

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

ORIGINAL

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

Case No.: 14790

APPLICATION OF OXY USA, INC., FOR AUTHORIZATION TO CONDUCT A
PRESSURE MAINTENANCE PROJECT IN THE OLD MILLMAN RANCH BONE
SPRING POOL THROUGH ITS GOVERNMENT AB NO. 9 WELL, EDDY
COUNTY, NEW MEXICO.

REPORTER'S TRANSCRIPT OF PROCEEDINGS
EXAMINER HEARING

BEFORE: WILLIAM V. JONES, Technical Examiner
DAVID K. BROOKS, Legal Examiner

January 19, 2012

Santa Fe, New Mexico

This matter came on for hearing before the New
Mexico Oil Conservation Division, WILLIAM V. JONES, Technical
Examiner, and DAVID K. BROOKS, Legal Examiner, on January 19,
2012, at the New Mexico Energy, Minerals and Natural
Resources Department, 1220 South St. Francis, Drive, Room
102, Santa Fe, New Mexico.

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A P P E A R A N C E S

FOR THE APPLICANT:

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I N D E X

COLIN BARNETT

Direct by Mr. Rankin

03

Recalled by Examiner Jones

33

ALFREDO YAGUARACUTO

Direct by Mr. Rankin

12

EXHIBITS

EXHIBITS 1 THROUGH 5 ADMITTED

09

EXHIBITS 7 THROUGH 12 ADMITTED

25

1 EXAMINER JONES: We will go ahead and do the next
2 one on the docket. Okay. Let's, at this time let's call
3 Case 14790, application of OXY USA Incorporated for
4 authorization to conduct a pressure maintenance project in
5 the Old Millman Ranch Bone Spring Pool through its Government
6 AB Number 9 Well in Eddy County, New Mexico.

7 Call for appearances.

8 MR. RANKIN: Thank you, Mr. Examiner, my name is
9 Adam Rankin of Holland and Hart, Santa Fe, representing OXY
10 USA today. I have two witnesses.

11 EXAMINER JONES: Any other appearances?

12 (No response.)

13 EXAMINER JONES: Will the two witnesses please stand
14 and state your names first.

15 MR. BARNETT: Colin Dane Barnett.

16 MR. YAGUARACUTO: Alfredo Yaguaracuto.

17 (Witnesses sworn.)

18 COLIN D. BARNETT

19 (Sworn, testified as follows:)

20 DIRECT EXAMINATION

21 BY MR. RANKIN:

22 Q. Mr. Barnett, for the record, could you please state
23 your name?

24 A. Colin Barnett.

25 Q. Where do you reside?

1 A. Houston, Texas.

2 Q. By whom are you employed?

3 A. Occidental Petroleum..

4 Q. What position do you hold with OXY?

5 A. Landman.

6 Q. Have you previously testified before the Oil
7 Conservation Division?

8 A. I have not.

9 Q. Can you please summarize for the Commission -- the
10 Examiner -- your educational background?

11 A. I have a bachelor's in business in energy management
12 and finance from University of Oklahoma.

13 Q. And can you please review for the Examiner your
14 background as a landman?

15 A. I have been with OXY for the last two years as a
16 landman. Two summer internships with OXY. I spent a year in
17 college working for Sandstone Energy Acquisitions in Oklahoma
18 City. I spent a couple of years in college working for a
19 broker.

20 EXAMINER JONES: For Samson? What did you say?

21 THE WITNESS: Sandstone Energy Acquisitions.

22 Q. Exhibit 1 is a summary of your educational and work
23 experience?

24 A. It is.

25 MR. RANKIN: Mr. Examiners, I would like to tender

1 Mr. Barnett as an expert witness landman.

2 EXAMINER JONES: He is so qualified.

3 Q. Mr. Barnett, are you familiar with OXY's plan to
4 implement a pressure maintenance project at the Old Millman
5 Bone Spring Pool through OXY's Government AB Number 9 Well?

6 A. Yes, I am.

7 Q. Are you familiar with the status of the lands in the
8 area --

9 A. Yes, I am.

10 Q. -- which are the subject of this application? Did
11 you review and prepare the land status portion --

12 A. I did.

13 Q. -- of this application? Thank you. Mr. Barnett,
14 can you please briefly summarize for the Examiners what OXY
15 seeks with this application?

16 A. Reauthorization to inject in the Government AB-9 for
17 pressure maintenance purposes.

18 Q. Mr. Barnett, can you please turn to what's been
19 marked as OXY Exhibit Number 2, and please review for the
20 Examiner what this depicts?

21 A. This is an overview map of Eddy County and Lea
22 County, and the red star indicates the proposed project
23 area.

24 Q. And turn to Exhibit Number 3, Mr. Barnett. Could
25 you please describe for the Examiners what this depicts?

1 A. This is a more detailed map with the proposed
2 project area, the proposed injection well, and the -- the
3 additional wells that we expect to see a positive response
4 within the project area.

5 Q. And, Mr. Barnett, the project area is proposed to be
6 in Township 20 South, Range 28 East, Section 3, south half of
7 the southeast quarter and the north half of the northeast
8 quarter of Section 10; is that correct?

9 A. That's correct.

10 Q. Is OXY also seeking the adoption of these procedures
11 for administrative approval of additional injection wells --

12 A. Yes, we are.

13 Q. -- in the project area?

14 A. Yes, we are.

15 Q. Now, Mr. Barnett, the Government AB-9 Well has been
16 the subject of previous Division orders, is that correct?

17 A. Yes, it is.

18 Q. Can you very briefly review, giving the Examiners
19 the order numbers of previous Division orders as discussed of
20 this well?

21 A. Order R-11328 approved injection into the Government
22 AB-9 in 2000, and the Government AB-9 was operated as an
23 injection well until 2004. At that time the Division
24 required OXY to present evidence to show cause why the
25 Division should not require OXY to cement behind pipe on the

1 Government S-2 and AB 2. The government -- or Order
2 R-11328A, the Division found there was sufficient evidence
3 that there were no impact on these wells and did not require
4 cementing behind pipe.

5 Since then these wells have been squeezed. There is
6 cement behind pipe, and Alfredo, our petroleum engineer, will
7 address that during his testimony.

8 Q. And also, Mr. Barnett, OXY filed an application,
9 administrative application to re-inject in this well in 2010.
10 Is that correct?

11 A. That's correct. It was denied in October 2010.

12 Q. And at that time the Division suggested that this --
13 this injection project may be properly applied for as a
14 pressure maintenance project. Is that correct?

15 A. That is correct.

16 Q. Did that administrative application ever go to
17 hearing?

18 A. No.

19 Q. And what is the current status of the well?

20 A. It's TA'd since 2004.

21 Q. So the well is on the State inactive list, well
22 list, is that correct?

23 A. Yes, it is.

24 Q. And what is the status of the land on which the well
25 is to be drilled?

1 A. It's federal acreage.

2 Q. Does OXY have all the necessary rights to perform
3 this project?

4 A. Yes, we do.

5 Q. Now, is OXY the only sole operator within a half
6 mile area of review?

7 A. Yes.

8 Q. And is it true that in the Order 11 -- R-11328 that
9 the Division found that OXY is the operator of all the wells
10 that penetrate the Bone Springs Formation within the area of
11 review?

12 A. Yes.

13 Q. That is still correct today, is that right?

14 A. That is correct.

15 Q. Is that why OXY did not notify any other operators,
16 because there is no other operator within the half mile area
17 of review?

18 A. Yes.

19 Q. You previously testified that these lands are under
20 federal ownership, correct?

21 A. Yes.

22 Q. And that includes the surface?

23 A. Yes.

24 Q. So you notified -- we notified the BLM of that
25 application; is that correct?

1 A. Yes.

2 Q. Is Exhibit 4 in your packet the affidavit prepared
3 by your attorney indicating that notice was provided as
4 required by the Division rules?

5 A. Yes, it is.

6 Q. And turning this page over to the letter, is that
7 correct that we sent that to the BLM notifying them of the
8 application?

9 A. Yes.

10 Q. And turning to Exhibit Number 5, is this an
11 affidavit of publication indicating that the notice, the
12 legal ad was noticed and published in the Artesia Daily
13 Press?

14 A. Yes, it is.

15 Q. Were Exhibits 1 through 5 prepared by you or under
16 your direct supervision?

17 A. Yes, they were.

18 MR. RANKIN: Mr. Examiner, I move into admission
19 Exhibits 1 through 5.

20 EXAMINER JONES: Exhibits 1 through 5 will be
21 admitted.

22 (Exhibits 1 through 5 admitted.)

23 MR. RANKIN: That's it for the presentation of the
24 land.

25 EXAMINER JONES: Okay. Mr. Barnett, the notice

1 issues on Government AB Number 9, were you in on the
2 conversation back and forth about the administrative
3 application, or were you brought in later?

4 THE WITNESS: I was brought in later.

5 EXAMINER JONES: Later. If you drew a half mile
6 circle around that Government AB Number 9, is OXY the only
7 owner of every lease that would cover the Bone Spring within
8 a half mile?

9 THE WITNESS: Yes.

10 EXAMINER JONES: So OXY owns the rights to the Bone
11 Spring in the northeast -- northwest quarter of Section 11?

12 THE WITNESS: Within that half mile radius, yes, we
13 were the 100 percent Bone Spring.

14 EXAMINER JONES: Okay.

15 THE WITNESS: In our view.

16 EXAMINER JONES: And the same way with the southwest
17 quarter of Section 2?

18 THE WITNESS: Uh-huh.

19 EXAMINER JONES: Okay.

20 THE WITNESS: Yes.

21 EXAMINER JONES: Have you had any conversations with
22 the BLM about the use of this well for injection purposes?

23 THE WITNESS: I have not.

24 EXAMINER JONES: Are you aware of any within OXY?

25 THE WITNESS: I am not.

1 EXAMINER JONES: Okay. I'm going to turn it over to
2 David.

3 EXAMINER BROOKS: Well, I don't have any questions.

4 EXAMINER JONES: Okay. We might think of some more
5 in a minute.

6 THE WITNESS: Okay.

7 EXAMINER JONES: But I think, if you're done with
8 this witness --

9 MR. RANKIN: Yeah. I think -- well, if you have any
10 more questions, we can recall the witness for any more
11 questions.

12 EXAMINER JONES: Yeah, the notice that there was
13 no -- in this case there were no protesting parties that you
14 know about. Is that correct?

15 THE WITNESS: That's correct.

16 EXAMINER JONES: So it was just turned down
17 administratively because of the issue of the -- of the
18 saltwater disposal versus pressure maintenance type?

19 THE WITNESS: Yes, that's my understanding.

20 EXAMINER JONES: Okay. Have you had any contact
21 with anybody else outside of OXY's ownership about this well,
22 whether it would influence any of their minerals?

23 THE WITNESS: I have not.

24 EXAMINER JONES: Okay. Thanks very much.

25 THE WITNESS: Thank you.

1 MR. RANKIN: Mr. Examiner, I would call our next
2 witness, Mr. Alfredo Yaguaracuto.

3 ALFREDO YAGUARACUTO

4 (Sworn, testified as follows:)

5 DIRECT EXAMINATION

6 BY MR. RANKIN:

7 Q. Mr. Yaguaracuto, could you please state your name
8 for the record -- and maybe perhaps spell it?

9 A. Sure. My name is Alfredo Yaguaracuto. My last name
10 is spelled Y-a-g-u-a-r-a-c-u-t-o.

11 Q. Thank you very much. Mr. Yaguaracuto, where do you
12 reside?

13 A. In Houston, Texas.

14 Q. And by whom are you employed?

15 A. Occidental Petroleum Corporation.

16 Q. What position do you hold with OXY?

17 A. I'm a senior reservoir engineer.

18 Q. Have you previously testified before this
19 Division?

20 A. No.

21 Q. Could you please summarize your educational
22 background?

23 A. I have a bachelor of petroleum engineering.
24 Graduated from Universidad de Oriente, a university in
25 Venezuela in 2003. I had the mention of magna cum laude.

1 Q. And could you please review your work experience for
2 the Examiners?

3 A. I have been working as a reservoir engineer since
4 2004, and I worked with ConocoPhillips in Venezuela in extra
5 heavy oil project in Petrozuata for about three years doing
6 horizontal multilateral wells. Then I was transferred to
7 Houston to work in Texas with the waterflood project.
8 Afterwards I did a little bit of work with ConocoPhillips,
9 and then in 2010 I joined Occidental, and I have been with
10 OXY for about a year.

11 Q. Mr. Yaguaracuto, Exhibit 6 is a summary of your
12 educational and work experience. Is that correct?

13 A. Yes.

14 MR. RANKIN: I would like to tender Mr. Alfredo
15 Yaguaracuto as an expert reservoir engineer.

16 EXAMINER JONES: He is so qualified.

17 THE WITNESS: Thank you.

18 Q. Mr. Yaguaracuto, are you familiar with the
19 application filed in this case by OXY?

20 A. Yes, I am.

21 Q. Are you familiar with OXY's plans to implement a
22 pressure maintenance project in the subject well?

23 A. Yes, I am.

24 Q. Are you also familiar with the status of the land
25 that's the subject of this application?

1 A. Yes.

2 Q. Have you made a study of the land that's the subject
3 of this application?

4 A. Yes.

5 Q. Did you prepare a geological engineering portion of
6 this application?

7 A. Yes, we did.

8 Q. Mr. Yaguaracuto, could you please review for the
9 Examiners what's been marked as Oxy Exhibit 7.

10 A. Okay. Exhibit Number 7 is a structural map, the top
11 of the First Bone Spring Sand. This map shows basically that
12 it's a continuous reservoir. It's steepens at the southeast
13 very smoothly, and the wells marked as blue ones are all the
14 wells completed in the First Bone Spring Sand.

15 Also, basically point out, you see a pink line
16 covering from A to A Prime, that covers the wells that we --
17 the cross-section of the lands that we show there.

18 Q. And, Mr. Yaguaracuto, if you turn to Exhibit Number
19 8, is that indeed the cross-section that you are referencing
20 8-A from?

21 A. Yes.

22 Q. Can you please review for the Examiners what this
23 cross-section can tell you?

24 A. Basically from this cross-section we found out -- we
25 confirmed that all of these four wells are perforated and

1 completed in the First Bone Spring Sand. The First Bone
2 Spring Sand is a very continuous reservoir. It's a
3 multilayer reservoir. It's a Sandstone, and it's comprised
4 by the bicarbonates to the top and to the base. And
5 permeability of those reservoirs are tighter than the
6 reservoir we have been injecting water, which represents some
7 kind of good stratigraphic system for the water.

8 Q. In effect, then, does that structure indicate that
9 it's a closed system?

10 A. Yes, it's a closed system. There are no faults,
11 no -- no structure issues that could make the water go away
12 out of the reservoir.

13 Q. Turn to Exhibit Number 9, Mr. Yaguaracuto. Is
14 that -- does this diagram portray what you are discussing?

15 A. Yeah. This is a number of diagram, a basic
16 overview, understanding about the reservoir, when we talk
17 about the Bone Spring Reservoir. And to the top corner to
18 the left it shows like the whole structure feature of the
19 reservoir, and down there you see the Bone Spring, the Avalon
20 Shales, First Sand, Second Carbonate, Second Sand, Third Carb
21 and Third Sand. Basically our target is the First Sand. You
22 can tell from this picture that below we have the Second
23 Carbonate and above we have Avalon Shale and the First
24 Carbonate.

25 Q. Mr. Yaguaracuto, does your conclusion that this

1 system, the Second Bone Spring system is a closed system, is
2 that -- is that confirmed by your previous experience of
3 injection into the Government AB Well?

4 A. In the First Bone Spring, yes.

5 Q. In the First Bone Spring, excuse me, First Bone
6 Spring.

7 A. From the geological standpoint we think, yes.

8 Q. So, Mr. Yaguaracuto, can you please summarize what
9 conclusion you can draw from your geological study?

10 A. From the geological study, we draw that if we try
11 again inject the water, the water is going to maintain in the
12 reservoir, and we think we are going to be able to evaluate a
13 pilot to see if the First Bone Spring Sand could be
14 waterflood in the future.

15 Q. And do you also conclude there are no complicating
16 structures, faulting or dips that would --

17 A. Yes.

18 Q. Now, has OXY already seen some positive results in
19 the nearby Government S-7 Well from past injection in the
20 Government AB-9?

21 A. Yes, we have.

22 Q. Can you please review for the Examiners what you
23 have prepared for OXY Exhibits Number 10 and 11, please.

24 A. Basically what we did in the Exhibit Number 10 is
25 that we evaluated the production performance of the well

1 surrounding the Government AB-9 completed in the First Bone
2 Spring Sand. And the main parameter that evaluated was the
3 GOR, the gas oil ratio. And we saw that one of the wells,
4 which is the green line -- the red line that you can see, the
5 red line, the GOR dropped, which is some kind of an
6 indication that the pressure is increasing and there is some
7 gas coming back in solution to the oil. And then we look at
8 this well, which is Government S-7, the Government S-7 is the
9 closest well to the injector, and it's completed in -- when
10 we look -- if you look at Exhibit Number 11 you can see the
11 production performance of the Government S-7. The green line
12 is the oil rate, the blue line is the water, and the dots,
13 the black dots and the blue dots are the well tests of the
14 well to confirm the location.

15 Basically what happened, what we saw is that after
16 about a year of injection, rate production jumped from three
17 barrels of oil to about 20 barrels of oil and the water
18 jumped from about the same, like one barrel of water to about
19 100 barrels of water, which was almost exactly the amount of
20 water that we were injecting in the Government AB-9.

21 Q. So, Mr. Yaguaracuto, not only does your evidence
22 indicate there is a positive result in nearby wells, but also
23 that essentially the water is contained, the water is not
24 going anywhere out of zone?

25 A. Yes, from the reservoir and unit.

1 Q. Mr. Yaguaracuto, does the fact that -- Mr.
2 Yaguaracuto, turning to the application, Form C-108 marked
3 Exhibit Number 12, could you please identify for the Examiner
4 what this is? You have already said it's the application,
5 correct?

6 A. Yeah. This is application for authorization to
7 inject the water in the First Bone Spring to get the well
8 back on injection.

9 Q. And you are the one who signed this application,
10 completed this application. Is that correct?

11 A. Yes.

12 Q. Is the application complete?

13 A. Yes. Yes, it is.

14 Q. Have you already reviewed this proposed project with
15 the OCD?

16 A. No, not really, but I got informed that your
17 suggestion to change the concept from water disposal to
18 pressure maintenance.

19 Q. That's right. And so the Division is already
20 somewhat familiar with this through the previous orders and
21 through the previous administrative application which had
22 been denied; is that correct?

23 A. Yes.

24 Q. When did OXY file this application with the
25 Conservation Division?

1 A. In December 2011.

2 Q. Now, referring to the application itself, could you
3 turn to Tab Number 1, Mr. Yaguaracuto, and explain what this
4 shows.

5 A. Okay. The Tab Number 1 shows a map with all the
6 wells surrounding -- there is a radius of a half mile around
7 the Government AB-9.

8 Q. And Tab Number 2 shows the larger radius, is that
9 correct?

10 A. Yes, the two-mile radius.

11 Q. And all the information that's required by the
12 Division in this application is included behind Tab Number 3,
13 is that correct?

14 A. Yes.

15 Q. And that -- that table includes information on all
16 wells within the half mile radius. Is that correct?

17 A. That's correct.

18 Q. And what information is included in this table?

19 A. It states the well names, API numbers, locations,
20 when the well was drilled, total depth perforation,
21 perforation zones, and also it shows completion information
22 about a well.

23 Q. And are all the wells in the area of review properly
24 completed and cased so as to prevent any problems with these
25 wells through the injection into the Government AB Number 9

1 Well?

2 A. Yes.

3 Q. Are there any plugged and abandoned wells within the
4 area of review?

5 A. There is one well.

6 Q. Does that actually penetrate the target interval?

7 A. No.

8 Q. Can you identify for the Examiners on the table and
9 the map on Tab Number 1 which well we are talking about is
10 plugged and abandoned?

11 A. Okay. The plugged and abandoned well, if you look
12 at the half mile radius, the Crosby Number 1, which is the
13 Number 8, the Southeast of the Government AB-9, you can see a
14 circle and a Number 8, that's the well. And that well
15 basically was drilled and TD is about 12 hundred feet, so
16 it's really shallow and never covered the reservoir.

17 Q. And are there no other plugged or abandoned wells
18 within the half-mile area of review?

19 A. No.

20 Q. Now, you reviewed the data available on these wells
21 within the area of review for this pressure maintenance
22 project, and have you satisfied yourself --

23 A. Yes.

24 Q. -- that there is no remedial work required?

25 A. Yes.

1 Q. Turning to Tabs Number 4 and 5, Mr. Yaguaracuto, can
2 you please review for the Examiners these sketches of the
3 wellbore for the AB Number 9 well.

4 A. Okay. Four, 5 -- sorry. I got it. Okay, 4, 5
5 shows the current status, the well current schematic which is
6 temporarily abandoned. You can see the block at about 6,314
7 feet, and you find it --

8 EXAMINER JONES: Now, which tab is that?

9 MR. RANKIN: Mr. Examiner, Number 4.

10 EXAMINER BROOKS: Mine is the tab before.

11 THE WITNESS: It's before the --

12 EXAMINER JONES: Sorry.

13 THE WITNESS: Okay.

14 EXAMINER JONES: Go ahead.

15 A. And the next one shows the proposed change to the
16 wellbore completion, which is just retrieving the plug and
17 lay down the tubing, start injecting the water.

18 Q. Now, Mr. Yaguaracuto, is the injection fluid going
19 to be from the same formation that you are injecting to?

20 A. Yes.

21 Q. So you don't expect any compatibility issues?

22 A. No.

23 Q. For the Examiners' information, is the injection
24 fluid analysis included on Tab Number 5? Is that correct,
25 Mr. Yaguaracuto?

1 A. Yes, it is correct.

2 Q. And there are three pages of the injection fluid
3 analysis, correct? I think the tab may be in the wrong spot.
4 If you go forward a couple of pages there are --

5 A. Yes.

6 Q. Mr. Yaguaracuto, will OXY ensure the integrity of
7 the wellbore by filling the annular space with an inert fluid
8 and by installing a pressure gauge at the surface?

9 A. Yes.

10 Q. Will OXY also conduct mechanical integrity tests as
11 required by the Division rules?

12 A. Yes, we will.

13 Q. What volume of water has OXY proposed to inject into
14 the well?

15 A. We are expected to get an average 500 barrels of
16 water, a maximum of 1000.

17 Q. Now, when OXY previously injected in the Government
18 AB Number 9, what were the volumes at that point?

19 A. About 100 to 125 barrels of water we injected
20 before.

21 Q. Will OXY be satisfied -- will it be satisfactory to
22 OXY to limit the injection pressure to two-tenths of a pound
23 per foot to the top of the injection formation?

24 A. Yes.

25 Q. And that will be maximum of 1,275 PSI. Is that

1 correct?

2 A. That's correct.

3 Q. If a higher pressure is needed, will OXY justify the
4 higher pressure request, do a step test witnessed by the
5 Division personnel?

6 A. If that's the case, we will.

7 Q. Now, are there any fresh water zones in the area
8 that you're aware of?

9 A. Yes.

10 Q. And approximately where are they located?

11 A. They are located outside the -- the one-mile
12 radius.

13 Q. For wells, is there any other fresh water sources in
14 the shallower formation?

15 A. No, that's all.

16 Q. There wasn't a little bit of fresh water at the high
17 levels?

18 A. Yeah.

19 Q. But those are less than 100 feet, is that correct?

20 A. Yeah, that's right, less than 100 feet.

21 Q. But OXY did not identify any fresh water wells
22 within the half-mile area of review. Is that correct?

23 A. That's correct.

24 Q. Did OXY conduct a search of the State Engineers'
25 website for any fresh water wells?

1 A. Yes.

2 Q. And is it correct that the only fresh water well
3 that OXY identified was located in Section 14, Township 20
4 South, Range 28 East?

5 A. That's right. That's the only well.

6 Q. Now, in your opinion, will the injection of water as
7 proposed by OXY pose any threats to any fresh water sources
8 in the area?

9 A. No, it won't.

10 Q. Have you examined all the available geologic
11 engineering data on this reservoir?

12 A. Say that again.

13 Q. Have you examined all the available geologic
14 engineering data on this reservoir?

15 A. Yes.

16 Q. As a result of that examination, have you found any
17 evidence of open faults or other hydrologic connections
18 between the injection interval and any underground source of
19 drinking water or fresh water?

20 A. No.

21 Q. In your opinion, will the granting of this
22 application be in the best interest of conservation and the
23 prevention of waste?

24 A. Yes.

25 Q. Were Exhibits 7 through 12 prepared by you or under

1 your direct supervision?

2 A. Yes.

3 MR. RANKIN: Mr. Examiner, I would like to move to
4 admit Exhibits 7 through 12?

5 EXAMINER JONES: Exhibits 7 through 12 will be
6 admitted.

7 (Exhibits 7 through 12 admitted.)

8 MR. RANKIN: And we are done with our presentation.

9 EXAMINER JONES: Okay. Does OXY have any heavy oil
10 that you can work on, like you did?

11 THE WITNESS: I don't think so, not really.

12 EXAMINER JONES: That's okay. I just --
13 congratulations graduating magna cum laude.

14 THE WITNESS: Thank you very much.

15 EXAMINER JONES: The reservoir, it looks like it
16 drops off to the south of southeast, is that correct, or
17 pinches out or --

18 THE WITNESS: Yes.

19 EXAMINER JONES: Because the wells that are
20 completed in this same sand look like they are to the
21 northwest. Is that correct? So your injection will be on
22 the southeast, basically the pay zone?

23 THE WITNESS: Basically the pay zone, exactly.

24 EXAMINER JONES: Okay.

25 THE WITNESS: That's the zone that we determined is

1 most continuous and that's where we already injected there.

2 We have like all the --

3 EXAMINER JONES: But the pressure sinks will be to
4 the northwest?

5 THE WITNESS: Yes.

6 EXAMINER JONES: So the water will be moved that
7 direction. And how much water did you say you had already
8 injected in that well?

9 THE WITNESS: In terms of rate, about 100, 125.

10 EXAMINER JONES: Okay. But you don't know the
11 cumulative water injection?

12 THE WITNESS: I can give you that information.

13 EXAMINER JONES: That's okay.

14 THE WITNESS: But it's for about two years and 100
15 barrels per month, so --

16 EXAMINER JONES: Was it always -- are you in contact
17 with the production engineers --

18 THE WITNESS: Yes.

19 EXAMINER JONES: -- or the field foremen and field
20 workers? Are these -- is the water coming under this well
21 going to go into this well only from these two leases, two
22 government leases?

23 THE WITNESS: Yes.

24 EXAMINER JONES: Okay. So you're not going to bring
25 in water from all leases.

1 THE WITNESS: No.

2 EXAMINER JONES: Are you going to complete other
3 zones in these leases to inject into this well?

4 THE WITNESS: No.

5 EXAMINER JONES: Possibly?

6 THE WITNESS: The only thing that I would say is
7 that our goal is to test the pilot in the First Bone Spring
8 Sand. And there's a -- if there's a -- that if we think of,
9 but it's in the First Bone Spring, and so if there is
10 something that for sure we know is that everything is going
11 to be water from the government area First Bone Spring Sand,
12 not our reservoir.

13 EXAMINER JONES: Have you talked to the BLM about
14 the use of this well?

15 THE WITNESS: I don't know.

16 EXAMINER JONES: You haven't?

17 THE WITNESS: I haven't.

18 EXAMINER JONES: Okay. Well, the only leases --
19 this is sort of a moot point when it's a pressure maintenance
20 project, I believe. I would have to clear that with David
21 here, but I think that's the case. So you're -- you expect
22 sort of a one-to-one injection withdrawal ratio in this
23 reservoir?

24 THE WITNESS: Yeah. Exactly.

25 EXAMINER JONES: And that's the -- if you had to put

1 a lot more water into this well, you think you could? Do you
2 have permeability? Do you know any estimates on
3 permeability?

4 THE WITNESS: Yeah. Permeability in the reservoir
5 are estimated about point 5 millidarcy. It ranges from point
6 3 to 1 millidarcy. We think that with an average of point 5,
7 we would be able to receive as high as -- it could be as high
8 as 1000.

9 EXAMINER JONES: Okay. Is that based on a log, log
10 core correlation?

11 THE WITNESS: It's based upon basically we did an
12 step rate analysis in 19 --

13 EXAMINER JONES: Did you look at that step rate?

14 THE WITNESS: Yeah, we did an analysis and
15 determined permeabilities.

16 EXAMINER JONES: You did a falloff on it --

17 THE WITNESS: I'm not --

18 EXAMINER JONES: -- after the step rate?

19 THE WITNESS: I wasn't involved in the work before.
20 I just was just able to get the information that was at that
21 time, and one of the interesting things that when they were
22 injecting water, it wasn't backing. Basically there was no
23 wellhead pressure. It was receiving the water very easy.

24 EXAMINER JONES: Was this well a producer before
25 it --

1 THE WITNESS: Yes.

2 EXAMINER JONES: -- in the early years? So there is
3 some voidage?

4 THE WITNESS: Exactly.

5 EXAMINER JONES: But according to the map here on
6 Exhibit 10, it looks like you expect it to go basically north
7 northwest.

8 THE WITNESS: Based upon the actual results that we
9 saw.

10 EXAMINER JONES: Actual results?

11 THE WITNESS: Yeah.

12 EXAMINER JONES: Okay. This, the original saltwater
13 disposal application that came in projected from injection
14 top 6378 to 6619. Is that still --

15 THE WITNESS: That's still.

16 EXAMINER JONES: -- the top and bottom?

17 THE WITNESS: (Nodding.)

18 EXAMINER JONES: And it looks like that all of the
19 area of review producers have been squeezed after this
20 original order was issued years ago --

21 THE WITNESS: Uh-huh.

22 EXAMINER JONES: -- in case 12265. Have you looked
23 at that, those wells? Have you confirmed that?

24 THE WITNESS: Yeah, we were on CDL logs, and we
25 confirmed that we squeezed all the --

1 EXAMINER JONES: I noticed they set up some sort of
2 a monitoring system in offset wells to -- to take care of --
3 it could have been on the amended order. It was -- it was
4 done and then amended May 21 of 2001, so not that long ago.

5 EXAMINER BROOKS: Pretty long time ago. It's 2012
6 now.

7 EXAMINER JONES: Just blink your eyes and here it
8 goes.

9 MR. RANKIN: Mr. Examiner, just for your
10 information, you may have already noticed it, but within the
11 application our diagrams of two wells indicated the cement --

12 EXAMINER JONES: Okay.

13 Q. (By Mr. Rankin) Is that correct, Mr. Yaguaracuto?

14 A. Yes. It shows where we perforated and where we did
15 squeeze it.

16 EXAMINER JONES: Okay. And this reservoir that,
17 that we are going to try to maintain the pressure on, it
18 looks like, according to our -- according to the OCD pools,
19 it's an associated Bone Spring reservoir, so that could mean
20 that it could be either gas wells or oil wells --

21 THE WITNESS: Yeah.

22 EXAMINER JONES: -- depending on what you get when
23 you drill. So did you see any -- what sort of GORs did you
24 see out here initially when the wells were first drilled?

25 THE WITNESS: Basically if you can look at the --

1 let me -- very quick to give you guidance. Look at the
2 exhibit where you can see the GOR trends, which is the Number
3 10. This shows -- you can see that it's from 2000, the date.
4 And the GOR at that time is about 3 MCF per barrel, but
5 initially what we call the RSI or initial gas oil ratio, our
6 solution is about one. That's what we estimated from the
7 plot, when we go backwards, and I can give you that plot if
8 you want, and from --

9 EXAMINER JONES: No, it's all right. Say again what
10 that was.

11 THE WITNESS: About one, one MCF per barrel.

12 EXAMINER JONES: A thousand GOR?

13 THE WITNESS: Exactly, yeah, 1000, exactly.

14 EXAMINER JONES: Okay. So extremely just a solution
15 gas drive?

16 THE WITNESS: Solution gas.

17 EXAMINER JONES: Okay. What kind of ultimate
18 primary percent of the original oil in place do you think
19 this would have gotten from there?

20 THE WITNESS: Our preliminary studies, which are
21 preliminary, shows that the recovery factor -- primary
22 recovery factor is about 2, 3 percent.

23 EXAMINER JONES: That's all?

24 THE WITNESS: Yeah. That's because of the tightness
25 of the reservoir. And we project that if -- if it is good,

1 if we see successful results, we can double the results.

2 EXAMINER JONES: Okay.

3 THE WITNESS: So the ratio secondary to primary is

4 one-to-one.

5 EXAMINER JONES: One-to-one. And do you know what

6 oil it is?

7 THE WITNESS: It's about 40 -- yeah.

8 EXAMINER JONES: Jeremy Robinson, is he still

9 working for you guys?

10 THE WITNESS: No.

11 EXAMINER JONES: And the planned work to the well is

12 drill out the cast iron bridge plug and run tubing?

13 THE WITNESS: (Nodding.)

14 EXAMINER JONES: So it's got a temporary -- it's a

15 temporary abandonment --

16 THE WITNESS: Yes.

17 EXAMINER JONES: -- at this time. Okay. I'm going

18 to turn it over to David.

19 EXAMINER BROOKS: I really don't have any questions

20 of this gas reservoir engineer.

21 EXAMINER JONES: Yeah, I think he knows what he's

22 talking about. I did have one more question for the land

23 witness.

24 MR. RANKIN: Before we go, I had neglected to ask

25 two questions of our engineer witness, if I may, real quick.

1 Q. (By Mr. Rankin) Mr. Yaguaracuto, upon issuance of
2 an order, will OXY be ready to immediately begin work on this
3 well?

4 A. Yes.

5 Q. If that's the case, would OXY request the Division
6 to issue an expedited order if possible?

7 A. If you can, yes.

8 Q. Thank you.

9 EXAMINER JONES: So some of the producers are
10 waiting on this well?

11 THE WITNESS: Kind of, because current producers are
12 very low rate, and that would be really helpful if we
13 start.

14 EXAMINER JONES: So that would help the BLM, also?

15 THE WITNESS: Yeah, everybody.

16 EXAMINER JONES: Everybody. Thank you very much.

17 THE WITNESS: Thank you very much.

18 EXAMINER JONES: I'd like to recall the land
19 witness.

20 COLIN BARNETT (RECALLED)

21 EXAMINER JONES: Okay. Mr. Barnett, there is one --
22 and I think I might let David flesh out this question, but it
23 looks like there is two government leases involved? Is that
24 correct?

25 MR. BARNETT: In the project --

1 EXAMINER JONES: One in the --

2 MR. BARNETT: In the project area.

3 EXAMINER JONES: -- and one in the other?

4 MR. BARNETT: In the project area.

5 EXAMINER JONES: In the project area?

6 MR. BARNETT: Yes.

7 EXAMINER JONES: So is there an agreement between

8 those leases, some sort of a Unit Agreement?

9 MR. BARNETT: There is not, but both leases are held

10 100 percent by OXY and both federal leases are identical.

11 EXAMINER JONES: You can hammer out an agreement?

12 MR. BARNETT: Sure, absolutely.

13 EXAMINER JONES: Obviously I'm on turf that I

14 shouldn't be treading here, so if David needs to ask any more

15 questions on this --

16 EXAMINER BROOKS: Which?

17 EXAMINER JONES: The project.

18 EXAMINER BROOKS: There is no --

19 EXAMINER JONES: There is a project area.

20 EXAMINER BROOKS: -- ownership shown on this.

21 EXAMINER JONES: Here it is.

22 EXAMINER BROOKS: Oh. Oh, yeah, I saw this exhibit.

23 EXAMINER JONES: Looks like there is two different

24 federal leases involved.

25 EXAMINER BROOKS: Yeah, one of them covers the --

1 looks like the south half of the southeast quarter of Section
2 3, and the other one covers the north half of the northeast
3 quarter of Section 10. Is that correct?

4 MR. BARNETT: Yes.

5 EXAMINER BROOKS: And they're not unitized, but they
6 have totally common ownership?

7 MR. BARNETT: Correct.

8 EXAMINER BROOKS: And OXY owns 100 percent of any
9 overrides in both?

10 MR. BARNETT: Not that I'm aware of?

11 EXAMINER BROOKS: You're the landman, you are
12 supposed to be aware of those things, right?

13 MR. BARNETT: Yes, I am.

14 EXAMINER BROOKS: And, of course, I don't know what
15 BLM's issue is, so --

16 EXAMINER JONES: And I don't remember, either, and I
17 don't think either witness testified that they had talked to
18 or were aware of anything with the BLM, but -- but the dual
19 regulatory scheme, and it's a government well and -- the
20 leases on those two -- those two separate leases, would they
21 have the same royalty interests?

22 MR. BARNETT: Yes.

23 EXAMINER JONES: Okay. Okay. I have no more
24 questions. Thank you very much.

25 EXAMINER BROOKS: I have no more questions,

1 either.

2 MR. RANKIN: Thank you, Mr. Examiner. That
3 concludes our case.

4 EXAMINER JONES: Thank you, Mr. Rankin. With that,
5 we'll take case 14790 under advisement.

6 (Recess taken.)

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

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_____, Examiner
Oil Conservation Division

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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:

Case No.: 14790


APPLICATION OF OXY USA, INC., FOR AUTHORIZATION TO CONDUCT A
PRESSURE MAINTENANCE PROJECT IN THE OLD MILLMAN RANCH BONE
SPRING POOL THROUGH ITS GOVERNMENT AB NO. 9 WELL, EDDY
COUNTY, NEW MEXICO.

REPORTER'S CERTIFICATE

I, IRENE DELGADO, New Mexico CCR 253, DO HEREBY
CERTIFY THAT ON January 19, 2012, proceedings in the
above-captioned case were taken before me and that I did
report in stenographic shorthand the proceedings set forth
herein, and the foregoing pages are a true and correct
transcription to the best of my ability.

I FURTHER CERTIFY that I am neither employed by nor
related to nor contracted with 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.

WITNESS MY HAND this _____ day of January 2012.


Irene Delgado, CCR 253
Expires: 12-31-2011