decision or something to do with the formations or...

Q. They needed higher pressures for some reason?

A. Yeah. I mean it could have been higher pressures or something. I -- I'm not a drilling engineer.

Q. Okay. Okay. But on your analysis, the Exhibit No. 35, at 47 percent water saturation you still came up with quite a bit of oil; is that correct?

A. Well, yeah. I mean, it would be 53 percent oil. This is using their .036, right?

Q. Right.

A. And you come up with 599 feet of a pay column in this well.

Q. Right. If you --

A. That's a lot of oil.

Q. And if you --

A. And if you looked at the log, it doesn't make sense. Because if you look at my original log -- and I can't remember the exhibit now -- and if you look at all

these intervals, there's shale streaks in the Delaware and it's broken up, and if you look, the resistivity's about 3 and 1/2 percent. And you guys know if you see oil, the oil's on top of the water, and you see an increase on resisitivity at the upper part of the intervals. And you see that nowhere in the particular subject well that I looked at.

So therefore by knowing that -- you can't have 10 percent oil split through the whole water column, right? It's got to be cumulative somewhere up there. It would be odd to see it split evenly through the whole thing. So that's why the .1 works all the way down with the given resistivities.

Q. Okay. So you didn't see -- you did look at analysis over the whole gross interval --

A. Yes.

Q. -- and you didn't see gas or water --

A. I didn't see anything on the well that I looked at.

Q. -- trending on your resistivity logs.

A. Correct. Correct.

Q. But did you see some zones that might be more potential than others?

A. No. The calculations show -- I mean, the calculations were just banging right at 97, 96, 98

percent. I mean, you always kind of -- you know, it's not a perfect calculation, so...

But all the calculations were running right at the baseline. They weren't moving up, you weren't seeing anything that would indicate -- you know, even if you used a 70 percent water saturation cut-off, I still didn't see anything on the log that would indicate oil.

Q. The Shimadzu equation you ran was not a simple Archie; is that correct?

A. It's not a simple Archie, but most of the stuff out here is clean, so as a consequence the simple Archie -- the Shimadzu becomes an Archie when it becomes 100 percent clean, because the shale factor goes away.

Q. So you do have a lot of clean intervals on your gamma ray.

A. Yeah. Yeah. And you can go back and look at the computer log and see that, yes, sir.

Q. Is your gamma ray potasium charged, or is uranium --

A. There was also probably some intervals where you might have seen the gamma ray was having lower-end response in a few places in the Delaware, yes.

Q. The gamma ray -- you don't have a spectral gamma ray, so --

A. There was not a spectral gamma ray on this well,

it was a straight up.

Q. Just assuming it's --

A. Yeah. Yeah.

Q. -- clanging (phonetic) if it's reacting.

A. Yeah. Yeah.

Q. So how do you explain the production fields out here, that have some production three or four miles away? Would you explain that.

A. Well, I don't know. I guess there would be a geological explanation for that, but I'm not a geologist.

Q. You're a petroleum engineer, though.

A. I'm a petroleum engineer, yes.

Q. So --

A. So my guess is there would be something to do with the geological high in there somewhere where the oil has accumulated in those areas.

Q. Okay.

A. Because if we look in our metered area there's four or five wells and they're all dry holes. Nobody ever drills there. They did drill stem tests. Nobody ever tried to produce any of these intervals right around where we're doing the salt water disposal well. And I think there's a reason for that. I think these wells were wet.

Q. The relative water -- the permeability to water, in other words your relative permeability curves, --

A. Yeah.

Q. -- you don't have any access to any of --

A. I didn't have any data on that in this area.

Q. -- those? But you're saying it must be a steep curve, because you just change your saturation a tiny bit and get a lot higher water cut in your --

A. Well, I mean, water cuts -- I mean, water cuts, again when you start talking about water cuts, that's more of a production thing to me rather than a log analysis thing, so I don't -- I don't know how much I can comment on water cuts.

Because, you know, as a petrophysicist I've computed wells that have had 50 percent water saturation that have produced water free, and I've calculated wells that have done 50 percent water saturation that have produced 50 percent water.

Q. So --

A. So it's kind of --

Q. -- kind of hard to tell.

A. -- the nature of the reservoir and the beast, and it's difficult to tell. So, you know, making a definitive statement on it would not be something -- I don't think I'm qualified to do. I don't have the data. And if I did, I'm not sure I could. I'm a petrophysicist.

Q. So it's sometimes hard to tell from log analysis

whether it's going to be productive or not.

A. It can be, yes.

Q. What about your -- your Pickett plot. Did you do a Pickett plot of --

A. I did a Pickett plot but I didn't present it. The Pickett plot showed out to be about the .1, which is -- you know, I just did a quick and dirty Pickett plot, and then I set my RW and calculated the log based on that.

Q. Okay.

A. So...

EXAMINER JONES: I don't have any more questions. Thank you very much.

EXAMINER McMILLAN: I have no further questions.

EXAMINER JONES: It's up to you guys.

MR. WADE: Okay. The questions could be over at this point, so we can excuse this witness and then do closing.

EXAMINER McMILLAN: Okay. Let's just --

THE WITNESS: Okay. Thank you, gentlemen. Appreciate it.

Some of these came from you.

MR. FELDEWERT: Just leave them up there for now and I'll pick them up later.

THE WITNESS: Okay. That one, that one.

MR. WADE: There's no more witnesses, and we're the last case. You can just leave everthing for now and we can...

THE WITNESS: Some of this is my scrap.

MR. LARSON: Just leave it for now.

EXAMINER JONES: Do we want to have closing statements?

EXAMINER McMILLAN: Yeah. Go ahead and proceed with closing statements. Thank you.

MR. LARSON: Brief closing statement, Mr. Examiner.

In 2012 the Division administratively authorized Key to inject produced water in the Grace Carlsbad No. 1 Well in the same interval that's the subject of Key's current application, and during the two hearings that have been conducted on the current Application, Key's witnesses have demonstrated that the Division's 2012 decision was in fact a correct decision, and I request that Key's current Application also be granted today.

EXAMINER McMILLAN: Proceed.

MR. FELDEWERT: Well, it sounds like they are relying solely on the -- based on his statements, he said because you-all approved it in 2012 you should approve it again today.

We have the benefit of a hearing here today. We also have the benefit of a state lessee that we did not have in 2012. There was no state lessee for the underlying minerals when you approved injection in 2012. We now have a state lessee for these underlying minerals, and that lessee is here because they are ready and willing to invest in the state minerals underlying this acreage. In fact they have two wells bordered on Exhibit No. 4 that they are prepared to drill within a year. As soon as it gets on the drilling docket, they're hoping to drill by the fourth quarter of this year.

We now have a different circumstance here. We have someone now who believes that the underlying acreage is productive, and we have someone now that believes, and I believe has demonstrated that there is a chance of productivity in the Brushy Canyon, based on the surrounding fields and the analysis that was presented in the last hearing.

Nothing has changed today except that they want to use some kind of an arbitrary RW number that nobody can seem to agree upon and say, "Ah-hah, we got you. There's no way that this can be productive."

I think if we look at the scholars in the area, they say that's not the best way to go. Look at what's going around it, look at the water cuts, look at

what's tolerable, and give these lessees an opportunity to produce these state minerals.

I mean, the last thing you want to do is allow them to inject into a formation that is potentially productive, because once you do that then you have wasted those state minerals. There's no hurry here for this injection well. We have a lessee that's willing to invest and look at this area. They have looked at it and they think it's potentially productive. So we ask that you deny their Application rather than waste those potentially productive state minerals.

EXAMINER JONES: The tracts.

MR. WADE: Yeah. Previously there was more information that was requested by Mr. Jones, and that was --

EXAMINER JONES: The tracts that had the additional parties that were Noticed, identification of the tract.

MR. WADE: So what we would like to do is go ahead and continue this case to bring that information back on the record. It makes it a lot cleaner, rather than piecemeal sending it.

MR. LARSON: I didn't raise it at the time. Would it be acceptable to do it in an email?

MR. WADE: That's what I'm saying. No, we

would want to put it on the record, make it official so the court reporter has copies of exhibits and we have everything on the transcripts.

MR. LARSON: Continued to the next hearing date?

EXAMINER McMILLAN: So it would be -- Case No. 15322 will be continued till September the 3rd.

EXAMINER JONES: And that being the last case on the docket, this docket is closed.

(Time noted 10:59 a.m.)

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. _____ heard by me on _____.

_____, Examiner
Oil Conservation Division

STATE OF NEW MEXICO)
) SS
COUNTY OF TAOS)

REPORTER'S CERTIFICATE.

I, MARY THERESE MACFARLANE, New Mexico Reporter CCR No. 122, DO HEREBY CERTIFY that on Thursday, August 20, 2015, the proceedings in the above-captioned matter were taken before me, that I did report in stenographic shorthand the proceedings set forth herein, and the foreoing pages are a true and correct transcription to the best of my ability and control.

I FURTHER CERTIFY that I am neither employed by nor related to nor contracted with (unless excepted by the rules) any of the parties or attorneys in this case, and that I have no interest whatsoever in the final disposition of this case in any court.

MARY THERESE MACFARLANE, CCR
NM Certified Court Reporter No. 122
License Expires: 12/31/2015