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| 3 | BY THE OIL CO | OF THE HEARING CALLED NSERVATION DIVISION FOR | 5 | | |
| 4 | THE PURPOSE O | F CONSIDERING: | | | |
| 5 | | WATERFLOOD PROJECT RECOVERY PROJECT FOR N UNIT AND TO QUALIFY PROJECT FOR THE | CASE NO. 14942 | | |
| 6 | | | | | |
| 7 | | | ORIGINAL | | |
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| 10 | REPORTER'S TRANSCRIPT OF PROCEEDINGS | | | | |
| 11 | | EXAMINER HEARING | | | |
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| 13 | | IAM V. JONES, Chief Examine D K. BROOKS, Legal Examine | | | |
| 14 | | | | | |
| 15 | | January 24, 2013 | | | |
| 16 | Santa Fe, New Mexico | | | | |
| 17 | | | × 00 | | |
| 18 | This matter came on for hearing before the | | | | |
| 19 | New Mexico Oil Conservation Division, William V.Jones, Chief Examiner, and David K. Brooks, Legal Examiner, on Thursday, January 24, 2012, at the New Mexico Energy, | | | | |
| 20 | Minerals and Natural Resources Department, 1220 South St. Francis Drive, Porter Hall, Room 102, | | | | |
| 21 | Santa Fe, New | Mexico. | | | |
| 22 | | | | | |
| 23 | REPORTED BY: | Mary C. Hankins, CCR, RPR New Mexico CCR #20 | · · · · · | | |
| 24 | | Paul Baca Professional Court Reporters 500 4th Street, Northwest, Suite 105 | | | |
| 25 | | Albuquerque, New Mexico 8' | | | |
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| 1 | APPEARANCES | |
| 2 | FOR APPLICANT CELERO ENERGY II, LP: | |
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| 7 | | |
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Page 3 1 (11:29 a.m.) 2 EXAMINER JONES: Call Case 14942, which I 3 understand was heard on December 13th, but it's the 4 application of Celero Energy II, LP to expand the 5 waterflood project and tertiary project for the Rock 6 Queen unit and to qualify the expanded project for the 7 recovered oil tax rate, Chaves and Lea Counties, New Mexico. 8 9 Call for appearances. MR. BRUCE: Mr. Examiner, Jim Bruce of 10 Santa Fe representing the Applicant. I have one 11 witness. 12 EXAMINER JONES: Any other appearances? 13 Will the witness please stand? 14 And will the court reporter swear the 15 witness? 16 17 DAVID CATANACH, after having been first duly sworn under oath, was 18 questioned and testified as follows: 19 DIRECT EXAMINATION 20 BY MR. BRUCE: 21 Q. Will you please state your name and city of 22 residence, for the record? 23 My name is David Catanach. I live in Santa Fe, 24 Α. 25 New Mexico.

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Page 4 What is your relationship to Celero in this 1 Ο. 2 case? I am working with Celero Energy II, LP as a 3 Α. 4 regulatory consultant. 5 Q. And what are you by profession? I am a petroleum engineer by education. 6 Ά. 7 And have you previously testified before the Ο. Division? 8 Α. I have. 9 And were your credentials as an expert 10 Q. petroleum engineer accepted as a matter of record? 11 They were. 12 Α. MR. BRUCE: Mr. Examiner, I tender 13 Mr. Catanach as an expert petroleum engineer. 14 15 EXAMINER BROOKS: I object (laughter). We 16 know Catanach too well. 17 (Laughter.) EXAMINER JONES: He is so qualified. 18 (BY MR. BRUCE) Mr. Catanach, Exhibit 3 is the Ο. 19 C-108. And since Mr. Brooks may leave, let's -- let's 20 discuss the notice first, just so we've got that on 21 22 record. 23 MR. BRUCE: And, Mr. Examiner, Mr. Catanach did number the pages, first of all. 24 25 EXAMINER BROOKS: Good for him.

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Page 5 (BY MR. BRUCE) And if you would turn to --1 Ο. 2 well, turn to page 164, and the page after that is 3 unmarked, but it's 165. 4 Α. Sorry about that. 5 EXAMINER JONES: Joking, of course. 164? EXAMINER BROOKS: There actually is page 6 7 164. 8 MR. BRUCE: Yeah. And the page right after 9 that, if you could handwrite on it page "165." That's what it is. 10 (BY MR. BRUCE) And first, to get this out of 11 Ο. the way; Mr. Catanach, the signature -- the first page 12 of Exhibit 3, the C-108, is signed by Mike Metza. 13 Who is that? 14 15 Α. Mike Metza is an engineer that works for Celero in Midland, Texas. 16 17 Ο. And have you worked with him on the preparation of the C-108? 18 I've worked in conjunction with 19 Α. Yes. Mr. Metza. 20 21 Q. So you have reviewed all the data, technical 22 data, in the C-108? 23 Α. Yes, I have. 24 Starting first with the notice, the land plat, Q. marked Exhibit [sic] 165, did you prepare that? 25

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| | Page 6 | | |
|----|--|--|--|
| 1 | A. I did prepare this. | | |
| 2 | Q. And what does that reflect? | | |
| 3 | A. The circles well, the red dots are the | | |
| 4 | injection wells that we're seeking approval for today. | | |
| 5 | They also show one-half mile circles around each | | |
| 6 | injection well. The green boundary the green line | | |
| 7 | that you see on this map is the Rock Queen unit's | | |
| 8 | outline, and the areas that you see in sort of a peach | | |
| 9 | color or a rose color are leases that are outside the | | |
| 10 | unit boundary that we provided notice to in this | | |
| 11 | application. | | |
| 12 | Q. And is that information contained in the next | | |
| 13 | three pages, 166 through 168? | | |
| 14 | A. Yes, it is. It is summarized. These leases | | |
| 15 | are summarized by operator and acreage. | | |
| 16 | Q. And I've handed you Exhibit 4. Is that my | | |
| 17 | Affidavit of Notice regarding the mailing of the | | |
| 18 | C-108 or the entire application to these offset | | |
| 19 | owners? | | |
| 20 | A. Yes, it is. | | |
| 21 | Q. And if you'll look at Exhibit 4, Mr. Examiner | | |
| 22 | [sic], there is one party, Kerr-McGee Oil & Gas Onshore, | | |
| 23 | that we could not get delivery on. Could you comment on | | |
| 24 | that, Mr. Examiner? I mean Mr. Examiner' | | |
| 25 | (laughter) Mr. Catanach? | | |

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Page 7 EXAMINER BROOKS: I quess it's entirely 1 If it's appropriate to address me as 2 appropriate. judge, which the people from Texas occasionally do. 3 (Laughter.) 4 5 Α. Mr. Examiners, Kerr-McGee was on the -- Celero had Kerr-McGee as being the leasehold owner in the 6 7 northeast quarter of Section 35 and the south half of the northwest of 35. And as such, I tried to provide 8 notice to Kerr-McGee, the address that I was given by 9 Celero. After we had sent notice, we realized that 10 Kerr-McGee was probably no longer in existence. 11 We are going to subsequently send notice to Anadarko Petroleum, 12 who we believe is the successor leasehold owner of that 13 acreage. So we still need to do that. We have not sent 14 that notice yet. 15 (BY MR. BRUCE) And is there one other party 16 Ο. that you need to send notice to? 17 18 Α. There is one other party. And that is my mistake. In looking through this before the hearing, I 19 realized that -- all this acreage that's shaded in this 20 21 red color, there are no producing wells; there are no wells on this acreage. These are all leasehold owners. 22 So I went back and I looked to make sure there weren't 23 24 any producing wells, and I did find a well in Section As a matter of fact, in Unit C of Section 34, there 25 34.

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Page 8 1 is a saltwater disposal well in the Queen Formation that is operated by Reliance Energy. 2 So we are going to 3 provide notice to Reliance, as well as Anadarko EXAMINER BROOKS: Where did you say this 4 5 unit was? 6 Α. In Unit C of Section 34, 13 South, 31 East. 7 MR. BRUCE: And so at the end of the hearing, Mr. Examiner, we would like the matter 8 9 continued for four weeks to provide additional notice to 10 those two parties. And, Mr. Examiner, I would note that with 11 respect to Kerr-McGee, I do know, once our memories were 12 jogged, that Anadarko basically bought out Kerr-McGee's 13 14 assets some half dozen years ago. But I don't think it 15 was a merger, because there are still corporate 16 Kerr-McGee, you know, listed in certain records, but 17 nobody has an address for them. I, myself, mailed to probably three different addresses trying to find one. 18 19 They don't exist, even though their name appears of record. 20 21 Ο. (BY MR. BRUCE) Mr. Catanach, let's run through the C-108. 22 23 (Examiner Brooks exits the hearing, 11:37 24 a.m.) MR. BRUCE: And, Examiner Jones, I think 25

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Page 9 you're aware of this, but when we did have the hearing 1 2 on December 13th, there is a pilot CO2 flood within the 3 unit we want to expand on. And we did put on evidence regarding the benefits of the expansion and production, 4 5 et cetera, but we did not present the C-108 because of 6 questions as to whether we could -- we originally asked 7 for the C-108, or the expansion, to be approved administratively, but because there was a question as to 8 9 whether that was proper under the Division's rules, we are presenting the C-108 here today. 10

11 Q. (BY MR. BRUCE) Mr. Catanach, if you could, turn 12 to page 3 and maybe describe just a little bit the 13 orders -- the number of orders affecting the waterflood 14 or CO2 flood in this area, and maybe describe briefly 15 the CO2 pilot project.

A. The original pilot CO2 project, Mr. Jones, was approved a couple of years ago by Order Number R1541-A, and there is a map. If you want to -- if you want to look to see how the pilot project area relates to the unit, there is a map. It's on page 48. It's actually the one before that.

The area shown in the blue outline is basically the original pilot area, pilot CO2, and then the outline in yellow is the outline of the Rock Queen unit in its entirety.

Page 10 Ο. So that -- I was going to say, in the testimony 1 of the last go-around, there has been a positive 2 production response from the CO2 flood; has there not? 3 4 Α. That's correct. Mr. David Parker testified at 5 the last hearing that they want to expand it now to 6 include the entire unit. They have seen some response 7 to CO2 injection, and they're going forward with more of a full-scale unit development. 8 In this application, we're asking for 14 9 injection wells -- 14 additional injection wells that 10 are outside the pilot CO2 area. 11 These wells are all -to my understanding, they're all currently authorized 12 for water injection. And page 3 shows the various 13 orders that have approved the injection for these wells. 14 Basically what we're asking for is the authority to 15 16 inject CO2 and produce gas at this point. Turning to page 4, what will be the injection 17 Ο. rates? 18 Α. The proposed rates are 600 barrels of water per 19 20 day, and that's average. And the maximum is 1500 barrels of water per day. As far as CO2, the average 21 rate is 1250 MCF per day, and the maximum is 2,000 MCF 22 per day. 23 And what about the injection pressures? 24 Q. Mr. Jones, in the original pilot project 25 Α.

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Page 11 hearing, pilot CO2 project, we brought forth numerous 1 2 step rate test data. And as a result of that, we were granted, on a unit basis, an injection pressure of 800 3 psi for water and 1200 psi for CO2. And if you want 4 5 to -- that was actually issued -- there was a subsequent order issued to 1541-A, and 1541-B actually approved the 6 7 injection pressures for the unit. Ο. And so you want to continue those injection 8 9 pressures in effect? 10 Α. That's correct. We believe they're in effect for the entire unit, so they would be applicable to 11 these wells. 12 Q. And if you turn to the next section, if you 13 will, of the C-108, pages 6 through 47, what is 14 15 contained in those pages? Pages 6 through 47 are the injection well data 16 Α. sheets and wellbore schematic diagrams produced in the 17 injection wells that we're planning to put on as 18 injection. 19 20 And if you look at page 8, could you just Q. 21 briefly discuss the typical injection well? 22 Α. Typically, Mr. Jones, these are -- a lot of these wells are older wells. This one, in particular, 23 was drilled in 1955. So quite a few of these were 24 25 drilled around that time. But typically, you know, they

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have surface casing set anywhere between 2- and 400
feet. The Ogallala is present out here, and it occurs
at depths of, you know, 400 feet or less. Typically,
they would set five-and-a-half-inch or four-and-a-halfinch casing at the -- sometimes at the top of the Queen,
and a lot of the wells were then completed open hole in
that Queen Sand interval.

8 Subsequent to that, in later times, they 9 would, basically, sometimes set the liner at the bottom 10 of the well, and then, if necessary, they would tie into 11 that liner later on and run the liner all the way to the 12 surface. So that's basically the way that some of these 13 wells are constructed.

14 I might point out that there are two or 15 three wells -- and you can see one of these on page 11 -- that -- I believe there are three wells that fall 16 into this category. And these wells -- my understanding 17 is that the casing at the bottom of the hole was in poor 18 shape in these wells, and so they were plugged back and 19 sidetracked to avoid or to -- you know, to make sure 20 21 that the integrity of the well was going to be adequate. So I believe there are three of these wells that are 22 23 constructed this way.

Q. And in your review of the data, are all of these current water injectors properly completed so as

Page 12

Page 13 1 to meet the movement of the fluid between zones? 2 Α. Yes, they are. And we've already touched on page 48, the land 3 Ο. 4 plat. And then there is another plat, page 49. What is 5 that? 6 Α. This is, basically, a map that shows some of 7 the stuff we've already presented, but this is -- again, the brown outline is the Rock Queen unit area. 8 The blue 9 circles represent the area of review for these injection 10 wells. The purple -- there is a purple-dotted line inside the units that corresponds to the original pilot 11 And this basically shows the status of certain 12 area. wells within the unit, the TA'd wells, injectors, 13 14 producers, et cetera. There is a lot of information on 15 this map. And on pages 50 through 53, is all of the data 16 Q. on the wells within the area of review contained in 17 those spreadsheets? 18 19 Α. That's correct. And I believe -- some of this data may have been presented at earlier hearings, but we 20 21 went ahead and compiled it again in its entirety. 22 EXAMINER JONES: Okav. 23 Q. (BY MR. BRUCE) And do pages 54 through 158 contain data on plugged and abandoned wells within the 24 25 areas of review?

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Page 14 That's correct. 1 Α. On my count, there are 46 plugged wells within the area of review for these 2 3 injection wells, and these represent schematic diagrams 4 showing how these wells were plugged. And in most 5 cases, there is a sundry notice attached to the plugged 6 diagrams that support the plugging data that we have. 7 Are any of these problem wells, in your Ο. opinion? 8 9 Α. In my opinion, there are no problem wells. Ι might point out, there are a couple of wells that don't 10 11 have bottom plugs, and that's because Celero couldn't get down to the bottom on a couple of these wells. 12 And 13 I can reference those wells if you would like, 14 Mr. Examiner. They're all here listed, 15 EXAMINER JONES: though, aren't they? Shown? 16 17 THE WITNESS: Yes, the diagrams are all Like I said, there are a couple of wells that 18 here. don't have bottom plugs, and if you want me to -- I 19 20 think they're fine because there are still plugs up-hole 21 and basically the salt section is isolated. There are no producing formations above the Queen -- Yates is 22 23 present out here, but it's not productive. And then the 24 salt goes from about 1500 to 2200 out here. So 25 basically the salt is isolated in all of these plugged

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1 wells.

Q. (BY MR. BRUCE) And pages 159 through 163, do
they contain water analyses as required by the C-108?
A. That's correct. There's a water analysis from
a producing well, the Rock Queen Unit Number 84, and
that is the water that we'll inject -- injecting
produced water.

8 Q. And I think this was testified to at some of 9 the other hearings in this matter. There is the 10 potential to use some fresh water as make-up injection 11 water?

A. I believe that there is in some -- I'm not sure exactly how much they're using, but there is -- they do have some wells where they use make-up fresh water.

15 Q. Do you foresee any compatibility issues between 16 the injection water and the formation water?

17 A. No. On page 161, it shows a compatibility18 test.

Q. And on page 164, there is the statement
regarding any evidence of a hydrological connection.
Have you reviewed the data and found any connection
between zones?
A. I have not.

24 MR. BRUCE: And the rest of that, 25 Mr. Examiner, of the C-108, is the notice, matters which

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Page 16 we have previously discussed. 1 (BY MR. BRUCE) Mr. Catanach, in your opinion, 2 ο. 3 is the granting of this application in the best interest of conservation and the prevention of waste? 4 5 Α. Yes. 6 MR. BRUCE: We've already identified the 7 exhibits and who prepared them, Mr. Examiner, so I'd move for the admission of Exhibits 3 and 4. 8 9 EXAMINER JONES: Exhibits 3 and 4 will be admitted. 10 (Celero Energy II, LP Exhibits Numbers 3 11 and 4 were offered and admitted into 12 evidence.) 13 14 MR. BRUCE: I have no further questions of this witness. 15 16 CROSS-EXAMINATION BY EXAMINER JONES: 17 The biggest question I've got is the -- and I 18 Q. may have asked this in the last hearing, but produced 19 gas versus reinjected produced gas, does that -- does 20 that have a pressure limit, or do you just assume that's 21 going to be the CO2 pressure limit? 22 23 Α. I would assume that would be the CO2 pressure 24 limit, because they did not ask for a separate limit on 25 the produced gas. So I assume that they're just abiding

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1 by the CO2.

Q. And they are going to -- they're not going to fractionate the gas? They're going to reinject -inject the methane/ethane?

5 A. That's my understanding.

Well, I think that the new acid gas rule is 6 0. 7 going to address notice issues for EOR projects, but hopefully all of these have already been done by the 8 time the rule comes out; it's going to be fine. But the 9 C-108, anyway, it looks -- thanks for presenting it. 10 11 I can't think of any more guestions. 12 Fourteen wells don't have API numbers in 13 here, so I can just pen them in real quickly, and it will be fine? 14 Yes, sir. All the information should be in 15 Α. If you need anything else, you can ask. 16 here.

17 Q. Okay. Thank you very much.

EXAMINER JONES: With that, we'll take 19 14942 and we'll continue it to February 21st. That's 20 approximately four weeks.

MR. BRUCE: Yes, sir.

22 EXAMINER JONES: And no more cases on the

23 docket. The docket is closed.

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, Examiner

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1 STATE OF NEW MEXICO

2 COUNTY OF BERNALILLO

3 4 CERTIFICATE OF COURT REPORTER 5 I, MARY C. HANKINS, New Mexico Certified Court Reporter No. 20, and Registered Professional 6 7 Reporter, do hereby certify that I reported the foregoing proceedings in stenographic shorthand and that 8 the foregoing pages are a true and correct transcript of 9 those proceedings that were reduced to printed form by 10 me to the best of my ability. 11 I FURTHER CERTIFY that the Reporter's 12 Record of the proceedings truly and accurately reflects 13 the exhibits, if any, offered by the respective parties. 14 15 I FURTHER CERTIFY that I am neither 16 employed by nor related to any of the parties or 17 attorneys in this case and that I have no interest in 18 the final disposition of this case. Man C. Hankers 19 20 MARY C. HANKINS, CCR, RPR 21 Paul Baca Court Reporters New Mexico CCR No. 20 22 Date of CCR Expiration: 12/31/2013 23 24 25

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