

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:

ORIGINAL

CASE 15400

APPLICATION OF APACHE CORPORATION FOR  
APPROVAL OF THE PACIFICO STATE SAN ANDRES  
EXPLORATORY UNIT, LEA COUNTY, NEW MEXICO

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

November 12, 2015

Santa Fe, New Mexico

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

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This matter came on for hearing before the  
New Mexico Oil Conservation Division, William V. Jones,  
Chief Examiner, and Gabriel Wade, Legal Examiner, on  
November 12, 2015, at the New Mexico Energy, Minerals,  
and Natural Resources Department, Wendell Chino  
Building, 1220 South St. Francis Drive, Porter Hall,  
Room 102, Santa Fe, New Mexico.

REPORTED BY: ELLEN H. ALLANIC  
NEW MEXICO CCR 100  
CALIFORNIA CSR 8670  
PAUL BACA COURT REPORTERS  
500 Fourth Street, NW  
Suite 105  
Albuquerque, New Mexico 87102

A P P E A R A N C E S

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For the Applicant

Earl E. DeBrine, Jr., Esq.  
and Jennifer L. Bradfute, Esq.  
Modrall Sperling Roehl Harris  
& Sisk, P.A.  
500 Fourth Street  
Suite 1000  
Albuquerque, New Mexico 87102  
jlb@modrall.com  
edebrine@modrall.com  
(505) 848-1845

For COG Operating, Inc.

Jordan Lee Kessler, Esq.  
Holland & Hart  
110 North Guadalupe  
Suite 1  
Santa Fe, New Mexico 87501  
(505)983-6043  
jlkessler@hollandhart.com  
and  
William F. Carr, Esq.  
1048 Paseo de Peralta  
Santa Fe, New Mexico 87501  
(505) 780-8000  
wcarr@concho.com

I N D E X

|    |                             |                   |          |            |
|----|-----------------------------|-------------------|----------|------------|
| 1  |                             |                   |          |            |
| 2  | CASE NUMBER 15400 CALLED    |                   |          |            |
| 3  |                             |                   |          |            |
| 4  | APACHE CORPORATION          |                   |          |            |
| 5  | CASE-IN-CHIEF:              |                   |          |            |
| 6  |                             |                   |          |            |
| 7  | WITNESS LACI LAWRENCE       |                   |          |            |
| 8  | By Ms. Bradfute             | Direct<br>7       | Redirect | Further    |
| 9  |                             |                   |          |            |
| 10 | Examiner Jones              | EXAMINATION<br>15 |          |            |
| 11 |                             |                   |          |            |
| 12 | WITNESS ADAM ANDERSON       |                   |          |            |
| 13 |                             | Direct            | Redirect | Further    |
| 14 | By Mr. DeBrine              | 20                |          |            |
| 15 |                             | EXAMINATION       |          |            |
| 16 | Examiner Jones              | 28                |          |            |
| 17 |                             |                   |          |            |
| 18 | WITNESS JUAN F. GARCIA VACA |                   |          |            |
| 19 |                             |                   |          |            |
| 20 | By Ms. Bradfute             | Direct<br>33      | Redirect | Further    |
| 21 |                             |                   |          |            |
| 22 |                             | EXAMINATION       |          |            |
| 23 | Examiner Jones              | 37                |          |            |
| 24 |                             |                   |          |            |
| 25 | Reporter's Certificate      |                   |          | PAGE<br>39 |

E X H I B I T I N D E X  
Exhibits Offered and Admitted

|                                 | PAGE |
|---------------------------------|------|
| 4 APACHE CORPORATION EXHIBIT 1  | 15   |
| 5 APACHE CORPORATION EXHIBIT 2  | 15   |
| 6 APACHE CORPORATION EXHIBIT 3  | 15   |
| 7 APACHE CORPORATION EXHIBIT 4  | 15   |
| 8 APACHE CORPORATION EXHIBIT 5  | 28   |
| 9 APACHE CORPORATION EXHIBIT 6  | 28   |
| 10 APACHE CORPORATION EXHIBIT 7 | 28   |
| 11 APACHE CORPORATION EXHIBIT 8 | 28   |
| 12 APACHE CORPORATION EXHIBIT 9 | 28   |

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1 (Time noted 8:23 a.m)

2 EXAMINER JONES: Let's call case No. 15400  
3 and let's also call case 15401, which is Application of  
4 Apache Corporation for approval of the Pacifico State  
5 San Andres Exploratory Unit, Lea County, New Mexico, and  
6 the Fire Eagle State San Andres Exploratory Unit, Lea  
7 County, New Mexico.

8 Call for appearances.

9 MS. BRADFUTE: Mr. Examiner, Jennifer  
10 Bradfute and Earl DeBrine with the Modrall Sperling Law  
11 Firm for Apache Corporation.

12 MS. KESSLER: Mr. Examiner, Jordan Kessler  
13 on behalf of COG Operating, LLC. We intend to appear  
14 only for case No. 15401.

15 MR. CARR: May it please the Examiner,  
16 William F. Carr, Senior Counsel for Concho Resources. I  
17 am appearing with Ms. Kessler.

18 MR. DeBRINE: Mr. Examiner, we had asked  
19 that the cases be consolidated for hearing because we  
20 didn't understand there was any opposition. There had  
21 been no timely entry of appearances at that time.

22 Since there's been an entry of appearance  
23 and there is a question of whether they are allowed to  
24 participate in the hearing, then we will just address --  
25 we will take up with the Pacifico case first and then

1 the Fire Eagle State Unit second.

2 EXAMINER JONES: Okay. The Pacifico case is  
3 case No. 15400.

4 MR. DeBRINE: Correct. And we'll have three  
5 witnesses.

6 MR. WADE: So just to make the record clear.  
7 At this point, the cases will not be consolidated; we  
8 will treat them separately?

9 MR. DeBRINE: Correct.

10 EXAMINER JONES: Will the witnesses for the  
11 applicant, please stand. And will the court reporter  
12 please swear in the witnesses.

13 (WHEREUPON, the presenting witnesses  
14 were administered the oath.)

15 MS. BRADFUTE: Mr. Examiner, case No.  
16 '15401' is an application by Apache Corporation for  
17 approval of Pacifico State San Andres exploratory unit  
18 pursuant to Rule 19.15.3.14 NMAC.

19 EXAMINER JONES: Case 15400; is that  
20 correct?

21 MS. BRADFUTE: Yes. I would like to call  
22 our first witness, Laci Lawrence.

23 EXAMINER JONES: Okay.

24 LACI LAWRENCE  
25 having been first duly sworn, was examined and testified

1 as follows:

2 DIRECT EXAMINATION

3 BY MS. BRADFUTE:

4 Q. Would you please state your name for the record.

5 A. Laci Lawrence.

6 Q. Ms. Lawrence, who do you work for?

7 A. I work for Apache Corp. in Midland.

8 Q. And have you previously testified before the  
9 Division?

10 A. No. This is my first time.

11 Q. What are your responsibilities at Apache?

12 A. I am a landman for the Permian regions,  
13 specifically Lea County.

14 Q. And would you please outline your educational  
15 background for the hearing examiners?

16 A. I received my bachelor of science from Abilene  
17 Christian, sociology and criminal justice. And then I  
18 went to law school at Texas Tech School of Law.

19 Q. And what year did you graduate from Texas Tech  
20 University School of Law?

21 A. 2011.

22 Q. And with respect to your responsibilities at  
23 Apache, do those responsibilities as a landman include  
24 the San Andres formation in Lea County, New Mexico?

25 A. Yes.

1 Q. Are you a member of any professional associations  
2 or affiliations?

3 A. Yes. I am a member of the AAPL, the PBLA.  
4 That's the Landman's Association of the Permian Basin.  
5 And then the American Bar association, Texas Young  
6 Lawyers Association, and then the Midland County Young  
7 Lawyers Association.

8 Q. How long have you been a member of the American  
9 Association of Petroleum Landmen?

10 A. Since 2012.

11 Q. Are you familiar with the application that has  
12 been filed by Apache in case 15400?

13 A. Yes.

14 Q. And are you familiar with the status of the lands  
15 that are included in the unit area that are subject to  
16 that application?

17 A. Yes.

18 MS. BRADFUTE: I would like to tender  
19 Ms. Lawrence as an expert in petroleum land matters.

20 EXAMINER JONES: She is so qualified.

21 Q. Ms. Lawrence, if you could please turn to what  
22 has been marked as Exhibit 1 in the notebook. Thank  
23 you.

24 Could you please explain what that exhibit is to  
25 the hearing examiners.

1 A. Yes. This is Apache's application for the  
2 Pacifico State San Andres Unit in Lea County.

3 Q. And could you please turn to what has been marked  
4 as Exhibit No. 2. And could you please explain to the  
5 hearing examiners what is contained in Exhibit No. 2.

6 A. Exhibit 2 is the State Fee Exploratory Unit  
7 Agreement form. And it includes Exhibit A, which is the  
8 map of the unit boundaries, Exhibit B, which contains a  
9 tract breakdown of all the lands included. And then  
10 Exhibit C which is the tract participation.

11 Q. Ms. Lawrence, does the unit agreement follow the  
12 state form?

13 A. Yes.

14 Q. And have you had an opportunity to meet with the  
15 State Land Office to discuss this particular unit?

16 A. Yes, we met twice.

17 Q. Could you briefly explain the discussions that  
18 you had with the State Land Office.

19 A. We met on July 23rd and brought in all the  
20 acreage that we were interested in unitizing. And we  
21 were told by Pete Martinez, who is the unit's manager at  
22 the State Land Office, that we needed to separate the  
23 unit out into two units. They like smaller units.

24 We then did that. And we returned on October 6th  
25 with what we are seeing today for the Pacifico unit.

1           It was at that meeting that they reviewed the  
2 unit boundaries and asked us to include 80 acres that  
3 was owned by Yates Petroleum because they considered  
4 that stranded acreage.

5           We also went over all of the science behind our  
6 unit and what we want to do out there, the development  
7 plans. And then we received approval from them  
8 recently.

9           Q. And could you please turn to what has been marked  
10 as Exhibit No. 3.

11          A. Yes. (Witness complies.)

12          Q. Is that the preliminary approval letter that  
13 Apache received from the State Land Office?

14          A. Yes.

15          Q. Are you seeking to have the unit designated as a  
16 project area under the Division's rules to facilitate  
17 horizontal development?

18          A. Yes.

19          Q. And does the unit agreement provide for the  
20 development of the horizontal and vertical wells?

21          A. Yes, it does.

22          Q. If you could please go ahead and turn back to  
23 Exhibit 2, which is the unit agreement. And could you  
24 identify the provision in the agreement which states the  
25 correlative interval that is going to be unitized?

1       A. Yes. It is on page 4, under paragraph 2. It  
2 says, "The correlative interval which is identified  
3 between the log depths of 4,243 feet and 5,643 feet in  
4 the compensated neutron gamma ray log formulated by the  
5 Schlumberger on the Gainer 22 No. 1 Well located in  
6 Section 22, Township 10 South, Range 36 East in Lea  
7 County.

8       Q. And is that the target formation that Apache is  
9 seeking to develop --

10      A. Yes.

11      Q. Could you please turn to what has been marked as  
12 Exhibit A to Exhibit 2. It's going to be the map that  
13 is attached to the unit agreement.

14      A. Okay.

15      Q. Will the south half of section 9 be included  
16 within the unit?

17      A. No, it will not.

18      Q. Why is that?

19      A. The south half of section 9 is a gas com that is  
20 operated by Aspen Operating. The State Land Office  
21 discussed that during our second meeting. And they said  
22 that it would not be considered stranded acreage.

23             The south half is com'd to the entire 320 acres.  
24 It is a Morrow Well. So the State Land Office  
25 considered that it would not be stranded and signed our

1 approval letter for the unit boundaries.

2 EXAMINER JONES: Can you clarify which  
3 section you are talking about?

4 THE WITNESS: Section 9. It's outside of  
5 the unit boundaries there. It's directly to the east of  
6 section 8.

7 EXAMINER JONES: Okay. Thank you.

8 Q. And if you could please turn to Exhibit B to the  
9 unit agreement. And could you please explain the  
10 breakdown by tract foot and acreage of what is included?

11 A. Sure. So Exhibit B just shows the ownership of  
12 each tract. So, for instance, tract 1, you'll have the  
13 description of the lands, the acres in the third column,  
14 the state lease that is associated with that tract.

15 The royalty is the fifth column. Lessee of  
16 record is the next one. And then overriding royalty and  
17 percentage, and then, the last, is working interest and  
18 percentage of ownership.

19 Q. Are there any uncommitted working interest owners  
20 within the unit area?

21 A. No.

22 Q. Are there any uncommitted lessees of record?

23 A. No.

24 Q. Are there any overriding royalty interest owners  
25 in the state leases that are being unitized?

1 A. Yes, there are overriding interest owners.

2 Q. And did Apache provide notices concerning its  
3 unit application to those overriding royalty owners?

4 A. Yes. They all received notice.

5 Q. With regard to the instruments creating the  
6 overriding royalty interest, have you examined those  
7 documents and determined whether or not they contain a  
8 pooling and unitization provision?

9 A. Yes, I did.

10 Q. And those agreements contain those provisions?

11 A. Yes, they did. All of them contained pooling or  
12 unitization language.

13 Q. How will the production be allocated to the  
14 unit?

15 A. By the state formula, it is by surface. And so  
16 for each tract, they'll take the total surface acreage  
17 and divide it by the total unit acreage and then that's  
18 your tract participation.

19 So you'll see that in Exhibit C. It is just  
20 simple division. And that is how the state mandates it  
21 for this kind of unit.

22 Q. And are there any timing restrictions which could  
23 impact the development in the unit?

24 A. Yes. Prairie chicken season begins on March 1st  
25 and extends through June 15th here in New Mexico. We

1 have plans to get out there as soon as possible and  
2 drill, complete the well before the beginning of prairie  
3 chicken season, which is March 1st.

4 Q. And are there any timing limitations included  
5 within the unit agreement created by the State Land  
6 Office?

7 A. Well, the state had enrolled their acreage in the  
8 CCAA with CAM to protect the prairie chicken and the  
9 lizard out there. And we are also under those  
10 agreements. So as of March 1st there's no drilling  
11 until June 15th. So, yes, we are under time  
12 restrictions.

13 Q. And is there any requirement to begin development  
14 within 60 days?

15 A. Yes. We must commence drilling within 60 days of  
16 approval of the unit.

17 Q. Will Apache need an expedited review of this  
18 application in order to comply with that 60-day  
19 deadline?

20 A. Yes.

21 Q. If you could please turn to what has been marked  
22 as Exhibit 4.

23 A. (Witness complies.)

24 Q. Could you please identify that exhibit for the  
25 hearing examiners.

1           A. Yes. Exhibit 4 is the affidavit from Brian Wood,  
2 our permits person. He works for Permits West. And he  
3 was in charge of notifying all of the proper parties for  
4 the unit.

5           Q. And were Exhibits 1 through 4 prepared by you or  
6 compiled under your direction and supervision?

7           A. Yes, they were.

8                       MS. BRADFUTE: Mr. Examiner, I would like to  
9 move to have Exhibits 1 through 4 admitted into  
10 evidence.

11                      EXAMINER JONES: They are admitted, 1  
12 through 4.

13                      (Apache Corporation Exhibits 1 through 4  
14 were offered and admitted.)

15                      EXAMINATION BY EXAMINER JONES

16                      EXAMINER JONES: Okay. The prairie chicken  
17 time, you can't even have a rig out there? Can you be  
18 filling a location?

19                      THE WITNESS: So you can be out there from  
20 the hours of 3:00 a.m. to 9:00 a.m. But when you are  
21 talking about having a drilling rig on location, the  
22 fees of waiting for that time period pretty much puts a  
23 stop to drilling during that time.

24                      EXAMINER JONES: So no 24-hour --

25                      THE WITNESS: That's correct.

1 EXAMINER JONES: So there is no leases that  
2 are expiring -- did I -- you talked about that --

3 THE WITNESS: Right.

4 EXAMINER JONES: Can you please repeat that.

5 THE WITNESS: Sure. There are no leases  
6 that are even close to expiring, so we are good to go  
7 on that Pacifico unit.

8 EXAMINER JONES: Okay. There's a big hole  
9 in the unit, the south half of 17, and the south half,  
10 southeast quarter of 18. Is that -- what's up with  
11 that?

12 THE WITNESS: So whenever we presented this  
13 to the State Land Office, we were interested in having a  
14 state unit. And so some of this acreage that you are  
15 seeing here is federal. And we specifically addressed  
16 those concerns with the State Land Office when we  
17 brought it in, both times. And they were on board with  
18 including the unit boundaries that you see because it is  
19 all state.

20 EXAMINER JONES: And so you included those  
21 because they are federal?

22 THE WITNESS: They are federal or they are  
23 fee. And I am not exactly sure about the south half of  
24 17. But for sure 18, yes, is federal.

25 EXAMINER JONES: So this is an exploratory,

1 primary production drilling unit; you're not planning on  
2 secondary recovery within the San Andres?

3 THE WITNESS: Not at this time, no. It's  
4 exploratory only.

5 EXAMINER JONES: You are going to have  
6 another witness, I guess, for that.

7 MS. BRADFUTE: Yes.

8 EXAMINER JONES: The south half of 9, that's  
9 going to be included in the Fire Eagle unit; is that  
10 correct?

11 THE WITNESS: No. The south half of 9 is  
12 not included in the Fire Eagle unit.

13 EXAMINER JONES: Okay.

14 THE WITNESS: But the north half is.

15 EXAMINER JONES: I thought I saw it said all  
16 of 9, but I guess I was mistaken on that.

17 And the overrides, did they all -- did  
18 anybody -- I know they -- you say they all have pooling  
19 clauses. Did you get any comments from anybody?

20 THE WITNESS: No. We acquired this acreage  
21 from Innerjects in Tierra. These are relatively new  
22 state leases. And so a lot of the overrides were part  
23 of that acquisition, so there weren't any dissenting  
24 parties.

25 EXAMINER JONES: So I noticed Apache has all

1 the leases and they have all the working interests. The  
2 leases are -- these are assignments from Interra you  
3 said?

4 THE WITNESS: Innerjects and Tierra.

5 EXAMINER JONES: So Apache wasn't the first  
6 lessee?

7 THE WITNESS: No. We would be the second.

8 EXAMINER JONES: At least the second or even  
9 further down on the list.

10 THE WITNESS: I am pretty sure these are all  
11 new leases, so it is issued as in 2014 and forward, so  
12 we are the second entitled.

13 EXAMINER JONES: Are you aware of the other  
14 horizons out here? Like you mentioned the Morrow; is  
15 that the other zone of interest?

16 THE WITNESS: Right.

17 For the most part there is -- I think Adam  
18 will probably speak to this. He is the geologist.

19 But there is vertical San Andres to the  
20 northeast of this. But in this particular part of  
21 northern Lea County, there's not a lot of activity.  
22 What there is is Morrow gas production. And there is  
23 not a lot of infrastructure either.

24 EXAMINER JONES: Okay. The six-month  
25 deadline, is that from the effective date of the

1 unit or from the date that the unit is approved by the  
2 OCD?

3 THE WITNESS: Six --

4 MS. BRADFUTE: Is it the 60-day?

5 EXAMINER JONES: Yes, the 60-day.

6 THE WITNESS: It is 60 days from the final  
7 approval, I believe, from the State Land Office. So if  
8 you grant approval for the unit, it will go back to the  
9 State Land Office for final approval.

10 EXAMINER JONES: And is it still going to be  
11 the well in the northwest, northwest of 16 -- is it? --  
12 the first well?

13 THE WITNESS: Yes, sir.

14 EXAMINER JONES: Okay. I don't have any  
15 more questions. Thank you.

16 Do you have any questions?

17 MR. WADE: No. Thank you.

18 MS. BRADFUTE: Thank you, Ms. Lawrence.

19 MR. DeBRINE: We will call our next witness,  
20 Adam Anderson.

21 ADAM ANDERSON  
22 having been first duly sworn, was examined and testified  
23 as follows:

24 ---oOo---

25 ---oOo---

DIRECT EXAMINATION

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BY MR. DeBRINE:

Q. Would you please state your name and who you work for.

A. Adam Anderson. I work for Apache Corporation in Midland.

Q. And what are your responsibilities for Apache?

A. I am a geologist over the Northwest Shelf.

Q. Could you give the Examiner a brief summary of your educational background and experience in the oil and gas industry?

A. I graduated from Saint Cloud State University with a bachelor in science and geology. And I went to the Colorado School of Mines, and I graduated with a master's of science in geology there.

I worked for two years, did contract work for a couple of companies. And then I worked for Apache for the last three and a half years.

Q. With respect to your responsibilities for Apache, do those responsibilities as a geologist include the San Andres formation in Lea County?

A. Yes.

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

A. Yes.

1 Q. Are you also familiar with the status of the  
2 lands that are included within the unit area that's the  
3 subject of the application?

4 A. Yes.

5 Q. Have you conducted a geologic study of the unit  
6 area in the San Andres formation in and around the unit  
7 area that's the subject of the application?

8 A. Yes, I have.

9 Q. Have you prepared some exhibits as part of your  
10 study?

11 A. Yes.

12 MR. DeBRINE: Mr. Examiner, we would ask  
13 that Mr. Anderson be admitted as an expert in petroleum  
14 geology.

15 EXAMINER JONES: He is so qualified.

16 Q. If you could turn to what has been marked as  
17 Exhibit 5, Mr. Anderson, and just walk the Examiner  
18 through that and explain what it represents.

19 A. This is the San Andres unit or San Andres  
20 formation. You can see the top of the San Andres, it  
21 starts -- the limestone top and the Glorieta at the  
22 base. The unit will encompass this entire interval, and  
23 then our target area is the pay interval about halfway  
24 down around 5,000 feet where the porosity becomes great.

25 Q. And what is the play concept with regard to how

1 the drilling is going to be conducted within the unit?

2 A. We will be drilling horizontal wells. The reason  
3 is because porosity and permeability in this area has  
4 decreased as opposed to the vertical fields to the  
5 west -- or to the east and north.

6 It has decreased so much that only horizontal  
7 wells will allow us to contact enough reservoir to make  
8 economic wells.

9 Q. If you could turn to what has been marked as  
10 Exhibit 6. And tell the Examiner what is represented  
11 here by Exhibit 6.

12 A. This is a structure map on top of that pay  
13 interval.

14 Q. And does that show that the San Andres formation  
15 extends fairly continuously across the unitized area in  
16 the Pacifico unit?

17 A. Yes. It shows that it is very gentle sloping,  
18 there is not much structural change in this area. It is  
19 uniform across the area.

20 Q. Could you just explain in greater detail with  
21 regard to the characteristics of the San Andres  
22 represented by the structure map.

23 A. From the map you can see the San Andres strikes  
24 northeast, southwest, and dips to the southeast at about  
25 40 feet per mile, a pretty gentle slope.

1           Like I mentioned, there is no structural domes or  
2 faults that would cause any great difference here.

3           Q. And what does the star represent in section 2 on  
4 the map?

5           A. The star is from the type well from Exhibit 5.

6           Q. Did you prepare a cross section of log to  
7 determine the relative thickness and porosity of the San  
8 Andres formation in the unit area?

9           A. Yes, I did.

10          Q. If you could turn to what has been marked as  
11 Exhibit 7 --

12          A. Do --

13          Q. I'm sorry. -- to Exhibit 8 and walk the Examiner  
14 through what's representative in Exhibit 8.

15          A. This cross section goes from west to east across  
16 the area. It shows the pay interval throughout the  
17 area, how it changes in the eastern part, which is to  
18 the right. You get a thicker overall section; porosity  
19 and permeability is also higher over there.

20                 Then as you move to the west, and in the Gainer  
21 22, which is the second well from the left side, that is  
22 the closest well with good log coverage in the area, you  
23 see that the interval has gotten thinner.

24                 And then as you go further to the west, it  
25 becomes intermittent and porosity overall decreases.

1 Q. And the wells you selected for your cross  
2 section, are those depicted on Exhibit 7; would the two  
3 exhibits relate to one another?

4 A. Yes, they are.

5 Q. If you could turn to Exhibit 7 and just walk the  
6 Examiner through that and explain how it correlates with  
7 the cross section of the logs you prepared.

8 A. The map on Exhibit 7 is SoPhiH map, so it shows  
9 the quality of the reservoir that you can see in the  
10 cross section. As you can see, you get it thick in the  
11 center of the area. And as you move to the west, it  
12 thins.

13 And the vertical field you see designated by the  
14 green circles. That is all San Andres production. And  
15 that tends to be more in the thicker interval.

16 Q. Did you also prepare a cross section from north  
17 to south?

18 A. Yes, I did.

19 Q. If you could turn to Exhibit 9, please.

20 A. (Witness complies.)

21 Q. And working in conjunction with Exhibit 7, if you  
22 can explain to the Examiner what Exhibit 9 represents  
23 and how it relates to the map.

24 A. This cross section goes from north to south, from  
25 left to right. It shows the pay interval again. It

1 shows more of the little structural relief that you see  
2 across the area.

3           Again, as you go north, the porosity decreases  
4 and becomes intermittent. And as you go south, it also  
5 becomes quite thin and porosity overall decreases.

6           Q. And we've been talking about Exhibit 7. If you  
7 can explain what that map represents and how you came  
8 about to make the calculations that are represented on  
9 the map.

10           A. The SoPhiH map in Exhibit 7 is a calculation of  
11 the oil thickness. So to calculate that, we take a  
12 porosity cutoff of 6 percent, an oil saturation cutoff  
13 of 40 percent. And that will give you your net pay  
14 overall. And then you take your net pay times your  
15 porosity and oil saturation, and that will give you your  
16 SoPhiH. So it depicts basically your oil column.

17           Q. If you could summarize for the Examiner the  
18 conclusions that were drawn by you as part of your  
19 geological study of the unit.

20           A. From the study we conducted, the vertical  
21 production works best where you have a thick, low  
22 column, good porosity, permeability, where we're trying  
23 to develop these units, horizontal drilling is the best  
24 option that will allow us to contact the most reservoir  
25 through fracturing of the horizontal. Also it will

1 allow us to combine facilities, which will help reduce  
2 costs and make this project economic.

3 Q. Is the entirety of the unit area believed to be  
4 productive of San Andres formation and contribute to the  
5 unit in a relatively equal manner?

6 A. Yes.

7 Q. Will the completed intervals that you have for  
8 all the wells to be drilled be at orthodox location and  
9 meet the setback requirements of the pool rules where  
10 statewide rules are applicable?

11 A. Yes.

12 Q. Did you participate in the discussions with the  
13 State Land Office with regard to the formation of the  
14 unit and what lands should be included within the unit  
15 boundaries?

16 A. Yes.

17 Q. Did the State Land Office provide any input into  
18 the unit plan of development that you discussed with  
19 them and the unit boundaries that were going to be  
20 included?

21 A. Yes.

22 Q. Did they agree with the plan that was put forward  
23 by you in your discussions?

24 A. Yes, they liked the idea of two smaller units.  
25 That's why we separate out the two areas.

1 Q. Do you believe that the proposed unit is suitable  
2 for exploratory development in the San Andres formation  
3 as a single unitized area?

4 A. Yes.

5 Q. And could you explain why?

6 A. The unit will allow us to test the area, and,  
7 then, upon completion, to develop the area in an  
8 efficient way with the least amount of waste.

9 Q. Do you have an opinion whether the entry of an  
10 order approving the unit will prevent waste?

11 A. Yes.

12 Q. And what is it?

13 A. I think it will reduce waste.

14 Q. Do you believe the granting of the application  
15 will also -- is also in the interests of conservation  
16 and will protect correlative rights?

17 A. Yes.

18 Q. Do you believe that the owners in each committed  
19 tract received their fair and equitable share of  
20 production?

21 A. Yes.

22 Q. Were Exhibits 5 through 9 prepared by you  
23 directly or under your supervision and direction and  
24 control?

25 A. Yes.

1 MR. DeBRINE: We move the admittance of  
2 Exhibits 5 through 9, Mr. Examiner.

3 EXAMINER JONES: Exhibits 5, 6, 7, 8, and 9  
4 are admitted.

5 (Apache Corporation Exhibits 5 through 9  
6 were offered and admitted.)

7 MR. DeBRINE: And we pass the witness for  
8 questioning by the Examiner.

9 EXAMINER JONES: Thank you.

10 EXAMINATION BY EXAMINER JONES

11 EXAMINER JONES: The type log is outside.  
12 Do you have any more wells drilled through this area  
13 that you could have used?

14 THE WITNESS: We do have more wells, but  
15 they are all fairly old, from the '50s, and the logs  
16 don't allow for decent calculations.

17 They are good for picking tops and bases,  
18 and that is pretty much it.

19 EXAMINER JONES: It is interesting that you  
20 don't have lease expiration issues and Apache owns  
21 everything and you want to make this into a unit for --  
22 why horizontal versus vertical wells that could be used  
23 maybe for secondary recovery some day?

24 THE WITNESS: The vertical wells that, as  
25 you step off from those fields, they've produced humus

1 quite a bit, dropping down to less than 10,000 barrels,  
2 which wouldn't be enough for a primary vertical well.

3 EXAMINER JONES: So is this similar to the  
4 Slaughter field -- so it's horizontal drilling in the  
5 San Andres?

6 THE WITNESS: Yes.

7 EXAMINER JONES: Okay. What kind of water  
8 volumes are you going to have to move to get all this  
9 oil?

10 THE WITNESS: We are expecting 80 percent of  
11 a water cut.

12 EXAMINER JONES: How much?

13 THE WITNESS: 80 percent --

14 EXAMINER JONES: 80 percent?

15 THE WITNESS: Yes. So we are probably going  
16 to move around 1,500 to 2,000 barrels of water per well.

17 EXAMINER JONES: So you are going to need  
18 some good disposal wells out there?

19 THE WITNESS: Yes.

20 EXAMINER JONES: Do you have potential for  
21 future secondary recovery and are you planning for that?

22 THE WITNESS: We are not planning for it  
23 now. I believe you'd need CO2 to effectively flood this  
24 area. And CO2 is difficult to come by right now.

25 EXAMINER JONES: So the water saturation is

1 high enough that you need to jump straight to C02?

2 THE WITNESS: Yes.

3 EXAMINER JONES: But if you do jump straight  
4 to C02 some day, are you going to have your wells  
5 situated where you can...

6 THE WITNESS: Yes. We would be able to put  
7 vertical C02 wells in between the horizontals.

8 EXAMINER JONES: Do you know the stress  
9 direction out here? So how did you know which way to  
10 drill these horizontal --

11 THE WITNESS: It's slightly east-west from  
12 the closest wells that we have data for. We are taking  
13 core and logs in the first well. And we situated the  
14 wells such that, if we do determine east-west to the  
15 best orientation, we can move that way for the majority  
16 of the units.

17 EXAMINER JONES: So that first well that is  
18 permitted -- I saw one of them is permitted. You are  
19 going to drill it in a west -- to the west?

20 THE WITNESS: No. Both will be going  
21 north-south.

22 EXAMINER JONES: Okay. So it will be going  
23 south then, the first one?

24 THE WITNESS: Yes.

25 EXAMINER JONES: This well and this unit

1 will be going south?

2 THE WITNESS: Yes.

3 EXAMINER JONES: And where are we located  
4 here? You probably showed a locator map with the  
5 application -- but this is Lea County, right?

6 THE WITNESS: Yes.

7 EXAMINER JONES: Where in Lea County is it?

8 THE WITNESS: It's north of Hobbs, I want to  
9 say like 20 miles.

10 EXAMINER JONES: So it's toward Tatum?

11 THE WITNESS: It's just north of Tatum.

12 EXAMINER JONES: North of Tatum --

13 THE WITNESS: Yes. Tatum would be to the  
14 south.

15 EXAMINER JONES: So this is similar to the  
16 Saunders San Andres.

17 THE WITNESS: I am not familiar with that.

18 EXAMINER JONES: Which would be straight  
19 west of there.

20 THE WITNESS: Yeah.

21 EXAMINER JONES: It was Permal Tin area  
22 where they finally bailed out years later to the San  
23 Andres --

24 THE WITNESS: Uh-huh.

25 EXAMINER JONES: There was oil in the pits

1 there years ago, and they finally tried it.

2 THE WITNESS: Hopefully we get the same.

3 EXAMINER JONES: And it was quite a  
4 reservoir engineering play, I think, that would be worth  
5 looking at some day if you guys wanted to do that.

6 There's a lot of testimony here in the  
7 hearings about 2002 or 2003 or about that.

8 And two units, is that because your pay is  
9 different?

10 THE WITNESS: No. It is strictly because  
11 the State Land Office preferred two smaller units over  
12 one large one.

13 EXAMINER JONES: Okay. Do you want to do  
14 this equal by acreage for each tract, but you are net  
15 pay amount is -- it gets thinner as you go west.

16 THE WITNESS: It does. An issue we are  
17 going to have is we don't know how the overall net pay  
18 will help. We think right now that the flanks of these  
19 fields are the best to go off of, but we don't know how  
20 much reservoir we can go contact with frac, and what it  
21 will contribute. It might end up with where a thinner  
22 interval will be productive.

23 EXAMINER JONES: Okay. If I remember any  
24 more questions, I will -- this not a contested case, so  
25 I guess I will go through your attorney and he'll talk

1 to you. But it looks fine.

2 Gabe, do you have any questions?

3 MR. WADE: I do not have questions.

4 MS. BRADFUTE: Mr. Examiner, we would like  
5 to call our next witness.

6 JUAN F. GARCIA VACA  
7 having been first duly sworn, was examined and testified  
8 as follows:

9 DIRECT EXAMINATION

10 BY MS. BRADFUTE:

11 Q. Could you please state your name for the record.

12 A. Yes. My name is Juan F. Garcia Vaca.

13 Q. And Mr. Garcia Vaca, who do you work for?

14 A. I work for Apache Corporation.

15 Q. And could you please give the Examiners a brief  
16 summary of your educational background and work  
17 experience.

18 (Whereupon, the court reporter requests, for the  
19 sake of the record, the witness to speak louder and to  
20 face the reporter because of the witness's accent.)

21 A. Yes. My name is Juan Garcia Vaca. I work for  
22 Apache Corporation. I have an (incomprehensible)  
23 engineering degree from the Buenos Aires Technological  
24 Institute. That's in Argentina.

25 And I started working for Apache while I was a

1 student. That was in 2009. And I'd been working as a  
2 reservoir engineer in Argentina before I am here in New  
3 Mexico, since -- I started as an engineer in 2011 and I  
4 moved to the states, to the United States in 2014.

5 Q. Have you previously testified before the  
6 Division?

7 A. No.

8 Q. With respect to your responsibilities at Apache,  
9 do those responsibilities as a reservoir engineer  
10 include the San Andres formation in Lea County?

11 A. Yes.

12 Q. And are you familiar with the application filed  
13 by Apache in this case?

14 A. Yes.

15 Q. And are you familiar with the status of the lands  
16 that are included in the unit area that is the subject  
17 of this application?

18 A. Yes.

19 MS. BRADFUTE: Mr. Examiner, I would like to  
20 tender the witness as an expert in reservoir engineering  
21 matters.

22 EXAMINER JONES: He is qualified as an  
23 expert in reservoir engineering.

24 Q. Are you familiar with Apache's drilling plans for  
25 the Pacifico unit?

1 A. Yes, I am.

2 Q. Has Apache filed any APDs for the wells that are  
3 located within the unit?

4 A. Yes.

5 Q. And could you please explain those to the hearing  
6 Examiners.

7 A. Yes. Apache filed an APD for the Pacifico State  
8 1H and the Fire Eagle State 1H. Both wells are planned  
9 to be drilled close to 12,000 feet MD, targeting the San  
10 Andres formation. And the idea of the Fire Eagle well  
11 will be to cut core and have a full set of logs in order  
12 to study the formation and plan for further developing  
13 of the sections.

14 Q. And has Apache been working with the State Land  
15 Office for the approval of a development plan after it  
16 drills those initial wells?

17 A. Yes.

18 Q. Can you explain how that approval process will  
19 work to the hearing examiners?

20 A. Once we drill our first well and we demonstrate  
21 commerciality in the well, we are going to go to the  
22 State Land Office with our plan for development in both  
23 sections.

24 Q. And what are Apache's estimated recoverables from  
25 the unit?

1           A. For the Pacifico unit, we are expecting to  
2 recover something in the order -- our opinion success  
3 case [sic] shows 5.48 million barrels DOE for the  
4 section, and that's with 22 extra wells.

5           Q. And if you could turn to what has been marked as  
6 Exhibit 7. Why is the area for the Pacifico unit  
7 suitable for horizontal development?

8           A. We believe that the quality of the reservoir in  
9 the San Andres formation here is not good enough for  
10 vertical development since the recovery factor will be  
11 too low. And we need to contact as much reservoir as  
12 possible. And the best way to do it would be with  
13 horizontal wells.

14          Q. And how many horizontal wells does Apache plan on  
15 drilling in the area?

16          A. 22 wells.

17          Q. And is that for the Pacifico unit?

18          A. Yes, for the Pacifico Unit. And 18 for the Fire  
19 Eagle.

20          Q. In your opinion, will that plan of development be  
21 successful?

22          A. Yes.

23          Q. And in your opinion, will the granting of this  
24 application prevent waste and protect the interests of  
25 correlative rights?

1 A. Yes.

2 MS. BRADFUTE: Thank you. I would like to  
3 pass the witness.

4 EXAMINATION BY EXAMINER JONES

5 EXAMINER JONES: Okay. Sorry I asked all  
6 these questions of the last witness. But the San Andres  
7 here is just considered to be that -- the one little  
8 section in the middle, your target is; is that correct?

9 THE WITNESS: Yeah. One thing that we need  
10 to figure out -- that's why we are cutting core and  
11 doing different tests -- is how much we contact with one  
12 person the well and see the different saturations that  
13 we are contacting.

14 We need an idea -- by cutting core and  
15 having better logs that we can tie to that core is to  
16 see how much we contact on frac and see how much, how  
17 many wells were drilled to develop the total pay and  
18 what from the base actually contributed to the  
19 production.

20 EXAMINER JONES: So how many pilot wells  
21 will you drill or are you just playing it by ear?

22 THE WITNESS: Two pilot wells. One pilot  
23 well for each one of these and cutting core in one.

24 EXAMINER JONES: Okay. So it will be a  
25 conventional core?

1 THE WITNESS: Yes.

2 EXAMINER JONES: A conventional analysis?

3 THE WITNESS: Yes.

4 EXAMINER JONES: How deep?

5 THE WITNESS: I think the formation is  
6 5,000 feet --

7 EXAMINER JONES: So it is a little deeper  
8 than some of the San Andres.

9 THE WITNESS: I was working the San Andres  
10 in Texas. That's where our analog is from. And it is  
11 around the same depth, maybe a little bit deeper there.

12 EXAMINER JONES: Okay. So 22 wells --

13 THE WITNESS: Yes.

14 EXAMINER JONES: It sounds good.

15 Thank you very much.

16 THE WITNESS: Thank you.

17 MS. BRADFUTE: And, Mr. Examiner, that  
18 concludes the evidence that we wanted to present in this  
19 case.

20 EXAMINER JONES: With that, we will take  
21 case 15400 under advisement.

22 I do hereby certify that the foregoing is  
23 a complete record of the proceedings in  
24 the Examiner hearing of Case No. \_\_\_\_\_  
heard by me on \_\_\_\_\_  
(Time noted 9:03 a.m.) \_\_\_\_\_

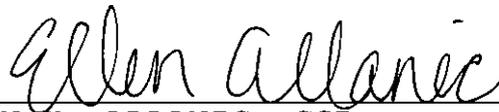
25 \_\_\_\_\_, Examiner  
Oil Conservation Division

1 STATE OF NEW MEXICO )  
 2 ) ss.  
 3 COUNTY OF BERNALILLO )  
 4  
 5  
 6

7 REPORTER'S CERTIFICATE

8  
 9 I, ELLEN H. ALLANIC, New Mexico Reporter CCR  
 10 No. 100, DO HEREBY CERTIFY that on Thursday, November  
 11 12, 2015, the proceedings in the above-captioned matter  
 12 were taken before me, that I did report in stenographic  
 13 shorthand the proceedings set forth herein, and the  
 14 foregoing pages are a true and correct transcription to  
 15 the best of my ability and control.

16  
 17 I FURTHER CERTIFY that I am neither employed by  
 18 nor related to nor contracted with (unless excepted by  
 19 the rules) any of the parties or attorneys in this case,  
 20 and that I have no interest whatsoever in the final  
 21 disposition of this case in any court.

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