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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 SPC RESOURCES, LLC CASE NO. 20762 FOR COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO.

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

September 19, 2019

Santa Fe, New Mexico

BEFORE: KATHLEEN MURPHY, CHIEF EXAMINER PHILLIP GOETZE, TECHNICAL EXAMINER DANA Z. DAVID, LEGAL EXAMINER

This matter came on for hearing before the New Mexico Oil Conservation Division, Kathleen Murphy, Chief Examiner; Phillip Goetze, Technical Examiner; and Dana Z. David, Legal Examiner, on Thursday, September 19, 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 New Mexico CCR #20 Paul Baca Professional Court Reporters 500 4th Street, Northwest, Suite 105 Albuquerque, New Mexico 87102 (505) 843-9241

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                             APPEARANCES
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     FOR APPLICANT SPC RESOURCES, LLC:
 3
          KAITLYN A. LUCK, ESQ.
          HOLLAND & HART, LLP
          110 North Guadalupe, Suite 1
 4
          Santa Fe, New Mexico 87501
 5
          (505) 988-4421
          kluck@hollandhart.com
 6
 7
     FOR INTERESTED PARTY MEWBOURNE OIL COMPANY:
 8
          JAMES G. BRUCE, ESQ.
          Post Office Box 1056
 9
          Santa Fe, New Mexico 87504
          (505) 982-2043
          jamesbruc@aol.com
10
11
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Page 4 (11:16 a.m.) 1 2 EXAMINER MURPHY: Calling Case 20762, application of SPC Resources, LLC for compulsory 3 pooling, Eddy County, New Mexico. 4 5 Call for appearances. MS. LUCK: Kaitlyn Luck, with the Santa Fe 6 7 office of Holland & Hart, on behalf of the Applicant, 8 SPC Resources, LLC. 9 And I have two witnesses. 10 EXAMINER MURPHY: Any other appearances? 11 MS. LUCK: It was my understanding that 12 Mewbourne had entered an appearance in this case 13 previously. I don't see Mr. Bruce here. But SPC had resolved its issues with Mewbourne, and that may be why 14 Jim's not here now. 15 16 EXAMINER GOETZE: Is that part of the record? Do we have something in writing? 17 MS. LUCK: Yes, we do. Jim had entered his 18 19 appearance -- this case was originally set for the 20 September 5th hearing, and he had requested a continuance at that time. Since the September 5th 21 22 hearing, we were able to work out the issues, and that's 23 why the case is being heard today. 24 EXAMINER MURPHY: And your witnesses, can 25 they stand and be sworn in by the court reporter?

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1	(Ms. Singer and Mr. Weihe sworn.)
2	EXAMINER MURPHY: Please proceed.
3	MS. LUCK: Thank you.
4	NICOLE SINGER,
5	after having been first duly sworn under oath, was
6	questioned and testified as follows:
7	DIRECT EXAMINATION
8	BY MS. LUCK:
9	Q. Good morning.
10	Please state your name, identify by whom
11	you're employed and in what capacity.
12	A. My name is Nicole Singer. I'm the land and
13	legal manager for Santo Petroleum, which is the parent
14	company of SPC Resources, LLC.
15	Q. Have you previously testified before the
16	Division?
17	A. No.
18	Q. Please outline your educational background for
19	the examiners.
20	A. I have a J.D. from the University from Texas
21	Tech University School of Law, and I have a BS from the
22	University of Texas.
23	Q. And then provide your experience in the
24	industry.
25	A. I have been with Santo Petroleum for about a

year as their land and legal manager. Prior to that, I was with Occidental Petroleum for 18 months as a land manager and individual land negotiator. Prior to that, I was with Marathon for ten-and-a-half years. In my time at Marathon, I was four years as a landman and six years as in-house counsel. Prior to Marathon, I worked for Shell for about two years as a landman.

Q. And are you a member of any professional
9 organizations or associations?

I am. I'm a member of the Houston Bar 10 Α. 11 Association. I'm the immediate past chair of the oil and gas well section, which is a relief. I am a member 12 of the Texas Bar Association. I'm in and out of the 13 Rocky Mineral Law Foundation. I'm active as a -- I'm 14 active in the Association of Professional Landmen, AAPL, 15 16 and also the West Houston Association of Professional Landmen, WHAPL. 17

18 Q. Thank you.

19 And are you familiar with the application 20 filed in this case? 21 Α. Yes. 22 0. And are you familiar with the status of the 23 lands in the subject area? 24 Α. Yes. 25 MS. LUCK: With that, I would tender

Page 7 Ms. Singer as an expert in petroleum land matters. 1 2 EXAMINER MURPHY: So qualified. 3 Is a resume attached? MS. LUCK: I have not provided their 4 5 resumes since they're here testifying in person, but I'm happy to supplement that if the examiners request. 6 7 EXAMINER MURPHY: No. I quess that's okay. 8 So qualified. 9 MS. LUCK: Thank you. 10 THE WITNESS: Thank you. 11 0. (BY MS. LUCK) Ms. Singer, please turn to 12 Exhibit 1 and identify what's shown on these maps and 13 explain what SPC seeks under this application. So the very first exhibit is a project locator 14 Α. map that's zoomed out so you can see the entire outline 15 16 of the City of Carlsbad. The green outline represents the unit that we're seeking to compulsory pool today. 17 18 And then the red lines represent typical Wolfcamp; 19 Purple Sage Gas Pool wells in the area which are 20 producing, and the black lines represent Wolfcamp; 21 Purple Sage APDs that are drilling or waiting on 22 completion. 23 And what is it that SPC seeks in this 0. 24 application? 25 We seek to form a 1,257.1-acre Wolfcamp unit Α.

consisting of Section 12 of 22 South, Range 26 East and
 Section 7 of 22 South, Range 27 East. The unit lands
 are partially within the city limits of Carlsbad, New
 Mexico. We have placed the surface-hole locations
 outside of the city limits.

Q. And your Exhibit 1B shows the path of the
proposed wellbores within the proposed spacing unit?
A. Yes.

9 Q. So turning to Exhibit 1C, explain what's shown 10 on this map.

11 So this is a more detailed leasehold ownership Α. 12 map, and we can just sort of walk through the key. I know it's pretty tiny. But, again, the red outline is 13 the outline of the entire unit. The solid yellow tracts 14 show tracts that are 100 percent leased by SPC 15 16 Resources, LLC. The hatched yellow shows tracts that are partially leased by SPC Resources. 17 The gray shows 18 tracts that are leased by third parties, not SPC 19 Resources. And the light blue shows unleased mineral --20 unleased tracts that are owned by mineral interest The hatch crosses over both unleased tracts and 21 owners. 22 tracts owned by others. 23 The green outline shows where we will site 24 these wells that are part of this application, and the

25 black outline, which is the reason we gave you the

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Page 9 zoom-out, is the outline of the Carlsbad city limits in 1 2 this area so that you can see, in a more zoomed-in fashion, that our wells are sited outside the city 3 limits. 4 5 MS. LUCK: And just for the examiners' purposes, we're happy to provide a PDF of this, not a 6 7 scanned version, so you're able to zoom in more if you'd 8 like. 9 EXAMINER MURPHY: Thank you. 10 (BY MS. LUCK) Moving on to Exhibit 2, how many Q. 11 wells does SPC seek to dedicate to this proposed spacing 12 unit? 13 Α. Two. 14 And are SPC Exhibits 2A and 2B the C-102s for 0. 15 the proposed wells? 16 Α. Yes. 17 And do the C-102s designate the wells being Q. 18 located in the Purple Sage; Wolfcamp Pool? 19 Α. Yes. 20 And will the wells comply with the 330 setbacks Q. 21 under the special rules? 22 Α. Yes. 23 And has the surface location for the 3H well 0. 24 changed from Unit L to Unit E since the filing of the 25 application for hearing?

Page 10 1 Α. Yes. 2 And what is the nature of the lands in this 0. 3 spacing unit? They are all fee. 4 Α. 5 And are there any depth severances in this Q. 6 pool? 7 Α. No. 8 In this case SPC seeks to pool unleased mineral Q. 9 interest owners, working interest owners and overriding royalty interest owners? 10 11 Α. Yes. 12 Q. And has locating all the mineral interest 13 owners been a challenge for this area? It has due to the volume of the tracts and the 14 Α. small size of the tracts, which go down to the 15 16 individual lot level in some areas. 17 Q. And so expand upon that a little bit more, 18 about how the tracts are owned down to the lot-size 19 level? 20 So in a general sense, minerals were conveyed Α. at the dedication or point of subdivision, so they were 21 conveyed to the individual owners of the first house 22 that was built on each lot. And then when that house 23 24 was sold at some point in time after, those minerals 25 were either reserved, which is what happened in most

Page 11 cases inside the city limits of Carlsbad, but in some 1 2 cases, they've been conveyed out since. 3 Q. And how long has SPC been working on the 4 ownership issues here? So we identified this area, which is 5 Α. approximately -- the project area is eight sections in 6 7 and around and on top of Carlsbad. We identified that 8 as a potentially prospective area for leasing around the end of 2016 and early '17. 9 So in the middle of 2017 is when we 10 11 partnered with a terrific brokerage firm out of 12 Lafayette, Louisiana called the Schoeffler Energy Group, and they've really worked with us to begin looking at 13 the ownership. So early on we were hopeful that maybe 14 developers had reserved the minerals and then determined 15 16 rather quickly that all the minerals had been conveyed down to the lot level. 17 18 So in the middle of 2017, we actually set 19 up an office inside of Carlsbad to start working on the 20 project, working on the research to identify mineral owners. And then we approached the city council sort of 21 in the middle of '17 and towards the end of '17 and 22 attended many of the city council meetings to just talk 23 24 about the project and work with the City to get their 25 support, which we did. And so we attended, like I said,

Page 12 multiple meetings where we ultimately got support to go 1 door to door to identify and locate mineral owners. 2 And then the City ultimately passed an 3 ordinance granting us the right to take a lease from 4 them, so we have an 800-acre lease from the City of 5 Carlsbad covering streets, alleys -- alleyways, streets 6 7 and then like public -- public spaces that are owned by 8 the City. That's an 800-acre lease. There's only about 80 acres in this unit out of that lease. And then the 9 school board followed suit, and we also have a lease 10 11 that we secured from the school board at that time. We 12 have also secured a lease from the County. 13 So any publicly owned fee minerals are secured and are under lease by SPC. 14 15 What process was unitized to identify all ο. 16 mineral owners? 17 So a very typical mineral ownership research Α. process. It just had to happen at every single lot 18 19 So we used the records of Guaranty Title Company level. 20 Title Plan in Carlsbad, New Mexico. We also used the records of Currier Abstract Company Title Plan in 21 22 Artesia, New Mexico. We also used the records of Eddy 23 County Clerk to identify the owner from inception and 24 then find all of the conveyances out of each lot to 25 occurrence, which oftentimes that just goes into heirs,

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1 to pinpoint the current owners of every single tract.

2 Q. And then from there, what did you do with each 3 conveyance?

A. You bring it forward, and you also cross-check it against the county clerk of Eddy, which I mentioned, but also the probate clerk court records in Eddy County and the district court clerk in Eddy County. And then if you find any names in that, you go back and double-check that there are no conveyances due rulings out of those publicly available records.

Q. So did SPC prepare mineral ownership reports or
 limited certificates of title for each interest?

13 We did. So for each tract, based on that Α. research, we have a limited certificate of title or a 14 mineral ownership report, and copies of every single one 15 16 of those, we have in a per-lease file. And then we also have copies for every tract that we were unable to 17 18 locate a lessor in. So those are filed. And each file 19 details our attempts taken to reach or identify each 20 owner that we weren't able to secure a lease from. 21

21 Q. And so did SPC also obtain title opinions to 22 ensure accurate ownership information?

A. We did. So to backstop all of the lot-level research that I just described, we've commissioned title opinion from inception to current on any tracts that are

Page 14 larger than three acres. For subdivisions, we 1 2 commissioned title from inception to the point of subdivision so that we could make sure that there was no 3 reservation by a developer, and then from that point on, 4 5 it's overlaid by the process I just described where each lot is then brought forward under an LTC or an MOR. 6 7 ο. And what about any tract that was outside of 8 the subdivision? Any tract outside of the subdivision that was 9 Α. smaller than three acres, we also have relied on an MOR 10 or LTC to identify ownership and take a lease. 11 12 0. So now I'd ask you to turn to SPC Exhibit 3A, 13 which is the ownership breakdown. And on this exhibit, 14 I see -- it appears about 61.8 percent is leased to SPC 15 and 31.7 percent is leased to other parties. And then 16 how many remain unleased? 17 Approximately 6.3 percent of the unit remains Α. 18 unleased. 19 Q. And that represents about how many individuals? 20 So there is still approximately 400 individual Α. 21 owners who we've attempted to contact and have notes 22 about contacting who remain unleased. 23 But how many unleased mineral owners did SPC 0. 24 initially identify? Between 600 and 700. So about 650 that we've 25 Α.

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been successful in obtaining many leases, but we still have some unleased mineral interest owners who are unlocatable or are unwilling to enter into a voluntary lease.

5 Q. So what efforts were undertaken to locate and 6 reach an agreement with the remaining unleased mineral 7 interest owners?

8 Α. So because we got permission from the City, we -- the team that I mentioned that we partnered with, 9 Schoeffler Energy Group, in 2017 and all of 2018, we 10 11 knocked on doors. We left door hangers of information 12 about SPC Resources and who we were. And then we would also go and identify the last known address of record, 13 which could be anywhere in the U.S. And then we also 14 looked for addresses in the Carlsbad and Eddy County 15 16 phonebook. We also looked at the tax assessor's records, and we also used various common online search 17 18 tools to locate mineral owners.

Q. And SPC also sent a letter to these unleased
owners, and that will be included later as Exhibit 4A?
A. Yes.

And so we would call any numbers that were found in the phonebook. Like I said, we would search all various websites. And then we also hired two local residents who had lived in Carlsbad for over 30 years or

Page 16 maybe longer, to be honest, who had lived in Carlsbad 1 for many years and who could sometimes help us find 2 families and family members and where they were if we 3 couldn't find their current location of record. 4 5 Now, turn to Exhibit 3B. This breaks down the Q. 6 31.7 percent working interest owners shown held by other 7 parties in the unit. 8 Α. Yes. What working interest owners remain to be 9 Q. pooled? 10 11 All those shaded in gray. Α. 12 0. And did SPC undertake a good-faith effort to 13 locate every working interest owner that remains to be 14 pooled? So we have detailed mail tracking records 15 Α. Yes. 16 indicating that each of the owners listed in gray was sent a well proposal and accepted same and sent a notice 17 18 of hearing and accepted same, with the exception of two 19 companies. So if you look at this exhibit, we were 20 unable to locate and unable to secure any kind of 21 delivery. Lignum Oil Company and CMS NOMECO, we believe 22 that those companies no longer exist, and they are no 23 longer in good standing with the Secretary of State. 24 0. And in addition to the well-proposal letters, 25 what efforts were undertaken to locate and contact any

1 uncommitted working interest owners that you seek to 2 pool in these wells?

So in addition to making sure that they 3 Α. accepted delivery of a mailout, if they didn't, we made 4 sure that we found an email address and got a response, 5 and we then also looked for their last known address of 6 7 record, pulled it forward. And so my team has made 8 phone contact or email contact with a representative 9 from every single gray company listed but for the two red companies. 10

Q. And so is SPC continuing to negotiate with any
 remaining uncommitted working interest owners?

A. We are, and we will continue to do so due tothe nature of these lands.

Q. And could you just explain the status of the
discussions like in a general sense with those -A. Yeah. Absolutely.

18 So there's sort of three buckets of working 19 We've had some -- and they're noted in interest owners. 20 blue on this same exhibit -- who have indicated an 21 election to participate. So they've returned that 22 paperwork. And we have sent them a joint operating 23 agreement that they're reviewing and may, in fact, sign, 24 or they may decide to participate under the order. 25 And then we have a bucket of folks who have

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Page 18 conveyed to us that they want to remain a part of this 1 compulsory pooling process. And then we have a host of 2 3 folks who wish to assign their interests to us, and we're working through the details of picking up those 4 5 interests. So will SPC notify the Division if it reaches 6 0. 7 an agreement with any of these remaining uncommitted 8 working interest owners? 9 Absolutely. Α. 10 Turning to Exhibit 4A, this is the letter that 0. 11 we mentioned previously that was sent to the unleased 12 mineral interest owners? 13 Α. Yes. And turning to Exhibit 4B, is this a sample 14 ο. well-proposal letter that was submitted to the working 15 interest owners? 16 17 Α. Yes, along with AFEs attached for both wells. 18 Okay. And are the costs reflected on the AFEs 0. 19 consistent with what SPC or other operators have 20 incurred for drilling similar horizontal wells in the 21 area? 22 Α. Yes. So we have COPAS rates of 8,000 a month for drilling wells and 800 a month for producing wells, 23 and we've inserted those same rates into the joint 24 25 operating agreements.

	Page 19
1	Q. And are these costs also similar to what SPC
2	and other operators in the area are charging for similar
3	wells?
4	A. Yes.
5	Q. Are there any overriding royalty interest
6	owners that require pooling in this case?
7	A. Yes.
8	MS. LUCK: And we have included in our
9	packet later on in Exhibit 5C the information that each
10	of the overrides were provided notice of this hearing.
11	Q. (BY MS. LUCK) And so with this, SPC undertook
12	efforts to provide notice of the hearing by certified
13	mail to all of the interests that remain to be pooled;
14	is that correct?
15	A. Yes.
16	Q. So turning to Exhibit 5, this is our notice
17	letter that was sent to all of the parties to be pooled
18	in this case?
19	A. Yes. And there are two notice letters. You'll
20	note there are two pages. We sent out a letter on
21	August 30th. And then to folks that we realized hadn't
22	accepted certified mail, we re-sent the letter on August
23	7th, and we also have since contacted all of those folks
24	via phone or email.
25	Q. And that's original letter on August 7th and

Page 20 1 you sent it to --2 Α. Yes. Sorry. I got mixed up. And so Exhibits 5A, 5B and 5C contain the mail 3 Q. 4 status for the certified letters providing notice of 5 this hearing? 6 Α. Yes. 7 So 5A provides the tracking information for ο. 8 each of the unleased mineral interest owners? 9 Α. To their best last known address. 10 And then 5B is the tracking information for the Q. 11 working interest owners? 12 Α. Yes. 13 And then 5C is the mailing status of the 0. 14 certified letters to the overrides? 15 Α. Yes. 16 And did the company also provide notice by Q. 17 publication directed by name to the parties that remain 18 to be pooled? 19 Α. Yes. 20 And that's included as SPC Exhibit C? Q. 21 Α. Yes. 22 Were Exhibits 1 through 5 prepared by you or Q. 23 compiled under your direction and supervision? 24 Α. Absolutely. 25 MS. LUCK: And with that, I move the

Page 21 admission into evidence of SPC Exhibits 1 through 6. 1 EXAMINER MURPHY: Exhibits 1 through 6 are 2 3 accepted. EXAMINER GOETZE: Well, we might take a 4 5 moment -б (Mr. Bruce enters the room, 11:34 a.m.) MR. BRUCE: Mr. Examiner, Jim Bruce 7 8 representing Mewbourne Oil Company. I have no objection to anything. 9 10 EXAMINER GOETZE: Okay. Well, my 11 understanding is that -- we had already had a discussion about Mewbourne has been satisfied to a point. 12 13 MR. BRUCE: Correct. 14 EXAMINER GOETZE: Okay. Continue. 15 16 THE WITNESS: Thank you. 17 EXAMINER MURPHY: Exhibits 1 through 6 will be admitted. 18 19 (SPC Resources, LLC Exhibit Numbers 1 20 through 6 are offered and admitted into evidence.) 21 22 MS. LUCK: And I have no further questions for this witness. 23 24 25

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1	CROSS-EXAMINATION
2	BY EXAMINER GOETZE:
3	Q. My turn.
4	So thank you very much for having gone
5	through the effort of dealing with the City. I'm sure
6	you didn't have any choice once you found out property
7	belonged to them.
8	Has there been any concern raised with
9	regards to the County, the City and other public
10	entities having mineral rights as far as having the
11	authority to lease it out? Is this something that's
12	common?
13	A. So no problems. That's where we started. So
14	we approached the City first, and they passed an
15	official ordinance. And I believe 2017-28 is the
16	official ordinance where they adopted right to enter
17	into a lease with us. The school board followed suit.
18	And we actually just secured the County lease yesterday.
19	So you'll see a whited-out line I don't know what
20	page it is in the unleased mineral interest owner
21	exhibit. That has a white-out line, and that's because
22	we secured the County lease that rolled in yesterday.
23	Q. And how long did this entire process take?
24	A. Yes. So we kicked it off at the end of 2016,
25	which John will talk about a little bit more, because he

Page 23 is the reason that we took this on because he identified 1 2 some sections that looked prospective but were a 3 step-out. And then we took basically all of 2017 to identify the owners and find them. And then we used all 4 5 of '18 to secure leases. So we closed up the office in Carlsbad at the end of '18. But it was fully staffed 6 7 with close to 20 individuals for a solid year and a 8 half. 9 And then we're using for building blocks in the 0. horizontal spacing unit the 320 acres; is that correct? 10 11 Yes, sir. Α. 12 0. No more questions. Thank you. 13 Α. Thank you. 14 EXAMINER MURPHY: I have no more questions. 15 THE WITNESS: Thanks. 16 CROSS-EXAMINATION BY EXAMINER DAVID: 17 18 Q. Well, I really applaud the effort that you guys 19 made to try to find these, and I appreciate you -through your attorney, you kind of hit all the issues 20 21 that I would ask questions about. 22 Thank you for identifying the line that was 23 That was one question I had just, for the whited out. record. So to the best of your knowledge, the --24 25 the --- the tables that have the -- that show the

Page 24 results of mailing out the notices, to the best of your 1 2 knowledge, these are complete and all -- and all the 3 identified property owners, you verified that each name 4 was on here? 5 So those are complete and accurate, and I Α. Yes. had to cut it off at about 3:30 p.m. yesterday. 6 So we 7 were whiting out up until that point yesterday. 8 And I do want to go on the record to say that we will continue to work with anybody who surfaces 9 10 on voluntary agreements because it makes a lot more sense to us to have paperwork. So whether that be 11 12 lessors that want to, in fact, lease to us and/or working interest owners, because you'll see the working 13 interest owner list. They own teeny, tiny interests. 14 So we don't want to use compulsory pooling against 15 16 anyone, but we really just need it for all the folks that we couldn't locate and the folks that just don't 17 18 understand that they own a really small, tiny mineral 19 interest inside of the City of Carlsbad because it was 20 their grandfather's house or their great grandfather's 21 house. 22 And for the -- the Notice of Publication by 0. 23 notice -- at the time of notice, that the list of 24 individuals on the -- I mean, you verified that all the 25 identified property interests are actually --

Page 25 Absolutely. That's a snapshot in time. 1 Α. There are definitely folks that have come off of that. 2 Ι mean, just since we did the mail-out at the beginning of 3 August, we've had between 10 and 12 leases roll in. 4 So 5 that was a snapshot in time at the very end of July of everyone that still remained to be compulsory pooled. 6 7 But folks have come off of that since then. 8 Q. Understood. Thank you very much. Thank you. 9 Α. 10 No more questions? 11 EXAMINER MURPHY: No. 12 THE WITNESS: Okay. Thank you. 13 MS. LUCK: And with that, I'd call my next witness, John Weihe. 14 15 JOHN WEIHE, 16 after having been previously sworn under oath, was questioned and testified as follows: 17 18 DIRECT EXAMINATION 19 BY MS. LUCK: 20 Will you state your name for the record, Q. 21 identify by whom you're employed and in what capacity? 22 My name is John Weihe, and I'm employed by Α. 23 Santo Petroleum Company, which is the parent of SPC Resources, as exploration manager. That's my position. 24 25 And have you previously testified before the Q.

1 Division?

7

2 A. No.

Q. Please provide the examiners with your
educational background.

5 A. I have a bachelor's of science in geophysical6 engineering from the Colorado School of Mines.

Q. And detail your work experience.

8 Α. I've worked for Santo Petroleum for the last 9 three-and-a-half years as exploration manager, and prior 10 to that, I worked for close to 15 years for Callon Petroleum Company. I was hired as a geologist in 2000 11 with Callon. Prior to that, I worked British Borneo and 12 13 ENI for four years. And then I was hired out of college by Unocal and worked with them for 13 years prior to 14 that. 15

Q. And are you a member of any professional
 organization or associations?

18 A. I am. I'm a member of PSEG and the Roswell19 Geological Society.

Q. Are you familiar with the application filed by
SPC Resources in this case?

A. Yes, I am.

Q. And have you conducted a geological study of
the lands that are the subject of this application?
A. Yes, I have.

Q. And like Nicole mentioned earlier, could you
 just explain a little bit more your involvement in this
 project?

Sure. So back in 2016, we initiated regional 4 Α. 5 mapping and trying to identify prospectivity, and we identified it, of course, in many areas of New Mexico. 6 7 And this was exclusively in the Delaware Basin of 8 New Mexico. And one of the areas was in the City of 9 Carlsbad, and that kind of picks up the story where 10 Miss Nicole was talking about as far as initiating 11 studies to, you know, really look at the feasibility of 12 leasing there, and, of course, doing a lot of research on any kind of seismic concerns there might be, research 13 on the brine well, all kinds of things to just ensure 14 feasibility, and then we -- and then we started 15 16 leasing --17 MS. LUCK: And so with that, I tender Mr. Weihe as an expert in petroleum geology. 18 19 EXAMINER DAVID: Mr. Bruce is on record as 20 no objection so -- unless he interrupts us, I think we 21 can --22 So qualified. EXAMINER MURPHY: 23 MS. LUCK: Thank you. 24 THE WITNESS: Thank you. 25 (BY MS. LUCK) So what is the target interval Q.

Page 28 for the wells under this application? 1 2 So the target intervals -- and I apologize. Α. 3 Let me just move to the displays here -- the display numbers. 4 5 There we go. 7? 6 0. 7 Α. 7. 8 So the target intervals of the wells --9 there are two wells. We would like to propose target intervals in the Wolfcamp A and in the Wolfcamp D. 10 11 ο. And have you created a structure map for the 12 target intervals? Yes, I have. 13 Α. 14 Q. So turning to SPC Exhibit 7, explain what this 15 map shows. Exhibit 7 is a structure map at the top of the 16 Α. 17 Wolfcamp A, and the black lines are structural contours 18 in subsea depth. The subsea depths' control points are 19 labeled in black numbers next to their well location 20 points. Some of these deviated wells that you see red 21 lines in many directions, those are not horizontal 22 wells. Those are deviated wells due to surface constraints, and they had two control points for this 23 24 structural top. 25 The unit outline is in green, Section 12

Page 29 and Section 7, and the contour interval is 25 feet. And 1 2 the map depicts the location of the proposed Wolfcamp A well, as well as additional proposed wells from other 3 operators in the area. 4 5 And those are depicted by the --Q. The black -- the black kind of east-west lines. 6 Α. 7 And is the structure consistent throughout ο. 8 these two sections? 9 The structure actually is very flat, Α. Yes. really essentially zero degrees through Section 7 and 10 dips increase to about 1-and-a-half degrees on the --11 12 and in general, the regional dip is to the southeast. Dips increase about 1-and-a-half degrees in the west 13 half of Section 12. 14 15 Okay. So turning to SPC Exhibit 8, could you ο. 16 identify what's shown on this map? It appears to be shown in Exhibit 7, but I'll let you explain what the 17 18 differences are here. 19 So it's an identical format with control Α. Yes. points structural contours. The contour interval is 25 20 feet and the unit outline. And similarly to the 21 Wolfcamp A, the Wolfcamp D here is very flat throughout 22 23 Section 7 and the east half of Section 12 and dips 24 increasing to about a degree and a half in the west half 25 of Section -- Section 12.

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1	Q. And this map shows the path of the proposed
2	wellbore for the 3H well?
3	A. Yes, ma'am. Yes. That shows the Wolfcamp D
4	location surface- and bottom-hole location.
5	Q. And with these two maps, Exhibits 7 and 8, do
б	you observe any faulting, pinch-outs or other geologic
7	impediments to horizontal development?
8	A. No, I don't. I don't see any faulting. I
9	don't see any pinch-outs, and I don't see any
10	impediments at all to horizontal development.
11	Q. And I also note that these wells are going to
12	be drilled east to west. Is this the preferred
13	orientation for these wells?
14	A. Yes. I do believe east to west is the
15	preferred orientation. The horizontal maximum
16	compressive stress direction is dominantly north-south
17	about north 10 degrees east, so it really sets up
18	ideally for east-west horizontal development.
19	Q. And then I also note that there's these other
20	permitted laterals to the east of the proposed spacing
21	unit, and those are also east-west?
22	A. Yes. They are also east-west.
23	Q. And so have you created a cross section for
24	these two target zones within the Wolfcamp?
25	A. Yes, I have.

Page 31 1 Please turn to Exhibit 9 and explain what this 0. 2 map shows. So Exhibit 9 is a base map of the unit 3 Α. Yes. area -- the proposed unit area, and it depicts the 4 5 locations of the two proposed wells that we're talking about. And then the dotted line shows the locations in 6 7 a cross section that we will talk about. At A, A prime 8 crosses essentially all of the well control in the -- in 9 this unit area -- in this proposed unit area, with the exception of the Douglas 1, which is right next to the 10 11 Douglas 2, which is on the cross section. And that's in the far eastern side of Section 7. 12 13 And so you used four wells to create this cross 0. 14 section? 15 Α. That's correct. 16 And these are the logs that are representative Q. 17

17 of the target zone in the area?

18 A. Yes, I think so.

Q. And turning to SPC Exhibit 10, please explain
what that exhibit shows?

A. Okay. So this is a cross section from those four well locations. There are two panels under each well location. The panel on the left is the gamma ray with API units from zero to 150. It also has a caliper log on it, and there is shading in blue for gamma ray 1 values less than 80.

2	On the right side of each log is a deep
3	resistivity from that well log, and it's on a scale up
4	to 2,000 ohms, and it's shaded in green everything over
5	8 ohms. So kind of this is not hung on any
6	geological horizon. This is a structural cross section,
7	so it kind of depicts the fairly flat nature of the
8	area, thus indicating, you know, no faults, conducive to
9	horizontal development.
10	I'll start kind of from the bottom up, the
11	two targets. So if you'll notice the last three picks
12	on the cross section, they're the Wolfcamp D, a Wolfcamp
13	D marker and a Wolfcamp D Shale base. And the base of
14	the shale is really underpinned by, in this area, more
15	or less a regional carbonate debris flow, which I think
16	will act as a good frac barrier below.
17	The D1 marker is a regional highstand
18	event, and it provides a nice signature. You can see
19	that kind of the highest excursion of the gamma ray
20	provides a nice mapping tool in the area. And then the
21	top of the D shale is kind of the first major burst of a
22	carbonate debris flow as that section gradually coarsens
23	upward into the Wolfcamp C. And our landing zone will
24	target right at the top of the Wolfcamp D. And both the
25	Wolfcamp D and the Wolfcamp C, as defined by this cross

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section and internally how we define it, has been
 drilled by other operators.

As you move up the section, you go through 3 more of a low-resistivity silty-shaley interval, and you 4 move up to -- which we call the Wolfcamp B, and then you 5 move up into the Wolfcamp A section. And at the base of 6 7 the Wolfcamp A is dominantly a limestone composed of 8 carbonate debris flows from the North West Shelf. And it builds up about 50 feet, and then grades into sandy 9 shales at the top of the Wolfcamp A. 10

And then there's a little shale break, and then you go into the Wolfcamp Y Sand, which is the 2nd Sand member of the Wolfcamp X-Y, and that would be our planned and proposed landing interval. It's right kind of in the middle of the Wolfcamp A, and it is the dominant choice of landing by industry for Wolfcamp X-Y wells.

Above the Y Sand is another carbonate debris flow interval, and then you go into the X Sand, which typically has a higher carbonate content, a little less porosity but is indeed a coarse turbidite sand, as is the Y Sand.

And then finally you go into another highstand carbonate debris flow followed by a capping shale at the top of the Wolfcamp A.

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Page 34 And so that describes the two intervals 1 2 that we would like to develop. 3 Q. Thank you. 4 And in your opinion, is the proposed 5 spacing unit an area that can be efficiently and economically developed by horizontal wells? 6 7 Yes, I do. Α. 8 Q. And do you believe each tract in the proposed 9 spacing unit will contribute more or less equally to the 10 proposed spacing unit? 11 I absolutely do. Uh-huh. Α. Yes. 12 Q. And in your opinion, will the granting of SPC's 13 application be in the best interest of conservation, the 14 prevention of waste and the protection of correlative 15 rights? 16 Α. Yes. I really do. And I think, you know, our plan for horizontal development utilizing that 17 18 technology is maybe the only way for the public and 19 private mineral owners to realize their value. 20 And were SPC Exhibits 7 through 10 prepared by ο. 21 you or compiled under your direction and supervision? 22 Yes, ma'am, they were. Α. 23 MS. LUCK: And with that, I'd move the admission of Exhibits 7 through 10. 24 25 EXAMINER MURPHY: Exhibits 7 through 10.

Page 35 MR. BRUCE: No objection. 1 2 EXAMINER MURPHY: Sorry, Mr. Bruce. Exhibits 7 through 10 are admitted. 3 (SPC Resources, LLC Exhibit Numbers 7 4 5 through 10 are offered and admitted into evidence.) 6 7 MS. LUCK: I have no further questions for 8 this witness. 9 EXAMINER MURPHY: Mr. Goetze? 10 MR. BRUCE: I have no questions. 11 EXAMINER GOETZE: Come on. One or two? 12 CROSS-EXAMINATION 13 BY EXAMINER GOETZE: 14 I think I have one question. 0. 15 Α. Sure. 16 Your upper well, your 2H, any consideration Q. 17 that you may be reaching up into the base of the Bone 18 Spring, or do you think you'll be fully contained with 19 what you've got as far as location of your --20 So that's a good question. The fracture --Α. from a fracture -- we would plan to fracture stimulate 21 this well, of course, a horizontal, just like -- very 22 23 similar to industry practices. And I believe that it's 24 possible that fractures could go up into the Bone 3. 25 It's about 150 feet up from our planned location. But

Page 36 in my professional opinion, at this landing location, 1 the bulk of the reserves would be derived from the --2 from the Wolfcamp at that location. 3 4 ο. Okay. And --5 And I would say -- and I would say the vast Α. б It would be minimal. bulk. 7 And if I may speak to this, if we go to the 8 broader development plan, our broader development plan 9 is four wells per section in the D at 1,320 spacing, 660 off the -- off the leaselines. As we go up into that 10 11 specific area you're talking about, in the -- in the Wolfcamp X-Y and the Bone 3, all our other levels have 12 straight four levels, we plan on wine-racking those two 13 levels to maximize the efficiency of development of the 14 Wolfcamp and the Bone Spring, which would come in a --15 16 in a later hearing here for the Bone Spring. 17 Q. Okay. And what kind of native porosity are you 18 thinking you'll have for each well, the 2H well? 19 In the Y Sand, about two-thirds of the 35-foot Α. 20 average thickness has in excess of 8 percent porosity, so about 25 out of 35 feet has in excess of 8 percent 21 22 porosity. I would estimate the density porosity average 23 through the zone to be somewhere in that 7 to 9 percent 24 range. 25 I have no further questions. Thank you. Q.

Page 37 A. Thank you. 1 2 EXAMINER MURPHY: I have no questions. 3 Mr. David? 4 EXAMINER DAVID: I have no questions 5 either. б MS. LUCK: Thank you. 7 And so with that, I would request that the case be taken under advisement. 8 EXAMINER MURPHY: Case Number 20762 will be 9 taken under advisement. 10 11 MS. LUCK: Thank you. 12 EXAMINER MURPHY: Meet back here at 1:15. (Case Number 20762 concludes, 11:56 a.m.) 13 14 (Recess, 11:56 a.m. to 1:17 p.m.) 15 16 17 18 19 20 21 22 23 24 25

Page 38 1 STATE OF NEW MEXICO 2 COUNTY OF BERNALILLO 3 CERTIFICATE OF COURT REPORTER 4 5 I, MARY C. HANKINS, Certified Court Reporter, New Mexico Certified Court Reporter No. 20, 6 7 and Registered Professional Reporter, do hereby certify 8 that I reported the foregoing proceedings in 9 stenographic shorthand and that the foregoing pages are a true and correct transcript of those proceedings that 10 were reduced to printed form by me to the best of my 11 12 ability. 13 I FURTHER CERTIFY that the Reporter's Record of the proceedings truly and accurately reflects 14 the exhibits, if any, offered by the respective parties. 15 16 I FURTHER CERTIFY that I am neither employed by nor related to any of the parties or 17 18 attorneys in this case and that I have no interest in 19 the final disposition of this case. 20 DATED THIS 9th day of October 2019. 21 22 MARY C. HANKINS, CCR, RPR 23 Certified Court Reporter New Mexico CCR No. 20 Date of CCR Expiration: 12/31/2019 24 Paul Baca Professional Court Reporters 25