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1 2	STATE OF NEW MEXICO ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION
3	IN THE MATTER OF THE HEARING CALLED ORIGINAL
4	THE PURPOSE OF CONSIDERING: CASE 15410
5	
6	APPLICATION OF ENERGEN RESOURCES CORPORATION FOR APPROVAL OF THE AMARILLO CANYON UNIT, CREATION OF A NEW POOL FOR HORIZONTAL
7	DEVELOPMENT, AND ESTABLISHING 330-FOOT EXTERIOR BOUNDARY SETBACKS FOR COMPLETED
8	INTERVALS FOR HORIZONTAL WELLS WITHIN THE UNIT, SAN JUAN COUNTY, NEW MEXICO.
9	
10	REPORTER'S TRANSCRIPT OF PROCEEDINGS
11	EXAMINER HEARING
12	December 3, 2015
13	Santa Fe, New Mexico
14	
15	BEFORE: MICHAEL MCMILLAN, CHIEF EXAMINER WILLIAM V. JONES, EXAMINER GABRIEL WADE, LEGAL EXAMINER
16	GABRIEL WADE, LEGAL EXAMINER 5
17	This matter came on for hearing before the
18	New Mexico Oil Conservation Division, Michael McMiHan, Chief Examiner, William V. Jones, Examiner, and Gabriel
19	Wade, Legal Examiner, on December 3, 2015, at the New Mexico Energy, Minerals, and Natural Resources
20	Department, Wendell Chino Building, 1220 South St. Francis Drive, Porter Hall, Room 102, Santa Fe, New
21	Mexico.
22	REPORTED BY: ELLEN H. ALLANIC NEW MEXICO CCR 100
23	CALIFORNIA CSR 8670 PAUL BACA COURT REPORTERS
24	500 Fourth Street, NW Suite 105
25	Albuquerque, New Mexico 87102

Page 2 APPEARANCES 1 For the Applicant 2 3 J. SCOTT HALL, ESQ. Montgomery & Andrews Law Firm 325 Paseo de Peralta 4 Santa Fe, New Mexico 87501 (505) 982-3873 5 shall@montand.com 6 7 8 INDEX 9 CASE NUMBER 15410 CALLED ENERGEN RESOURCES CORPORATION CASE-IN-CHIEF 10 11 WITNESS DEAN PRICE 12 Direct Redirect Further 13 By Mr. Hall 5 14 Examination By Examiner McMillan 17 17 15 By Examiner Jones 16 17 WITNESS DONALD D. LEHMAN 18 Direct Redirect Further By Mr. Hall 22 19 20 Examination By Examiner McMillan 31 21 34 By Examiner Jones 22 23 24 PAGE 25 Reporter's Certificate 42

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1	(Time Noted 1:34 p.m.)
2	EXAMINER McMILLAN: Okay. Let's call the
3	hearing back to order. I would like to call case 15410,
4	Application of Energen Resources Corporation for
5	Approval of the Amarillo Canyon Unit, Creation of a New
6	Pool for Horizontal Development, and Establishing
7	330-Foot Exterior Boundary Setbacks for Completed
8	Intervals for Horizontal Wells Within the Unit, San Juan
9	County, New Mexico.
10	Call for appearances.
11	MR. HALL: Scott Hall, Montgomery and
12	Andrews Law Firm, Santa Fe, appearing on behalf of the
13	Applicant Energen Resources Corporation. And I have two
14	witnesses to be sworn.
15	EXAMINER McMILLAN: Any other appearances?
16	(No response.)
17	EXAMINER McMILLAN: There was a prehearing
18	statement by Phillip L. White, and he requested a
19	continuance. That request will be denied because we did
20	not receive it till November the 30th.
21	MR. WADE: There was also no contact
22	information and he did indicate that he was being
23	represented by the Jennings Law Firm.
24	The OCD confirmed that the Jennings Law Firm
25	does not represent him. And we had no way of getting

Page 5 ahold of him. So his motion to continue is denied. 1 EXAMINER McMILLAN: Okay. If the two 2 3 witnesses will please stand up to be sworn in. (WHEREUPON, the presenting witnesses 4 were administered the oath.) 5 MR. HALL: Mr. Examiner, we will call Dean 6 7 Price to the stand first. Mr. Examiner, also there are several folks 8 who came down here from the area. We have a few extra 9 sets of exhibits and I'd be glad to share what we have. 10 MR. WADE: For the people that are 11 observing, Mr. Hall is offering those extra copies of 12 13 exhibits, if anybody's interested. DEAN PRICE 14 having been first duly sworn, was examined and testified 15 as follows: 16 17 DIRECT EXAMINATION BY MR. HALL: 18 For the record, please state your name. 19 Q. 20 Α. David Dean Price. Mr. Price, what city do you live in and by whom 21 0. 22 are you employed? I live in Katy, Texas. And I am employed by 23 Α. Energen Resources Corporation. 24 25 Q. And you previously testified before the Division

Page 6 and had your credentials as expert petroleum landman 1 accepted as matter of record; is that correct? 2 3 Α. Yes. And you are familiar with the application in the 4 0. 5 lands that are the subject of this case; is that 6 correct? 7 Α. Yes. MR. HALL: Mr. Examiner, we would re-offer 8 9 Mr. Price as an expert petroleum landman. 10 EXAMINER McMILLAN: So qualified. 11 0. If you would, Mr. Price, summarize for the Examiner what Energen is applying for today. 12 13 Α. We are seeking the approval of the Amarillo Canyon Unit. It is a unit comprised of 3,838.08 acres 14 15 of federal, state, and allotted Indian leases in San 16 Juan County. The lands are described in our application and our prehearing statement. 17 18 Energen also seeks the creation of a new pool for horizontal development within the unit area with 19 20 vertical limits co-terminus with the unitized formation and providing for a 330-foot setback boundaries for 21 22 completed intervals in the horizontal wells within the The unitized interval extends from the top of the 23 unit. Mancos Formation to the base of the Greenhorn. 24 25 Q. Let's turn to Exhibit 1. If you would refer to

Page 7

1 that please --

2 A. Okay.

3 Q. -- and orient the Examiner where we are located 4 on the basin?

A. This is basically a map of the Mancos/Gallup oil play that's in the San Juan Basin at the present time. And this is -- just kind of to orient you -- the county line is here, it's where San Juan County, Rio Arriba, and Sandoval Counties come together.

10 And up in the northwest corner, we have 11 Farmington -- excuse me -- Bloomfield. And the Navajo 12 reservation runs just down the west side of this. 13 Highway 550 runs through the interior of it.

14 The most active area in the play is located where 15 San Juan, Rio Arriba, and Sandoval Counties meet between 16 Nageezi and Lyndreth, down in that area, along with 17 highway 550.

Our proposed unit, the Amarillo Canyon Unit, is located nine miles south of Farmington. It's about four miles from the NAPE headquarters, just over in that direction. It's six sections right up there in the corner of Township 27 North, 13 West, Sections 1, 2, 3, 10, 11, and 12.

Q. And let's look at Exhibit 2. Is that a copy of your unit agreement?

Page 8 1 Α. Yes, it is. And if we look at Exhibit 3, what is that? 2 Q. Exhibit 3 is the common -- no -- it's the unit 3 Α. That is Exhibit A or 1 of the unit agreement, the 4 area. 5 Amarillo Canyon Unit, and it shows the six sections. In referring back to the unit 6 Q. All right. agreement itself, is this based on a federal form? 7 8 Yes, it is. Α. 9 And is it modified so as to limit its coverage to Q. the horizontal wells only? 10 11 Α. Yes, it is. And on page 1, the second paragraph. And if you look at that text you just alluded to, 12 Ο. 13 does that text specifically exclude vertical wells? Yes, it does. 14 Α. Did the New Mexico State Land Office review your 15 0. 16 unit proposal? 17 Yes, they have. Α. And have they specifically requested that 18 Q. 19 vertical wells be segregated from the unit for purposes 20 of reporting production? Yes, they have. 21 Α. 22 Where in the unit agreement is the unitized Q. formation defined? 23 On page 2, paragraph 3, from the top of the 24 Α. 25 Mancos to the base of the Greenhorn Formation.

MR. HALL: Mr. Examiner, I want to point out something to you at this time. If you will look at that paragraph 3, it describes the footage picks for the base of the Mancos in the unitized formation as 5,875. And it will show you in subsequent exhibits the actual base we are seeking to provide, and this should be noted in your order, is 5,855.

Page 9

8 If you look at our application in the 9 advertisement for this case, it identifies the base as 10 being at 5,797. And I thought about that issue 11 overnight, whether or not that presented a notice 12 problem for us.

13 I don't think it does, because we still specified the base of the Greenhorn Formation which 14 includes that interval. And there's no requirement 15 16 under the rules that you actually specify the footage 17 pick for an advertisement, only that you identify the common source of supply for the formation. So I think 18 19 we are all right on that issue. But we do want to point 20 that out to you. And we will have further explanation 21 about that when we look at the cross sections of the 22 logs. 23 EXAMINER JONES: So which one is correct? 5,855. 24 MR. HALL: 25 Mr. Price, within the unit area has the Mancos Q.

Page 10 Group Reservoir been recently defined by development? 1 2 Some Mancos play by vertical wells in the Α. Yes. 3 area has shown it to be present. All right. And is Energen proposing to operate 4 0. the unit as a single participating --5 6 Α. Yes. We would turn to Exhibit 6 -- skipping around 7 Ο. briefly. Would you identify Exhibit No. 6, please. 8 9 That is a letter from the State Land Board giving Α. us preliminary approval of the proposed unit. 10 11 And if you turn to the last page of Exhibit 6, is Ο. 12 that a letter from the BLM offering preliminary approval of the unit? 13 Yes. There's also a preliminary letter of 14 Α. 15 approval dated December 2nd from the BLM. 16 Mr. Price, under the unit agreement, does the 0. participation formula for the unit allocate production 17 for separate owned tracts on a 100-percent surface acre 18 19 basis? 20 Α. Yes. Does this participation, in your opinion, 21 Ο. 22 allocate production to the separate laying tracts of any 23 unit on a fair, reasonable, and equitable basis? 24 Α. Yes. 25 Let's look back at Exhibit 4 now. If you would 0.

Page 11

1 turn to that.

2 A. Okay.

3

17

Q. Could you identify that, please.

A. This is Exhibit 4 for this case and it's also part of the unit agreement as Exhibit B. It's a schedule showing the percent and the kind of ownership of the oil and gas interests that will make up the six-section unit.

9 Q. And so the Hearing Examiner can go through this 10 exhibit and he can see the number of federal tracts, can 11 identify the single state tract and the number of 12 allotted tracts within the unit?

A. Yes. We have six federal, one state, and fourallotted tracts.

15 Q. All right. How many working interest owners will 16 there be in the unit?

A. Including Energen, there will be ten.

18 Q. And are you attempting to obtain participation of 19 all the working interest owners in the unit?

20 A. Yes, we are.

21 Q. Can you describe your efforts to do so?

A. We contracted with Unit Source and made a contact, sent out our unit agreement and unit operating agreements to all those people that are listed here on Exhibit B and to the royalty owners and also the working

		Page 12
1	intere	st owners.
2	Q.	All right. And did your proposal to the working
3	intere	st owners also include a plan of operations?
4	Α.	Yes.
5	. Q.	And were they provided with a proposed unit
6	operat	ing agreement?
7	Α.	Yes, that was also enclosed.
8	Q.	And the unit operating agreement specifies how
9	the un	it will be supervised and managed?
10	Α.	Yes.
11	Q.	And how the costs will be allocated and paid by
12	the ow	ners?
13	Α.	Yes.
14	Q.	Are there provisions for credits and charges for
15	wells	and other materials and equipment contributed to
16	the un	it under the operating agreement?
17	Α.	Yes.
18	Q.	And is Energen designated as unit operator under
19	that a	greement?
20	Α.	Yes.
21	Q.	And is there a procedure for balloting interest
22	owners	?
23	Α.	Yes.
24	Q.	Tell the Hearing Examiner how many overriding
25	royalt	y interest owners you've identified.

	Page 13
1	A. We've run the title on them and we have 10.
2	Q. All right. And are you attempting to obtain
3	ratifications from them?
4	A. Yes.
5	Q. In your opinion, Mr. Price, has Energen made a
6	good faith effort to identify all the working interests
7	and overriding interest owners to obtain their voluntary
8	participation in the unit?
9	A. Yes.
10	Q. Was notice of this application published in the
11	Farmington Daily News and the Navajo Times?
12	A. Yes.
13	Q. And were attempts made to notify all of the
14	allottee interest owners of this application by mail?
15	A. Yes.
16	Q. And if we turn to Exhibit 18, can you identify
17	Exhibit 18 for us?
18	A. That is the list of the mail-out addresses to the
19	working interest owners and the allottees.
20	Q. All right. And it also notes the undeliverables,
21	the returned mail?
22	A. Yes. All the return receipts received and the
23	undeliverables received back.
24	Q. And how was this list compiled?
25	A. We are directed to obtain that list from the

Page 14
Farmington Indian Minerals Office. And they provide us
the mailing list. And we culled through that and put
together this mailing list and sent them out to those
people, to those allottees.
Q. And did Energen also identify the interest owners
or operators offsetting the unit for purposes of
providing notification of this unit?
A. Yes, we did.
Q. In your opinion, Mr. Price, will unitization
benefit the working interest owners and royalty interest
owners in the unit?
A. Yes.
Q. And in your opinion, will granting Energen's
application promote the interests of conservation and
the prevention of waste and the protection of
correlative rights?
A. Yes.
Q. Now were Exhibits 1, 2, 3, 4, 5 and the lists
attached to Exhibit 18 prepared by you or at your
direction?
A. Yes.
MR. HALL: I pass the witness for questions.
EXAMINER McMILLAN: Why don't we start off
and say Exhibits 1, 2, 3, 4, 5 and 18 may now be
accepted as part of the record.

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Page 15 MR. HALL: Thank you. 1 2 (Energen Resources Corporation Exhibits 1, 2, 3, 4, 5, and 18 were offered and admitted.) 3 MR. WADE: I just wanted to confirm that 4 5 Exhibits 17 and 18 track each other -- is that 6 correct? -- so the people that you have -- or is it that 7 Exhibits 16, 17, and 18 all track each other? 8 THE WITNESS: Yes, 16, 17, and 18 are very similar. 9 10 MR. WADE: So, in other words, 16 is to the offsets, you have the letter and you have the list; 17 11 12 is to affected parties --13 THE WITNESS: Yes. 14 MR. WADE: -- you have a letter and you have 15 a list attached, and then 18 would reflect everyone who 16 got individual notice and whether their green card was 17 returned? 18 MR. HALL: Yes. 19 MR. WADE: And I know showing green cards 20 would be a lot of effort in this case. But I'm assuming 21 that those green cards are in your possession, showing 22 whether they have been returned or not. 23 MR. HALL: I can make those available to 24. you --25 MR. WADE: I don't think we need them. Ι

Page 16 1 just want to make sure --2 MR. HALL: Yes. 3 MR. WADE: And the public notices obviously can't reflect individuals who did not receive personal 4 5 notice? 6 MR. HALL: That's right. 7 MR. WADE: Okay. I don't have any questions 8 right now. EXAMINATION BY EXAMINER McMILLAN 9 10 EXAMINER McMILLAN: So I'm confused about 11 your unitized interval. Will that include the entire 12 Mancos? 13 MR. HALL: Yes. We have a geologist who can clarify that for you. 14 15 EXAMINER McMILLAN: Let me see. 16 MR. WADE: Actually, Mr. McMillan raised a 17 question that maybe I am missing something -- it looked 18 like the affidavit, the publication dates were fine. 19 You do have a dated letter for your offsets and for your 20 affected parties? 21 MR. HALL: Yes. 22 MR. WADE: That's both November 10. Are we 23 assuming that all these letters did go out on 24 November 10th without seeing the green cards? 25 MR. HALL: Yes, they did. And, again, we do

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Page 17 1 have certificates --2 MR. WADE: Okav. EXAMINATION BY EXAMINER McMILLAN 3 4 EXAMINER McMILLAN: So you are wanting to 5 create a new pool? 6 MR. HALL: Yes. 7 EXAMINER McMILLAN: What would be the 8 justification for that? 9 MR. HALL: Well, I have a witness upcoming who can state that better than I could. 10 11 EXAMINER McMILLAN: All right. Do you have 12 any questions? 13 EXAMINER JONES: I guess I could ask a 14 couple. 15 EXAMINATION BY EXAMINER JONES 16 EXAMINER JONES: The FIMO list of the 17 allottees, do you hear anything besides from FIMO or do 18 you have anybody contacting you saying, Hey, I own some 19 of this land? 20 THE WITNESS: When we were out staking the obligation well, we talked to the surface owners and 21 22 made sure we had okay, permission to stake that well. 23 We staked another well out there at the same time. 24 We have two approved APDs from the Navajo 25 Nation out there, and we staked those at that time and

Page 18 we talked to the landowners and got their feelings. 1 2 And it was interesting their name showed up on the allottee notice list -- and a number of people --3 we were given five, six lists. There's five, six 4 5 allotments in this particular area. And there were sometimes five people on each one of those allotments, 6 7 so sometimes there was just one. But they all got -they were all given notice. 8 EXAMINER JONES: Okay. And do you consider 9 10 the overrides as affected parties? 11 THE WITNESS: Yes. 12 EXAMINER JONES: So they were noticed also? 13 THE WITNESS: Yes. I sent them working 14 interest, the unit agreement, and the unit operating 15 agreement, and let them know that we were filing -making this --16 17 EXAMINER JONES: They are not signature 18 parties, but they got notice --THE WITNESS: They got notice of the unit 19 20 being --21 They were not notified of the MR. HALL: 22 hearing. And we'll need a two-week continuance to allow 23 for that. We'll issue that notice. 24 THE WITNESS: I asked them to sign -- to 25 ratify the unit agreement, though. So they are aware

Page 19 1 that --2 EXAMINER JONES: They are ratifying the unit 3 agreement? 4 THE WITNESS: Yes, the unit agreement, I'm 5 asking them to ratify it. 6 MR. HALL: And how many are there? 7 THE WITNESS: There are ten. 8 EXAMINER JONES: The Hatfields. 9 THE WITNESS: Well, that's one. That's one 10 that we currently have on file. That was one of the best addresses I had. So yes. 11 12 EXAMINER JONES: I noticed in one of the 13 other units that were actually just processed this week 14 for another operator, the BLM had the unit wells as wells with 1,000-foot laterals in the target formation. 15 And so I had to kind of allow for that. 16 17 And I notice you're following the Division 18 order that -- the Division rules says 100 feet is a 19 horizontal well, and you put that in your unit 20 agreement --21 I think it cites 1,500 feet. THE WITNESS: 22 EXAMINER JONES: Say again. 23 THE WITNESS: I believe it cites 1,500 feet. 24 EXAMINER JONES: On the very first page, it 25 says -- it says what is included and the second

Page 20 1 paragraph down says 100 feet. THE WITNESS: You are talking about the 2 interval, yes, yes. 3 EXAMINER JONES: No. 100 feet lateral, 4 right? Horizontal component --5 THE WITNESS: I believe it's 100 feet. 6 7 I see what you're saying. Yes, there was another -- we talked about the -- they're at least going 8 into that interval 1,500 feet. 9 EXAMINER JONES: Also there is another 10 statement in there --11 12 THE WITNESS: Yes. EXAMINER JONES: And those would be a 13 refinement of the unit wells. Was there any other unit 14 wells drilled -- I mean wells drilled horizontally 15 before now or -- there's none so... 16 17 THE WITNESS: No. 18 EXAMINER JONES: So it is just vertical 19 wells then. THE WITNESS: Just vertical wells. 20 21 EXAMINER JONES: And you chose a perfect 22 rectangle here. The 1, 2, and 3 are irregular sections; 23 is that right? 24 THE WITNESS: Yes. 25 EXAMINER JONES: And I notice on your

Page 21 description you put the tracts, basically. It seems 1 like you put the -- you listed section 11, for instance, 2 two times. Was that because -- by tract --3 4 THE WITNESS: By tract. 5 There's two tracts in section 11. There's 6 tract number 1 and tract number 2. 7 EXAMINER JONES: Would you prefer that to be part of the order? What we normally do is we use 8 9 township and range and then we just put the section, and 10 these would be -- it would be, basically; all lands 11 within sections 1, 2, 3, and --12 THE WITNESS: That would be fine with me. 13 It makes it easier, much easier than the long list of 14 tract descriptions. EXAMINER JONES: Okay. As far as the --15 16 I'll wait. Thank you very much. 17 THE WITNESS: Thank you. EXAMINER McMILLAN: I don't have any 18 19 questions. Excuse me. How many allottees are there? 20 THE WITNESS: Two-hundred-and-sixty-five. We received a list of 990 allottees on the five 21 different things. And you went through and you could 22 just see there were obvious duplications, same people, 23 same address, same people, same address. 24 25 We went through and it boiled down to a

Page 22 unique list of about 265 people. 1 2 EXAMINER McMILLAN: So that's a small 3 number --4 THE WITNESS: A smaller number, yes. One 5 tract had one. 6 EXAMINER McMILLAN: We have seen cases where 7 there were -- others we've seen, there are thousands. 8 THE WITNESS: Yes. 9 EXAMINER McMILLAN: Anything else? 10 EXAMINER JONES: I don't. 11 MR. HALL: At this time, Mr. Examiner, we 12 call our geologist, Mr. Lehman. DONALD D. LEHMAN 13 14 having been first duly sworn, was examined and testified 15 as follows: 16 DIRECT EXAMINATION 17 BY MR. HALL: For the record, please state your name. 18 Ο. 19 A. Don Lehman. 20 Ο. And Mr. Lehman, where do you live and by whom are 21 you employed? Birmingham, Alabama. I'm employed by Energen 22 Α. 23 Resources. 24 Q. And in what capacity? 25 Α. Geologic manager for the San Juan Basin.

Page 23 You've testified a number of times before the 1 Ο. Division and had your credentials as an expert petroleum 2 3 geologist made a matter of record; is that correct? 4 Α. Yes. 5 And are you familiar with the lands and the 0. application in this case? 6 7 Yes, I am. Α. 8 MR. HALL: Mr. Examiner, we offer Mr. Lehman 9 as an expert petroleum geologist. 10 EXAMINER McMILLAN: So qualified. 11 0. Have you conducted a geologic study of the Mancos Group for purposes of the unit? 12 13 Α. Yes, I have. 14Let's refer, if you would, to Exhibit 7. Ο. First 15 of all, if you would orient the Examiner of the 16 proximity of the unit to the various pools in the area. 17 A. Okay. As you can see, the six-section unit 18 outline is just adjacent to the Emerald Gallup Pool, 19 just to the north, section 34 with our planned unit 20 well. In fact, it's already been drilled and complete operations are underway, the Richardson Navajo 271310 4H 21 22 in the south half of section 10, with the surface 23 location, southwest of section 11. 24 There are some other Mancos pools nearby. The 25 planned Emerald Canyon Unit lies entirely in the Basin

		Page 24
1	Mancos	Pool.
2	Q.	If we look to the south, identify that pool.
3	Α.	That's the Gallegos/Gallup associated pool.
4	Q.	And on your Exhibit 7, you have a parenthetical
5	indicat	tion there, EXP. What does that mean?
6	Α.	It is expandable.
7	Q.	Expandable. So within approximately two miles of
8	the Ga	llegos/Gallup associated pool?
9	Α.	Correct.
10	Q.	And have you reviewed the special pool rules for
11	that po	pol?
12	Α.	Yes, I have.
13	Q.	And what is the spacing for oil wells in that
14	pool?	
15	Α.	I believe it's 750 feet from the center line.
16	Q.	I didn't ask that clearly enough.
17		What are the spacing units, the acreage
18	require	ement?
19	Α.	40 acres, I believe.
20	Q.	Well
21	Α.	80, okay. So 80 acres.
22	Q.	And the well location requirements, do the
23	specia	l pool rules require the well to be drilled
24	790 fe	et from the center quarter section?
25	Α.	That's correct.

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Page 25 And in that case, although these pool rules might 1 Q. be incorporated in your unit portions, do those special 2 3 pool rules work for your situation? Α. No. 4 Is that part of the reason for your request for 5 Q. 6 creation of a new horizontal pool? 7 Yes, it is. Α. Let's look back at Exhibit 5. Look at this a 8 0. 9 little more closely now. And if you would identify the unitized formation depths that you are showing on your 10 11 well log. 12 Okay. Our proposed unit depths are from the top Α. of the Mancos Shale, which is at a depth of 13 14 approximately 4,270 feet on the type log, to the base of the Mancos Shale which is accepted as the base of the 15 Greenhorn Formation at 5,855 feet on this type log. 16 And what well is this type log from? 17 Q. Energen Navajo D-1E, located in section 1 of 27 18 Α. North, 13 West. 19 20 And is the target unitized formation -- it's just Q. done across the entirety of the proposed unit area? 21 22 Our target interval's approximately 500 feet, Α. 23 which includes the upper Gallup portion of the Mancos and also the Niobrara C, which is equivalent to the 24 25 middle Gallup as indicated on the type log here.

Q. Let's refer to your Exhibit No. 9. Would you
 identify that, please?

3 A. That's my geologic report.

Q. Now, by referring to your other exhibits,
Exhibits 8, 10, 11, 12, 13, and 14, can you walk the
Hearing Examiner through the narrative contained in the
geologic report.

A. Okay. First of all, Exhibit 8 is a base map 9 showing the unit outline and also the location of two 10 cross sections -- which I will speak to -- cross section 11 A, which is a strike cross section, and cross section B, 12 which is more a long dip. Also our type log is the tie 13 well for both those cross sections.

14 The wells posted on this map are wells penetrated 15 at the Mancos Formation.

And Exhibit No. 10 is the next exhibit I will speak to. It is a structure map that is on a ten-foot contour interval. And you can see the dip across the unit is fairly uniform. It's about 40 to 50 feet per mile to the northeast.

There are no abrupt discontinuities, faults, or structural things we feel would affect the formation. And then refer back to Exhibit 8 and pull out the first cross section, which is Exhibit 11. A A Prime,

25 this is the strike cross section. Again, our Navajo

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D-1E Well. The type log is in the center of this cross
 section, showing a well on either side of very similar
 log characteristics.

We are looking at the gamma ray curve on the left, the resistivity colored in red. And then just basic log curves of neutron and density in blue and green respectively.

8 As you can see as you go across from A to A 9 Prime, the log character is very similar. And we feel 10 that the continuity of the reservoir is good along 11 strike of the unit.

12 Exhibit 12 is the strike cross section B B Prime.
13 And, again, our type log is the second well from the
14 right, the Navajo D-1E.

15 The three wells in the center part of this cross 16 section actually lie within the unit itself, if you 17 refer back to the map. And, again, I think you can see 18 here that the log character is similar across all of 19 these wells. There's a little bit of a thinning as you 20 come out of the basin to the southwest, but pretty good 21 continuity across the unit outline.

Exhibit 13 is an isopach map of the unit depths, an interval that we're proposing. It's a 40-foot contour interval. You can see there's only two contours on the map, and most of the values fall within a few

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1 tenths of feet of one another, so we feel that there is 2 really not a lot going on as far as the thickness on the 3 gross interval for the unit depths.

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And Exhibit 14 is a plat just showing the existing federal units in the area. As you can see, we abut up against the Gallegos Canyon federal unit, just to the north and the east and southward of BP.

Q. Does Exhibit 14 indicate you are leaving no gaps9 between units?

10 A. That is correct.

11 Q. Let's look at Exhibit 15 and explain what this 12 shows.

13 Α. Okay. Exhibit 15 is a preliminary plan of the 14 development as we would see it. At this point, 15 certainly not finalized, but we think four wells per 16 mile is probably good. But we've seen places in the 17 core of the play where some operators are putting five 18 and six wells per mile. But right now we're preliminarily saying that four wells per mile, the 19 20 minimum, is probably what we would be looking at. 21 And as you can see, too, we plan extended 22 laterals here. We would like to drill mile-and-a-half

23 laterals utilizing central pad facilities for possibly 24 east and west laterals, not only to minimize surface 25 disturbance but to help maximize our facilities where we

Page 29 would be doing that. And the location of our initial 1 wells is to the south half of section 10 as can be seen 2 on this plat. 3 Now the wells shown on Exhibit 15, these are only 4 0. 5 Mancos penetrations? That's correct. 6 Α. 7 0. Does Energen operate some frequent hole wells? 8 Yes, we do. Α. And are those close to where you indicated your 9 0. 10 surface locations would be? Actually, a surface location -- I'm sorry. 11 Α. Ι 12 don't believe that any of these surface locations would be on existing -- no, these would all be new locations. 13 14 All right. Let me ask you, will each of the 0. 15 40-acre units within the unit area be occupied by a completed interval? 16 17 I believe we should, we should catch just about Α. every 40-acre tract. The only one that might be an 18 19 exception is southwest of 11. But if we were to drill 20 two more laterals in the south half of those two sections, we would penetrate every 40-acre tract. 21 22 In your opinion, will this development layout Ο. result in the efficient economic recovery of hydrocarbon 23 resources in the unit area? 24 25 Yes. Α.

Page 30 1 And will it also help minimize surface 0. 2 disturbance? 3 Α. Yes. You've already answered this question, but in the 4 Q. 5 course of your geologic study, did you identify any 6 faults, pinch-outs, or unconformities that would prevent 7 the unit area from being efficiently developed with this 8 pattern? Α. 9 No. 10 What is Energen requesting with respect to 0. 11 allowables? 12 We prefer to have no allowables in the unit. Α. We 13 abolished the allowables. 14 And do you propose to submit C-102s to the 0. 15 Division showing the drill blocks -- each 40-acre drill 16 block penetrated by the wellbore? 17 Yes, we would. Α. 18 Ο. Were Exhibits 5 through 15 prepared by you or at 19 your direction? 20 Α. Yes, they were. 21 MR. HALL: At this point, we move the 22 admission of Exhibits 5 through 15. And that completes 23 our direct of this witness. EXAMINER McMILLAN: Exhibits 5 through 15 24 25 may now be accepted as part of the record.

Page 31 (Energen Resources Corporation Exhibits 5 1 through 15 were offered and admitted.) 2 EXAMINATION BY EXAMINER McMILLAN 3 EXAMINER McMILLAN: So you feel with -- I'm 4 5 going to ask the same question essentially twice. You feel that the 790-foot allowable, you'll leave in 6 7 stranded reserves, right? 8 THE WITNESS: Yes. EXAMINER McMILLAN: And that would apply to 9 10 the Gallegos associated pool. And you feel with the 660-foot offset, which would be the Basin Mancos, which 11 12 this technically is in, you would be leaving 13 stranded reserves, right? 14 THE WITNESS: Yes. 15 EXAMINER McMILLAN: So, therefore, optimum development would be 330 feet? 16 17 THE WITNESS: That's correct. 18 EXAMINER McMILLAN: Okay. And going back to 19 the 330-foot offsets, have you discussed it with the 20 BLM? 21 THE WITNESS: Yes, we have. 22 EXAMINER McMILLAN: And what was BLM's 23 position? 24 THE WITNESS: They accepted our prehearing 25 area and depth that we discussed with them.

Page 32 EXAMINER McMILLAN: And so I'm trying to be 1 clear on the point. Did they approve it? Were they 2 satisfied with the 330-foot --3 MR. HALL: I'm not sure if that's referenced 4 5 in the preliminary approval letter or not since it came yesterday. 6 7 EXAMINER McMILLAN: So the BLM felt the 330 8 was optimum development? THE WITNESS: Scott, does the letter speak 9 to the setbacks? 10 11 MR. HALL: No. 12 EXAMINER McMILLAN: But based on your 13 conversations? THE WITNESS: Yes, based on our conversation 14 with them that they are in depth, they were fine with 15 16 our plan of development. We showed these exact displays in the write-up. 17 18 EXAMINER McMILLAN: Okay. So my next question is what are the spacing units going to be at 19 20 the distinct pool? Are you asking for 320s or 40s? THE WITNESS: I believe we're looking at --21 22 we talked about lay down 480s or 960s. 23 I think the way it is arrayed, we MR. HALL: can identify 960-acre project areas across the southern 24 or northern portions of each of the sections --25

Page 33 EXAMINER McMILLAN: So within the pour, you 1 ask for 320s? 2 MR. HALL: Yes. So if it's 320s, so that 3 4 array is already provided for. EXAMINER McMILLAN: Because it looks to me 5 6 that, for instance, your Richardson Navajo Well, the 7 southwest guarter, southeast guarter, may not be developed. 8 9 THE WITNESS: Of section 11? 10 EXAMINER McMILLAN: Yes, through a crude 11 look at that. THE WITNESS: Right. It may have to be 12 developed with vertical wells. 13 EXAMINER McMILLAN: Okay. But, then, that 14 15 brings up the point that if you have 40s, then you're not developing your acreage completely. 16 17 MR. HALL: Again, we are excluding vertical wells. 18 19 EXAMINER McMILLAN: But I am saying if you 20 make the horizontal 320s, it's being developed. That's all I'm saying. Does it make sense? 21 22 MR. HALL: Yes, it does. 23 EXAMINER McMILLAN: My next question is -this is the first time I've seen a unit case where they 24 25 are not drilling diagonals. Why did you choose east,

Page 34 1 west versus diagonals? 2 THE WITNESS: Well, a lot of the initial 3 drilling in the southeast here has been east, west. And 4 we have a pilot well that indicates that east, west is 5 the optimum direction with that FMI information. 6 EXAMINER McMILLAN: And what was that based 7 on? 8 THE WITNESS: The FMI log was our primary, 9 showing the stress and that we want to drill perpendicular to it. 10 EXAMINER McMILLAN: Now, if you drill an oil 11 12 well, why should there not be an allowable? 13 THE WITNESS: We could probably deal with 14 the allowables. Our preference is not to have 15 allowables so we can flow the wells at the natural rate. And they have such a steep decline anyway that we feel 16 17 like an allowable is really not needed. 18 EXAMINER McMILLAN: Go ahead. 19 EXAMINATION BY EXAMINER JONES 20 EXAMINER JONES: He had a lot of the questions I had. Do you know Kate, our geologist in 21 22 Aztec? 23 THE WITNESS: I met her. I haven't spoken 24 with her. 25 EXAMINER JONES: It's kind of good that you

Page 35 and her are on the same page as far as the top interval 1 and the bottom interval. And I assume that she will --2 you already got the signatures on this, so, hopefully, 3 she will go along with that. But she is kind of our 4 5 expert on that. 6 THE WITNESS: Okay. 7 EXAMINER JONES: We kind of ask that the 8 geologists coordinate with each other. 9 THE WITNESS: Okay. 10 EXAMINER JONES: Although they always get 11 along. Right, Mike? 12 EXAMINER McMILLAN: Yes, of course. 13 EXAMINER JONES: And is this up close to the 14 gassy area of the Mancos or is it --15 THE WITNESS: Actually, we have some pads in 16 the unit that made oil. We did several pads over the 17 last few years that made oil. 18 EXAMINER JONES: Okay. You are pretty 19 convinced that it's going to be oil now. This new pool that they are working on now, 20 have you been talking to them about that? 21 THE WITNESS: Basin Mancos Oil Pool, I'm 22 23 familiar with it, but not --24 EXAMINER JONES: Would this be in that area? 25 THE WITNESS: No, it would not.

Page 36 1 MR. HALL: I have spoken to Kate about that 2 too. 3 EXAMINER McMILLAN: I didn't understand your Are you saying it is in the oil or gas window? 4 answer. 5 THE WITNESS: We think it's in the oil 6 But the basin oil pool is being restricted just window. 7 to the active area right now. 8 EXAMINER JONES: But this would be a 9 situation where it might grow --10 THE WITNESS: It could be expandable, right, 11 that's what they're telling us that. 12 EXAMINER JONES: Okay. And as far as the 13 spacing goes, if you form a unit, you can still report each well's penetrated 40s, but in the background, you 14 guys allocate everything to the whole unit anyway. 15 You would kind of need to show some evidence if 16 17 you wanted to do the 320, bring somebody here and do 18 that. And with the allowables, probably also, you would 19 need to -- if we are going to deviate from the state line allowables on a new pool, we would probably need 20 21 some more --22 MR. WADE: As a seque, I have the same 23 My concern is about notice. These are concern. 24 essentially special pool rules. And none of that was 25 noticed, the abolishment of allowables, I guess the

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1 spacing units were not noticed.

2 MR. HALL: I think that may be right. Ι understand that's the default of the Division where 3 there is no specific request by an applicant, is to go 4 5 back to --And, in fact, this very docket 6 MR. WADE: 7 has a good example of it. It's the --8 EXAMINER McMILLAN: It was the Devon case. 9 The Devon case if you look at MR. WADE: 10 their notice. I don't necessarily see that the difference in the interval that was given, the 11 12 numbers --13 MR. HALL: The footage --MR. WADE: -- the footage -- that would 14 15 clean that up potentially, so I think that would be I know notice would be a lot in this case, but 16 helpful. 17 I see three problems with it. And, of course, you would 18 want to refer to the special pool rule notice that is in 410, I believe. 19 20 MR. HALL: I think we are covered on that. We did notify the offsetting units. 21 22 MR. WADE: If you go to 412A-4 and then small A and B, you will see that there's four 23 requirements, and likely you would have to fit all four 24 25 -- the notice would have to go to Division designated

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operators in the pool. That's not a problem. 1 2 Owners of interest in the minerals in the existing spacing units -- and this one does require 3 notice to operators of wells within the same formation 4 within one mile of the pool's outer boundary. So there 5 6 are some special requirements. 7 EXAMINER JONES: Your vertical wells, are 8 they completely in the Upper Gallup? I mean, on this type log, how deep would they be? Is that the 9 10 perforations over on the left-hand side? THE WITNESS: Yes, they are perforations on 11 12 the left. I have a bigger copy here that's easier to see. Our perforations are about 5,060 feet to 5,150 in 13 the Upper Gallup. And there are some more perforations 14 15 right below the top in the Niobrara C. 16 EXAMINER JONES: So you're essentially going 17 to be targeting pretty much the same as the vertical 18 wells? 19 THE WITNESS: Correct. 20 EXAMINER JONES: I don't have any more 21 questions. 22 MR. WADE: So I think that the question for 23 the Examiners is how we remedy the notice issues and any 24 suggestions from --25 MR. HALL: I think we can withdraw our

Page 39 request for the abolishment of the allowables and that 1 will take care of that. 2 The other question you raise is with respect 3 to the footage picks on the vertical log. I think we're 4 5 all right on that. MR. WADE: I think there are two things 6 7 going on. You cited the rule and the requirements of 8 the rule. Maybe the facts might be kind of instructive, too. You know, geologically is there really a 9 10 difference between 5,797 feet and 5,855 feet? 11 THE WITNESS: Not really, unless you look at 12 the Greenhorn as a potential prospect, which we don't. 13 MR. WADE: Because that's when you're getting into the Greenhorn? 14 15 THE WITNESS: Right. 16 MR. HALL: We could have the landman come up 17 and testify again, but I don't think there's a depth severance issue, either. The ownership is consistent to 18 19 all depths. Based on my limited knowledge, I 20 MR. WADE: don't really see a problem with it pursuant to the rule 21 22 and to the facts, so maybe that notice issue is remedied. But don't we still have the spacing unit 23 24 issue? 25 EXAMINER JONES: If they go for 40s and not

Page 40 1 worry about allowables at this time. You can always 2 bring another case for that. 3 MR. WADE: Okay. So it's essentially a special pool with statewide rules; is that the effect? 4 5 EXAMINER JONES: It's a new pool, a new 6 horizontal pool with statewide rules. 7 And I don't see any difference, because it 8 still says 100 feet in the target formation and it's a horizontal well, which some of the other cases have not 9 said that, have differed from that. 10 11 MR. HALL: I think we're good. 12 EXAMINER JONES: Yeah. I think so, unless 13 there is some kind of notice thing. 14MR. WADE: As long as they are not asking 15 for the specific things that it sounded like they were 16 asking -- and I think that as far as the footages go, 17 that that should not be an issue based on the rule and 18 based on the geology. 19 EXAMINER JONES: But you're going to 20 continue for two weeks because of --21 MR. HALL: We need to notify the overrides, 22 we think, and check that box. We shouldn't delay the 23 issuance of the order, I would think. 24 So that's all I have except for one item; I 25 need to move the admission of all of our notice

	Page 41
1	exhibits, Exhibits 16 through 20.
2	EXAMINER McMILLAN: Exhibits 16 through 20
3	may now be accepted as part of the record.
4	(Energen Resources Corporation Exhibits 16
5	through 20 were offered and admitted.)
6	MR. HALL: And that concludes our case.
7	EXAMINER McMILLAN: It will be continued for
8	two weeks.
9	MR. WADE: What's the date? `
10	EXAMINER McMILLAN: December 17th is fine.
11.	This closes Docket No. 35-15.
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13	(Time noted 2:30 p.m.)
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17	dephereby certify that the foregoing is
18	the Examiner horning procoodings in
19	the Examiner hadring of Case No. heard by me on <u>December 3</u> , 2015
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21	Oil Conservation Division
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1	STATE OF NEW MEXICO)
2) ss.
3	COUNTY OF BERNALILLO)
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7	REPORTER'S CERTIFICATE
8	
9	I, ELLEN H. ALLANIC, New Mexico Reporter CCR No. 100, DO HEREBY CERTIFY that on Thursday, December 3, 2015, the proceedings in the above-captioned matter were
10	taken before me, that I did report in stenographic shorthand the proceedings set forth herein, and the
11	foregoing pages are a true and correct transcription to the best of my ability and control.
12	
13	T FURBURD CROWTEN that I am maither amplement but
14	I FURTHER CERTIFY that I am neither employed by nor related to nor contracted with (unless excepted by
15	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.
16	disposition of this case in any coult.
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21	NM Certified Court Reporter No. 100 License Expires: 12/31/15
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