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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. 14461

APPLICATION OF BOPCO, LP, FOR
APPROVAL OF A WATER DISPOSAL
WELL, EDDY COUNTY, NEW MEXICO.

REPORTER'S TRANSCRIPT OF PROCEEDINGS
EXAMINER HEARING

April 15, 2010
Santa Fe, New Mexico

BEFORE: RICHARD EZEANYIM: Hearing Examiner
DAVID BROOKS: Legal Adviser

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This matter came for hearing before the New Mexico
Oil Conservation Division, Richard Ezeanyim, Hearing
Examiner, on April 15, 2010, at the New Mexico Energy,
Minerals and Natural Resources Department, 1220 South St.
Francis Drive, Room 102, Santa Fe, New Mexico.

REPORTED BY: Peggy A. Sedillo, NM CCR No. 88
Paul Baca Court Reporters
500 Fourth Street, NW, Suite 105
Albuquerque, NM 87102

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A P P E A R A N C E S

FOR THE APPLICANT:

JAMES BRUCE, ESQ.
Attorney at Law
P. O. BOX 1056
Santa Fe, NM 87504

1 HEARING EXAMINER: We call Case No. 14461. This
2 is the Application of BOPCo, LP, for Approval of a Water
3 Disposal Well, Eddy County, New Mexico. Call for
4 appearances.

5 MR. BRUCE: Mr. Examiner, Jim Bruce of Santa Fe
6 representing the Applicant. I have one witness,
7 Mr. Carlos Cruz.

8 HEARING EXAMINER: Any other appearances? Okay,
9 would the witness stand, state your name and be sworn in?

10 (Note: The witness was placed under oath
11 by the court reporter).

12 CARLOS CRUZ,
13 the witness herein, after first being duly sworn
14 upon his oath, was examined and testified as follows:

15 DIRECT EXAMINATION

16 BY MR. BRUCE:

17 Q. Please state your name for the record.

18 A. Carlos Cruz.

19 Q. And where do you reside?

20 A. I live in Midland, Texas.

21 Q. Who do you work for and in what capacity?

22 A. BOPCo, LP. I'm division production
23 superintendent.

24 Q. And by profession what are you?

25 A. Petroleum engineer.

1 Q. Have you previously testified before the
2 Division?

3 A. No.

4 Q. Would you summarize your educational and
5 employment background for the Examiner?

6 A. Sure. I graduated from UT in Austin back in
7 '86, and I began working with Dresser Atlas at that time
8 as an open-hole logging engineer.

9 From Dresser, I went on to Atlas Water Line.
10 And I worked with them for about three and a half years.
11 And then I did some environmental work with a company
12 called Groundwater technology. I had some friends of mine
13 who had gone into environmental work; they're petroleum
14 engineers also. And the times were a little rough, so we
15 went into that.

16 And then I did also some cementing and acidizing
17 with Dowell Schlumberger. I was a supervisor. And then
18 back with Atlas when I went back to the Permian basin.
19 And I was total with them for about 17 years.

20 And in 2006 I came on in BOPCo as a production
21 engineer. And I became the division superintendent since
22 2006.

23 Q. So you've been with BOPCo as a production
24 engineer for about four years?

25 A. Yes.

1 Q. Does your area of responsibility include
2 southeast New Mexico?

3 A. Yes.

4 Q. And are you familiar with the matters involved
5 in this application?

6 A. Yes, I am.

7 MR. BRUCE: Mr. Examiner, I'd tendered Mr. Cruz
8 as an expert petroleum engineer.

9 HEARING EXAMINER: In all these wide
10 experiences, did you get registered as a petroleum
11 engineer?

12 THE WITNESS: No, sir.

13 HEARING EXAMINER: Okay. Go ahead.

14 Q. Mr. Cruz, before we get into the case, yesterday
15 I talked with Mr. Ezeanyim for awhile and it appeared that
16 Bass might have been out of compliance with respect to a
17 number of wells under OCD regulations.

18 A. Right.

19 Q. Could you address that? There was a list of six
20 wells that Mr. Ezeanyim had yesterday, and one of them was
21 the Poker Lake No. 67.

22 A. Okay.

23 Q. What is the current status of that well?

24 A. That well is producing. It is a gas well. Now
25 it is on production. Right now it's shut in for a couple

1 of days because of maintenance because of a gas gather.

2 But they should be back on by tomorrow.

3 Q. But it's been on production for --

4 A. It's been on production for at least a month or
5 so, I believe.

6 Q. Okay. And then there was another well on that
7 list which was the Merchant State No. 2. What is the
8 status of that well?

9 A. That well has been retested. An MIT was
10 performed here yesterday morning, and it has passed the
11 MIT.

12 HEARING EXAMINER: Is that an injection well?

13 THE WITNESS: It is not an injection well, no,
14 its TA'ed right now.

15 HEARING EXAMINER: Okay.

16 Q. So the test was witnessed by the Division and it
17 was approved?

18 A. Yes.

19 HEARING EXAMINER: On what date was this done?

20 THE WITNESS: Yesterday.

21 HEARING EXAMINER: And you're talking about
22 Merchant State No. 1?

23 THE WITNESS: Merchant State No. 2.

24 A. And the reason was, we were trying to get us a
25 witness out there, but we had conflicts in there with

1 people not being available for us to witness -- OCD
2 witness out there out of Artesia, I believe.

3 Q. So that well should be properly TA'ed at this
4 point?

5 A. Yes.

6 Q. And will you e-mail that data to the Examiner
7 after the hearing?

8 A. Yes.

9 HEARING EXAMINER: Okay, very good. Because
10 this well we're looking at here -- you have seven, you're
11 only supposed to have five. If you take off these wells,
12 then you are five, which means the order could be written.

13 So what your attorney is saying is correct. So
14 what I want you to do is -- Of course, I think the Poker
15 Lake Unit, I think that's in production. You can pull
16 from production to demonstrate that is in production?

17 THE WITNESS: Yes.

18 HEARING EXAMINER: And then you said that
19 yesterday there was a MIT that was witnessed by OCD?

20 THE WITNESS: That's correct.

21 HEARING EXAMINER: And it passed. They were
22 there. So you can update the records so that when anybody
23 goes to OCD online, they'll see only five. At that point
24 you are in compliance with 5.9, and that will be
25 witnessed. So if you could send me some information

1 demonstrating that. And then also, make sure all these
2 are corrected.

3 THE WITNESS: Sure.

4 HEARING EXAMINER: Contact the district office
5 or the office here in Santa Fe to make sure. Because our
6 policy is that you don't even go to docket, your case
7 cannot go on the docket if you are out of compliance.

8 However, I think because some of the wells
9 around here -- and by the time we put it on the docket,
10 you are in compliance. But some of them expired -- they
11 expired April 9th.

12 THE WITNESS: That's correct.

13 HEARING EXAMINER: Once it expires, it comes in
14 again. So that's why you are out. So that's something we
15 can take care of without, you know, much further ado. If
16 you could get all of these -- which would allow you to
17 have five.

18 THE WITNESS: Okay.

19 HEARING EXAMINER: Which allows us to go through
20 this hearing today.

21 THE WITNESS: Okay.

22 Q. And your employees are also continuing to work
23 on some of those other wells on that list?

24 A. Yes. The Big A Unit 10 right now is being P and
25 A'ed as we speak. It started off as a recompletion to a

1 shallow Delaware zone, but it didn't look very promising
2 so we've changed and we are P and A'ing that well as we
3 speak.

4 The reason I say that is because we had a
5 workover unit out there and we were P and A'ing as we got
6 to the Delaware. So now we're going to go ahead and
7 continue P and A'ing that well. And that is under the BLM
8 guidelines.

9 HEARING EXAMINER: Okay. Let me further stress
10 what I just said, because I don't want to go against the
11 policy we put in here.

12 THE WITNESS: Right.

13 HEARING EXAMINER: No case goes on the docket if
14 the operator is out of compliance. But in this case, I
15 will admit yesterday that it was on the docket because you
16 were in compliance at the time the application was made,
17 however, it dropped out.

18 Now what I'm going to put -- and I want to put
19 it in the record, is that as of today -- it's not in here
20 for today, I want you to take care of this 30 days from
21 today, April 15th, so that you are in compliance. After
22 the 15th and you are not in compliance, it can be
23 dismissed without prejudice.

24 THE WITNESS: Okay.

25 HEARING EXAMINER: So that's why I want you to

1 make sure you do it within the 30 days. I think since
2 you've done the work already, all you have to do is update
3 your paperwork.

4 THE WITNESS: Yes.

5 HEARING EXAMINER: And 30 days, I think, is
6 appropriate enough for you to do that so that this doesn't
7 drag out that long. I'm going to dismiss this case 30
8 days from today if you're not in compliance.

9 THE WITNESS: Okay.

10 Q. Now, what well are we here for today, Mr. Cruz?

11 A. The Poker Lake Unit 213.

12 Q. And that is located in Section 18 of 24 South,
13 30 East?

14 A. The Nashdraw section, yes.

15 Q. And in this case, what zone do you seek to
16 inject into?

17 A. The Avalon.

18 Q. Now, you have been in discussions with Mr. Will
19 Jones of the OCD regarding this application?

20 A. Yes.

21 Q. And why did he inform you that this matter had
22 to be set for hearing?

23 A. Well, because of the noncompliance issues, for
24 one thing, up in Blue Head 6, but 67 was going on
25 production. So that was one issue there. And because it

1 is a productive zone, the Avalon is a productive zone.

2 Q. Okay. Before we get into the C-108 or anything
3 else you have with you, why is BOPCo seeking to inject
4 into the Avalon or into a zone that is productive?

5 A. Well, first of all, we need to -- Because we've
6 got a producing well and produced water from horizontal
7 wells in another field, the James Ranch Unit.

8 So what we're trying to do is, because of potash
9 issues, we can't really inject water around that area. So
10 we're moving water to the Poker Lake unit. So as a
11 result, I need to have a place to put the disposal water.
12 We're hauling quite a bit of water right now. So I'm
13 wanting to move water to the Poker Lake B and also in the
14 Nashdraw.

15 Now, the reason I selected the Avalon, or why I
16 want to look into the Avalon is, we do have corrosion
17 issues out of that zone because of the CO2 production.

18 Now, the CO2 mixed with water makes carbonic
19 acid and gives us a lot of corrosion issues with our
20 tubing. And then, of course, we had to go through
21 extensive chemical treatment.

22 Q. So there's a lot of well maintenance issues?

23 A. There's a lot of well maintenance issues. So
24 I'd like to put water in this Avalon sand, and as a
25 result, you know, get rid of water.

1 And then also maybe -- Of course we're going to
2 be monitoring production, we're not just going to put
3 water in there, we're going to monitor the surrounding
4 wells and maybe plug out some of the Avalon zones, and
5 that, in a sense, will keep the Lower Brushy Canyon on
6 production longer.

7 Q. And is the Lower Brushy Canyon substantially
8 more productive than the Avalon?

9 A. It has been. That's the history we have there
10 in Nashdraw.

11 Q. Okay, so you want to dispose the water to extend
12 the life of production from the Lower Brushy Canyon?

13 A. That is correct. The Lower Brushy and other
14 Delaware camps.

15 HEARING EXAMINER: The question he asked you was
16 the most critical question about this case. We handled
17 the compliance issue and we put it, you know, there. But
18 that question he asked you is what I just -- He asked the
19 question because he saw me write it down because that's
20 very, very important.

21 Are you going to use this well as SWD, or are
22 you going to use it as a pilot project for a water flood
23 in some of the wells in the -- What are you going to use
24 this well for?

25 THE WITNESS: SWD.

1 HEARING EXAMINER: SWD?

2 THE WITNESS: Yes.

3 HEARING EXAMINER: And you are injecting into
4 the formation where your producers are. When I looked at
5 the area of review, most of those wells belong to BOPCo,
6 and most of them in the area of review are producing from
7 this same formation into where you are injecting.

8 THE WITNESS: That's correct, but they're in
9 combination with other Delaware zones. That is not the
10 only zone that we're producing out of.

11 HEARING EXAMINER: I understand.

12 THE WITNESS: Now, it could be minimal
13 production, however, but --

14 HEARING EXAMINER: I understand that, but is the
15 Avalon productive at all, that is the question, is the
16 Avalon productive?

17 THE WITNESS: Yes. And right now, I'm
18 conducting a test on the four surrounding wells
19 surrounding the 213 in order to see what the contribution
20 is exactly from the Avalon.

21 HEARING EXAMINER: Okay, let me start with this.
22 What is the production rate of those wells producing from
23 Avalon, do you know the average production rate?

24 THE WITNESS: Sure.

25 MR. BRUCE: Mr. Examiner, let me --

1 HEARING EXAMINER: I know you're going to go
2 there, but I want to get a handle on this.

3 THE WITNESS: Sure.

4 MR. BRUCE: We'll mark this as Exhibit 2,
5 Mr. Examiner.

6 Q. And Mr. Cruz, could you identify a couple of
7 things. Number one, identify just briefly what the
8 exhibit shows. And then do you have production on this.
9 When you go through the oil production, discuss what zones
10 are involved in these wells.

11 A. Okay. What this is, this is production tests
12 for March. And these are offset wells to the 213 in
13 question that have an Avalon zone -- you know, an open
14 Avalon zone -- in conjunction with other Delaware zones,
15 though.

16 Now, I selected just these because they had an
17 Avalon zone, and that's what this is showing. So the
18 combination of the oil, gas and water is from other zones
19 also.

20 Q. Okay. And you said that you are currently
21 conducting tests on some of these wells -- and maybe you
22 should identify them for the record --

23 A. Sure.

24 Q. -- to test exactly what the contribution is to
25 these daily production rates solely from the Avalon,

1 correct?

2 A. That is correct.

3 Q. And which wells are those?

4 A. That is the Poker Lake Unit 210, the 212, 214,
5 and 260.

6 HEARING EXAMINER: What are these wells doing?

7 THE WITNESS: They're on production right now.
8 The tests that I'm going to conduct is, we're testing them
9 for seven days. Right now we're doing just a well test on
10 those, and we started last Saturday.

11 HEARING EXAMINER: Okay.

12 THE WITNESS: And then once I get that data and
13 take gas samples to check the CO2, I'm going to set a
14 retrievable bridge plug above the Avalon zone.

15 HEARING EXAMINER: Okay.

16 THE WITNESS: And then placing the wells back on
17 production for at least seven days until production
18 stabilizes, and then I'm going to get another gas sample
19 to check for CO2 quantity.

20 And that will also -- what I'm looking for is to
21 see, you know, pretty much by deduction and the CO2 how
22 much the Avalon has contributed.

23 HEARING EXAMINER: Okay, I understand what
24 you're saying. I'm going through the production history
25 now from the Avalon. I can see Poker Lake Unit 210 is

1 producing one barrel a day.

2 THE WITNESS: Yes, sir.

3 HEARING EXAMINER: I can see why you want to use
4 it. Okay. And I see you're trying establish a base of
5 what you're doing there.

6 THE WITNESS: Okay.

7 HEARING EXAMINER: Regardless of what you are
8 taking for the C02.

9 THE WITNESS: Okay.

10 HEARING EXAMINER: Okay. Are you supposed to be
11 doing salt water disposal or water flood, pilot water
12 flood, why did you chose to do that and then drawing your
13 production without designing a water flood?

14 THE WITNESS: Well, the water flood, what I want
15 here in the near future, a water flood in the Lower Brushy
16 Canyon. I want to do a water project on the Lower Brushy
17 Canyon. Not on Avalon, see, because the Avalon -- again,
18 going back to the corrosion issues. It just doesn't seem
19 feasible to do that.

20 That's the reason I'm choosing that Avalon as a
21 disposal. Because I'm not really concerned with higher
22 production there because all it is, it's going to be more
23 C02, and that's not going to help my corrosion issues. I
24 mean, that's my main reason.

25 HEARING EXAMINER: I know you're concerned about

1 that, the production coming from those wells. Are you
2 going to lose those wells because of corrosion?

3 THE WITNESS: No, absolutely not. Because I'm
4 not going to go in there and start plugging all these just
5 off the bat. Like I said, we're going to be monitoring.

6 HEARING EXAMINER: Okay.

7 THE WITNESS: Now, if I see effects that
8 everything is just getting totally flooded out, that
9 doesn't make sense for our own benefit, for our oil
10 production.

11 HEARING EXAMINER: Okay.

12 THE WITNESS: So we're going to be monitoring,
13 of course.

14 HEARING EXAMINER: Monitoring for what, the --

15 THE WITNESS: For the water production; oil,
16 gas, and water production, all three. Now, if we start
17 seeing a significant increase in water production, I mean,
18 that's really not going to help us much unless it is a low
19 producer, and I can block that off, that Avalon.

20 HEARING EXAMINER: And that is eventually what
21 is going to happen. And what you are going to see in
22 doing that, dumping that into 213, you're going to drain
23 production. And I see nowhere in this update -- you're
24 producing more than what you put in there, because you are
25 producing two wells.

1 THE WITNESS: Right. That's correct. But what
2 is offsetting that is all our maintenance issues, the
3 constant pulling of wells and pumps, the high tubing costs
4 for coded tubing, spray and metal cuff links, constant rod
5 changes. The four barrels goes away, that gets off set.

6 MR. BRUCE: Mr. Examiner, and I can ask a couple
7 of questions to address that?

8 Q. For instance, looking at the Poker Lake Unit
9 210, Mr. Cruz, its current rate is seven barrels a day,
10 but that's not just the Avalon?

11 A. That's not just the Avalon, no, sir.

12 Q. Okay. So that's why you're testing it to see
13 what is actually contributed by the Avalon in that
14 production?

15 A. That's correct.

16 Q. Could you tell us what other zones besides the
17 210 are open in this well?

18 A. They have the Lower Brushy, at least, Avalon and
19 lower Brushy. And some -- like the 210 didn't have -- the
20 211, the 212 will have Lower Cherry Canyon, or James Ranch
21 Unit 13 zone that we call around the -- just above the
22 Middle Brushy.

23 And I know those have been pretty productive
24 because I was out there and I frac'ed them myself and put
25 them on. So that's where most of the production is coming

1 from.

2 HEARING EXAMINER: From the Brushy Canyon?

3 THE WITNESS: Well, they're all commingled.
4 That's what I'm trying to say. I put Avalon here. This
5 just shows that these are open with Avalon, but it's not
6 only Avalon. So all of these have at least Lower Brushy
7 Canyon.

8 HEARING EXAMINER: But it appears to me the
9 Avalon contributes most of your production, that's why you
10 put that Avalon on there.

11 THE WITNESS: No. No, I put it on there just to
12 show what wells are there. No, no. Hopefully it's not --
13 I guess it's a little misleading, but that wasn't the
14 reason.

15 Q. Okay. So, Mr. Cruz, all of these wells are open
16 in the Avalon?

17 A. With other zones also.

18 Q. But each of these wells has at least one other
19 producing zones and maybe three other producing zones?

20 A. That is correct, yes.

21 Q. Okay. And the barrels of oil per day and the
22 MCF per day of barrels of water per day, that is not
23 solely Avalon production?

24 A. That is correct, that's total commingled
25 production.

1 Q. Total commingled production?

2 A. Yes, that is correct.

3 Q. And again, you are testing some of these wells
4 currently and you will supply that to the Hearing Examiner
5 when that is done?

6 A. Absolutely, yes.

7 Q. Let's go into this. In the area of review, the
8 half mile, and even outside of that, the only operator is
9 Bass, is that correct, or BOPCo?

10 A. BOPCo, that's correct yes.

11 HEARING EXAMINER: I saw that most of the
12 producing wells are owned by BOPCo.

13 THE WITNESS: That's correct.

14 Q. And you're not out there to harm your own
15 production?

16 A. Of course not, absolutely not.

17 Q. And if what you think is correct, these lower
18 Brushy, Middle Brushy, Cherry Canyon zones are probably
19 the primary contributors to production?

20 A. Yes.

21 Q. And the biggest intent you have is to extend the
22 production from those zones?

23 A. That's correct.

24 HEARING EXAMINER: What do you me by extend? Is
25 that a water flood area?

1 THE WITNESS: No. What I mean by extend is,
2 they'll be on production longer. We won't have to be
3 pulling tubing -- pulling the wells because of the
4 corrosion issues from the Avalon. I know I keep
5 mentioning that, but that's what we're having.

6 Q. So it's mainly the Avalon that contributes to
7 these production problems?

8 A. Yes, because of the C02 production. Because in
9 Lower Brushy and Lower Cherry and these upper zones do not
10 have any C02 production.

11 HEARING EXAMINER: How do you know the C02 is
12 coming from Avalon only?

13 THE WITNESS: Because we have other wells that
14 are only in Lower Brushy and upper zones, and we take gas
15 samples and we know they don't have any C02 production.

16 HEARING EXAMINER: So you are convinced that all
17 the C02 is coming from the Avalon?

18 THE WITNESS: Yes, sir.

19 HEARING EXAMINER: Is that one of the reasons
20 why you want to inject in that Avalon because it has the
21 C02?

22 THE WITNESS: That's the main reason. I want to
23 dispose of water and minimize my maintenance issues.
24 That's what I'm trying to do also, yes.

25 HEARING EXAMINER: Okay, by disposing the water

1 into the Avalon, would that help you -- apart from
2 drowning production, would that help you prevent
3 corrosion?

4 THE WITNESS: No. No, it's not going to help
5 prevent it. The preventing is going to be stopping it by
6 plugging it off and leaving my Lower Brushy Canyon and
7 upper zones on production longer. That's where I will
8 make up the difference, yes.

9 Q. If approval is granted, Mr. Cruz, you're not
10 going to go and seal off the Avalon on all these wells?

11 A. No, absolutely not.

12 Q. That's why you want to monitor to see what's
13 happening in the offset wells?

14 A. Exactly.

15 Q. You're going to continuously monitor those?

16 A. Oh, yes.

17 Q. And your upper management doesn't want to lose
18 production?

19 A. No, of course not. It was attached just to let
20 them know also what I was doing. Nobody wants to just
21 start sealing off production.

22 HEARING EXAMINER: It's my job to make sure you
23 don't do that. But again, on the water disposal, there is
24 no information you can just put it away until you finish
25 conducting your tests on those two wells, could you

1 produce from that information apart from the Avalon,
2 somewhere that is not productive, higher or lower, you
3 can't do that in that well.

4 You can construct that well to put away that
5 water until you test and see what is actually happening in
6 the Avalon, you can put the water where there is no
7 production until you know what you are doing.

8 Because you are doing these tests and you are
9 still injecting this water. You're going to see that
10 water come up your wells. There's no reason why you go
11 there within the half mile area of review.

12 THE WITNESS: Well, it won't come up in the
13 Lower Brushy.

14 HEARING EXAMINER: No, it wouldn't, but it will
15 come in the well that -- once you produce the Avalon, it
16 will come up.

17 THE WITNESS: Uh-huh.

18 HEARING EXAMINER: Most of those wells are
19 plugged and abandon, which is higher. The other wells
20 penetrate the Avalon and you put in that water, that water
21 is going to cause corrosion for sure. Is there any way
22 you could put that water somewhere else, either higher or
23 lower, and then take that water away and still conduct
24 your tests in the Avalon?

25 THE WITNESS: Well, I mean, we are right now,

1 we're putting the water in the Lower Brushy Canyon further
2 northwest. Those are our disposal wells.

3 HEARING EXAMINER: But there's no production
4 around two miles of that Brushy Canyon.

5 THE WITNESS: Right, there's quite a --

6 HEARING EXAMINER: If there is no production
7 within two miles, I wouldn't be asking you these
8 questions.

9 THE WITNESS: Right.

10 HEARING EXAMINER: We want you to draw that
11 second area of review in two miles. The two miles is to
12 determine whether there is production within that two
13 miles in which you are going to inject -- The half mile is
14 who you are going to notify in the interest owners there.
15 That two miles also is important for us to determine
16 whether there is production within two miles of that
17 injection well. And then if there is, which most of these
18 are, then it raises a concern, you know?

19 THE WITNESS: Uh-huh. As far as other zones,
20 there's Lower Brushy. Other upper zones, I can say no,
21 because we have Lower Cherry and these zones that we're
22 producing out of. Those are our productive zones around
23 there.

24 Now, of course, there is also Ramsey, which is
25 Bell Canyon. It's a lot shallower. But that will affect

1 a lot more wells because there is no cement and casing to
2 surface.

3 HEARING EXAMINER: Okay.

4 THE WITNESS: So that will really, really create
5 a big issue.

6 HEARING EXAMINER: Okay. What about deeper?

7 THE WITNESS: Deeper we cannot -- Well, the
8 reason is, also, Chesapeake is in our -- we have an
9 agreement with Chesapeake, and they're down in the shales
10 below, and some of the -- And of course we have Bone
11 Spring.

12 HEARING EXAMINER: And that is the reason why
13 they don't want you to put the water there, they don't
14 want you to drown their production.

15 Q. Mr. Cruz, generally in the Bone Spring -- I
16 mean, the Bone Spring, of course, is quite thick?

17 A. Yes.

18 Q. And the Avalon zone is upper?

19 A. Is way upper. There's Lower Brushy, and there's
20 like a 60 foot limestone cap, and the sand right below
21 there. And that sand is 40, 50 feet thick.

22 Q. And generally, the Lower Bone Spring sands are
23 substantially more than the Avalon?

24 A. Oh, yes. They're way down -- and there's
25 limestone caps in there, and where the first Bone Spring

1 sand can be about 8,810 feet.

2 HEARING EXAMINER: Let me ask this question.

3 Okay, production from these Porker Lake wells, about 11 or
4 12 of them, where do you put the water right now? If
5 they're not in that disposal well that you put that water
6 in currently -- Because some of these wells are right at
7 the edge, so where does the water go right now?

8 THE WITNESS: Right now it's going to the Lower
9 Brushy in our disposal wells.

10 HEARING EXAMINER: Which you say -- how many
11 miles away from this unit?

12 THE WITNESS: Oh, let's see here. Probably
13 three or four miles.

14 HEARING EXAMINER: Okay. But that well is not
15 going to get all the water that you're producing from
16 this -- for this area, it's not going -- that's why you
17 are seeking another salt water disposal well, right?

18 THE WITNESS: Right. It's quite a ways. And
19 we're drilling other wells to the east side. We're making
20 an increase in water production. And all this water is
21 coming in from the south end from another battery from the
22 east end, and it all kind of congregates at the 213 and
23 then has to be transferred up north. That's why I wanted
24 to set something -- kind of have a disposal all along.

25 Q. Because of the continuing development, the water

1 production is increased?

2 A. It's going to increase.

3 HEARING EXAMINER: Yeah, of course. Mr. Cruz,
4 just let me know, I know you discussed this with your
5 management, even if they don't understand it, you will
6 explain it to them, that you're going to be injecting into
7 the zone without the design of a water flood into the zone
8 where you are producing. What did you tell them, what did
9 they say? Did they say go ahead and get that water there?

10 THE WITNESS: No. They said, look, we need to
11 monitor what's happening with the production. And that's
12 why we're seeking -- or doing these tests.

13 HEARING EXAMINER: Okay.

14 THE WITNESS: How much Avalon constricts. Now,
15 that's for one thing, and it's -- it's to get rid of
16 water -- dispose water. Not the water flood, dispose
17 water, and try to minimize our corrosion issues.

18 How I sold them on it is, we believe that most
19 of the production is coming from the Lower Brushy and
20 Upper Delaware zones. And that's why we're conducting
21 these tests. And corrosion issues and problems, I think,
22 greatly exceed or offset any production that will come
23 from the Avalon.

24 Say like on a four barrel a day well, if we're
25 only making a barrel -- I mean, I'll find out from my

1 tests, or none of it's coming from the Avalon, that's what
2 I'm after.

3 HEARING EXAMINER: Okay. Now, when you say you
4 monitor it, so if you monitor this if this application is
5 approved -- I don't know, if we're going to continue the
6 hearing, suppose it's approved and you start testing and
7 some of the water you are injecting is showing up in some
8 of these wells; what are you going to do? Because we're
9 going to require you to do that before we even consider
10 that. So what are you going to do when you start seeing
11 that, stop injecting?

12 THE WITNESS: No, no, no. When I start seeing
13 it, of course I'll see it in the Avalon zones.

14 HEARING EXAMINER: Yeah.

15 THE WITNESS: I want to start a T and A in that
16 zone, the Avalon zone. That's what I want to do.

17 HEARING EXAMINER: Oh, if you see --

18 THE WITNESS: If I see a great increase,
19 which -- I mean, I'm sure we'll probably start seeing some
20 increase, an increase in the water, then I want to T and A
21 that Avalon zone, that's what I'm looking to do. That's
22 not going to -- I mean, I'm not going to just run out
23 there like -- like Mr. Bruce said, jump in there and start
24 doing this, I'm going to be monitoring. So wells are
25 going to keep going while I'm monitoring.

1 HEARING EXAMINER: Okay, that makes sense to me.
2 So your answer to the question I asked you is that if you
3 see water coming out from that Avalon zone and in any of
4 these producing wells, you are going to plug that zone,
5 plug it off. And then based on the fact that the
6 ownership there -- Is the ownership there identical, the
7 operator is only BOPCo and nobody else, right?

8 THE WITNESS: That's correct.

9 HEARING EXAMINER: And I know you are a prudent
10 operator, you don't want to, you know, waste your
11 resources; they're hard to come by.

12 THE WITNESS: That's correct.

13 HEARING EXAMINER: Okay. I think we might go
14 ahead with this case. But I still need to know your plans
15 on how you are going to handle this.

16 THE WITNESS: Oh, sure.

17 HEARING EXAMINER: Really. I'm very adamant. I
18 don't allow people injecting into a productive zone.

19 THE WITNESS: Yes.

20 HEARING EXAMINER: I think I've gotten enough
21 information from that. I think we might continue. Go
22 ahead.

23 Q. And maybe just one final question off of
24 Exhibit 2, Mr. Cruz. For instance, again, looking at the
25 No. 210 Well currently producing seven barrels a day --

1 A. Yes.

2 Q. If minimal production is coming from the Avalon,
3 does it really make sense to worry about the Avalon
4 production considering the increase in production costs to
5 keep that zone open?

6 A. No. We don't see it as keeping it open, we
7 don't see it as economical, no, sir.

8 Q. Next, Mr. Cruz, if you could just simply run
9 through the C-108 in front of you. Now, this was
10 submitted by Sandra Bell, but did you review this C-108?

11 A. Yes.

12 Q. And do you concur with its contents?

13 A. Yes.

14 Q. In running through this, now, first of all,
15 without really going through it line by line, what type of
16 injection rates do you anticipate?

17 A. We're looking at around 2,000 barrels a day or
18 so. That's kind of our average.

19 Q. Now, the division rules require .2 psi per foot
20 limitation on the injection filter, and that's acceptable?

21 A. Yes.

22 Q. If you do want to seek an injection pressure
23 increase, would you do step rate tests?

24 A. Yes.

25 Q. And is it Bass' practice to remain substantially

1 below the fracture pressure?

2 A. Yes, it is. Oh, yes.

3 Q. And as you said -- Well, in this area, actually,
4 the -- Mr. Cruz, the Nashdraw, it's actually a combined
5 Nashdraw, Delaware, Bone Spring, Avalon pool, is it not,
6 which includes all the Delaware plus the Avalon zones?

7 A. Yes.

8 Q. It's all considered one pool?

9 A. That is correct.

10 Q. And do you anticipate any -- I noticed there
11 weren't any analyses of the injection water and the
12 formation water. If the Examiner wants those, would you
13 submit those to him?

14 A. Oh, yes.

15 Q. Do you anticipate, though, any problems between
16 the formation water and the injection water?

17 A. Incompatibilities, no.

18 Q. I mean, this has been done in other areas by
19 Bass and you have seen no injection problems?

20 A. That's correct.

21 Q. Or compatibility problems?

22 A. That's correct.

23 Q. Page 3 contains data on the area of review. And
24 it printed up kind of small. But again, the only operator
25 within the area of review is BOPCo; is that correct?

1 A. That is correct.

2 MR. BROOKS: At least on my copy it's pretty
3 much illegible.

4 MR. BRUCE: I tell you what, Mr. Examiner, we
5 will get a better copy to you.

6 HEARING EXAMINER: Is that last well a BOPCo
7 well?

8 THE WITNESS: Yes, sir.

9 HEARING EXAMINER: But it doesn't penetrate the
10 injection zone?

11 THE WITNESS: Yes, sir, that's correct.

12 HEARING EXAMINER: Do you have a diagram for
13 that since it's your well?

14 THE WITNESS: The 55? I do have one on a CD I
15 can pull up.

16 HEARING EXAMINER: No, I just want to look at it
17 if you have it, how it was plugged.

18 THE WITNESS: Okay.

19 HEARING EXAMINER: So it's one of those things
20 on the list of things you are going to bring. So one of
21 them would be that area of 55.

22 THE WITNESS: Okay.

23 HEARING EXAMINER: Okay, go ahead.

24 Q. Now, the C-108 contains data on the -- What is
25 the current status of the 213 well, is it a producer?

1 A. Yes, sir.

2 Q. Okay.

3 MR. BRUCE: Mr. Examiner, we only had one copy
4 of that.

5 HEARING EXAMINER: Okay. This is the current
6 schematics of the producer, right?

7 THE WITNESS: Yes.

8 HEARING EXAMINER: Okay. Do you have the
9 conversion to the disposal?

10 THE WITNESS: Yes, sir, this one right here.

11 MR. BRUCE: And it's in the file, but I think
12 these are a little more legible for you, Mr. Examiner.

13 Q. And the 213 Well will be -- if this is allowed
14 will be completed to prevent movement of fluids between
15 zones in that wellbore, correct?

16 A. Yes.

17 Q. And again, you're going to monitor offset wells
18 and see what happens there?

19 A. That is correct.

20 Q. And the surface owner where the well is located
21 is the federal government?

22 A. That is correct, yes.

23 MR. BRUCE: Mr. Examiner, the only offset was
24 BOPCo. The only surface owner is the BLM. So notice of
25 this hearing was sent only to the BLM and to the Artesia

1 district office of the Division.

2 Mr. Examiner, we will submit additional -- We'll
3 get a clearer copy of the C-108 and we'll get the data on
4 the No. 55 Well to you. And then we'll submit the data on
5 these well tests so that you can see what's actually being
6 produced from the Avalon.

7 But other than that, if you have specific
8 questions on the C-108, I'd rather have you ask Mr. Cruz
9 than have me ask questions that you might not be
10 interested in. But I would move the admission of BOPCo
11 Exhibits 1 through 3.

12 HEARING EXAMINER: Exhibits 1 through 3 are
13 admitted.

14 MR. BRUCE: And I think that's all the questions
15 I have for the witness, Mr. Examiner.

16 HEARING EXAMINER: Thank you, Mr. Bruce.

17 MR. BROOKS: No questions.

18 HEARING EXAMINER: Okay, let's examine some of
19 those -- In your C-108, do you have the water analysis? I
20 know you said the waters are compatible, no
21 incompatibility issues. Do you have those analyses to
22 demonstrate them?

23 THE WITNESS: I can get those. I don't have
24 them right now.

25 HEARING EXAMINER: It's not in the package in

1 the application?

2 THE WITNESS: No, sir.

3 HEARING EXAMINER: You say you are going to
4 submit on the application the water analysis?

5 MR. BRUCE: We will do that.

6 HEARING EXAMINER: Okay. Now, let me make a
7 list of what I think I need from you guys. One is the PA
8 schematic of 55.

9 THE WITNESS: Okay, 55.

10 HEARING EXAMINER: That plugged and abandoned
11 area of 55. And then you are going to submit a fresh
12 C-108.

13 MR. BRUCE: One that's a little more readable
14 than this with water analyses and the wellbore sketch.

15 HEARING EXAMINER: Okay. I know that from the
16 C-108. To include the water analysis and the water.

17 THE WITNESS: Produced water and --

18 HEARING EXAMINER: Produced water. Of course
19 you're producing it from that formation. Are you getting
20 water from somewhere else?

21 THE WITNESS: Yes, the Delaware, the Lower
22 Brushy in the Delaware.

23 HEARING EXAMINER: Okay, so we need those two
24 analyses to see whether there are water incompatibility
25 issues.

1 THE WITNESS: Okay.

2 HEARING EXAMINER: Include the water analyses.

3 MR. BRUCE: And also, we will send you here
4 shortly the data from the offset well tests, production
5 data.

6 HEARING EXAMINER: Okay. That will be in the
7 Avalon zone, right?

8 THE WITNESS: Yes. It will be of all of the
9 production.

10 HEARING EXAMINER: Okay, I have those three. Is
11 there anything else you're supposed to send that we have
12 forgotten?

13 MR. BRUCE: And we will also send you some data
14 probably in the next couple days on the other noncompliant
15 wells that have been brought into compliance.

16 HEARING EXAMINER: That's very, very important.
17 You have 30 days, but if you can get it in faster, that's
18 fine. Okay. They're in compliance. Mr. Bruce, is there
19 anything else you need to send?

20 MR. BRUCE: I think that's it, Mr. Examiner.

21 HEARING EXAMINER: Okay. In this area, do you
22 know the depth of fresh water?

23 THE WITNESS: No, sir, I'm not sure. It's
24 pretty far up there. I would guess less than a
25 thousand -- I'm just guessing.

1 HEARING EXAMINER: Okay, but did you check
2 whether there is fresh water in the area in the first
3 place?

4 THE WITNESS: Yes.

5 HEARING EXAMINER: You have to know if there is
6 fresh water and know the depth of fresh water. Do you
7 know if you have fresh water, and if you do, what is the
8 depth?

9 THE WITNESS: Okay. I don't know of any fresh
10 water.

11 HEARING EXAMINER: We need to have that
12 information. Let me write that down for the general area.

13 MR. BRUCE: We'll check with the state engineer.

14 HEARING EXAMINER: Okay, and what is the depth
15 of that fresh water.

16 THE WITNESS: Okay.

17 HEARING EXAMINER: So I'm going to add that
18 right here. Fresh water and the depth. Most of these
19 wells in your No. 2, are they part of the area of review
20 wells that we have on the application? Most of them I
21 haven't checked but you just gave me this. These wells
22 that are in production, most of them are in this area of
23 review wells, you said they're producers?

24 THE WITNESS: Yes. Yeah, those are all within
25 our Nashdraw. So some could be pretty far away, but

1 they're still in the Nashdraw field.

2 HEARING EXAMINER: Okay. Mr. Cruz, could you
3 explain to me why you couldn't find a nonproductive zone
4 to put this water? I know you said it before, but could
5 you repeat that?

6 THE WITNESS: Yes. The nonproductive zone for
7 us in that area would be like the Ramsey, which is pretty
8 shallow, and like in the Bell Canyon.

9 HEARING EXAMINER: Okay.

10 THE WITNESS: And the reason for not wanting to
11 do that is because of our surrounding offset wells that
12 don't have cement casing to surface.

13 HEARING EXAMINER: Yeah. Okay. And deeper, you
14 had something to do with --

15 THE WITNESS: Oh, deeper there's an issue with
16 another operator we have an agreement with that they --
17 They kind of get like a hundred feet below the base of the
18 Avalon sand to a hundred feet above the first Bone Spring
19 sand.

20 HEARING EXAMINER: So those two constraints,
21 both shallow and deeper, made you put it into these
22 productive zones, right?

23 THE WITNESS: Yes, sir, that's correct.

24 HEARING EXAMINER: Okay. And by putting it in
25 there, you are -- most of these tests that you are going

1 to give me suggest that you're not going to lose
2 production, so why lose production by injecting water into
3 that zone, right?

4 THE WITNESS: Right.

5 HEARING EXAMINER: You and your management have
6 made that decision?

7 THE WITNESS: Yes.

8 HEARING EXAMINER: And the reason why you didn't
9 want to test the C02, you would get more -- you know, if
10 you have some corrosion, you have to design a water flood
11 project to see if you can use this water. It accomplishes
12 two things, you dispose the water and use it for -- Why is
13 it that you don't want to conduct a pilot --

14 THE WITNESS: I do intend to do that in the
15 Lower Brushy Canyon. Because that seems like a better
16 zone for us, it's more productive. That's where I want to
17 conduct my water flood, in the Lower Brushy.

18 HEARING EXAMINER: It's more productive than the
19 Avalon?

20 THE WITNESS: That is correct. And no C02
21 issues. That's where we want to conduct our water flood.

22 MR. BRUCE: But you're still studying that?

23 THE WITNESS: We're studying that right now,
24 yes.

25 HEARING EXAMINER: So let me summarize here.

1 You might do a water flood. It's more productive than the
2 Avalon. And it doesn't have CO2 issues.

3 THE WITNESS: That's correct.

4 HEARING EXAMINER: This is a special case.
5 That's interesting. Okay.

6 MR. BRUCE: We wouldn't want to bring you
7 anything regular, Richard.

8 HEARING EXAMINER: After we deal with this,
9 maybe we won't have to deal with them anymore.

10 THE WITNESS: Sure.

11 HEARING EXAMINER: Okay, your injection
12 pressures are .2 right?

13 THE WITNESS: They're .2, yes, sir. I mean,
14 that's our safe margin. If we want to increase or
15 anything, we'll do a step rate test to ensure that we're
16 below --

17 HEARING EXAMINER: Of course.

18 THE WITNESS: Because we don't want to exceed
19 frac pressure.

20 HEARING EXAMINER: Okay. And then you're going
21 to inject about 2,000 barrels?

22 THE WITNESS: That's what we're looking at, yes,
23 sir.

24 HEARING EXAMINER: That's maximum?

25 THE WITNESS: That's average, that's what that

1 is. I think max we had said like 2,500, we could. But
2 it's based on the .2. We'll stay at the .2, we won't
3 exceed that.

4 HEARING EXAMINER: Yeah, there is no rule
5 depending on what you can inject there, but in this case,
6 I want to know, I need to do a little calculation for
7 myself.

8 THE WITNESS: Well, 2,000 is really average.

9 HEARING EXAMINER: Okay. Okay, I think you're
10 going to do this in stages if I get you correctly.

11 THE WITNESS: Yes.

12 HEARING EXAMINER: Your first injection will be
13 the Avalon from 7,388 to 7,460.

14 THE WITNESS: Yes, sir.

15 HEARING EXAMINER: There are four stages. And
16 then inject between that 7,388 to the 7,460. Then do you
17 have any other plans to inject shallower?

18 THE WITNESS: Yes, sir, once we begin that --
19 the water flood in the Lower Brushy. We'll do a study on
20 that project, because that is Lower Brushy just above
21 that.

22 HEARING EXAMINER: The Lower Brushy is from the
23 7,388?

24 THE WITNESS: Above the 7,388, yes, sir.

25 HEARING EXAMINER: And that's more productive

1 than the Avalon which is below 7,388, right?

2 THE WITNESS: The Avalon is 7,388, yes. The
3 Lower Brushy is above that.

4 HEARING EXAMINER: Okay. So in that case, will
5 you start injecting in shallower than you are designing
6 your water flood there, you're not going to dispose there?

7 THE WITNESS: No. It won't be disposal, no.

8 HEARING EXAMINER: Okay, I want to understand,
9 because when I look at your application, I see four stages
10 of disposal would be in the Avalon from 7,388 to 7,460. I
11 want to find out from you what you're going to do after
12 that --

13 THE WITNESS: Yeah. If and when we get to that
14 point, if we decide to, that will be water flood for that
15 Lower Brushy, that won't be disposal.

16 HEARING EXAMINER: Okay.

17 THE WITNESS: Because that's kind of in the
18 heart of our field, and we don't want to do that unless
19 it's a water flood to enhance production.

20 HEARING EXAMINER: Okay. That helps.

21 THE WITNESS: Yes, sir.

22 HEARING EXAMINER: Okay, so to summarize, what
23 we need from you, first of all, is to be in compliance
24 with 5.9. That's first. Because without that, the case
25 will dismissed. All the work we have done will be for

1 naught until you comply with that 5.9, if you do what you
2 say you're going to do to bring your inactive wells to at
3 least five or less.

4 According to your financial assurance, there's
5 no financial assurance issues. There is no outstanding
6 compliance except your few wells in inactive status.

7 THE WITNESS: Correct.

8 HEARING EXAMINER: Okay, so you do that. And
9 then, as I stated in the beginning, that after 30 days I
10 don't hear anything for that compliance issue and I go in
11 there and see that you are out of compliance, I don't need
12 to talk to you anymore, I just write a dismissal.

13 THE WITNESS: Okay.

14 HEARING EXAMINER: But it would be a dismissal
15 without prejudice, you would have to go back and do the
16 work again. Okay, that's number one.

17 Then number two, you are going to get me fresh
18 water -- similar fresh water in the area you're going to
19 inject this produced water. And what are the depths, the
20 average depth of fresh water in that area. That's number
21 two of what you're going to supply.

22 THE WITNESS: Around the 213 area, that
23 Nashdraw?

24 MR. BRUCE: Generally we look within two miles.

25 HEARING EXAMINER: Yes, within two miles of that

1 zone to see if there is any fresh water underground,
2 surface, or drinking water. And then we want to evaluate
3 whether your injection will affect the water. You live in
4 Texas, but here, we're short of water.

5 Okay, then the schematic of the area of review
6 of 55, that plugged and abandoned well.

7 THE WITNESS: Okay.

8 HEARING EXAMINER: And you're going to submit
9 that from the C-103 all the technical information
10 including the water analysis.

11 THE WITNESS: Yes.

12 HEARING EXAMINER: Both inactive water and then
13 produced water. Then your production data for the offset
14 wells that you say are noted.

15 THE WITNESS: Yes.

16 HEARING EXAMINER: Those don't have any title
17 differences but I want you to present them as soon as
18 possible.

19 THE WITNESS: Yes.

20 HEARING EXAMINER: The other one that will
21 determine the fate of this application is your compliance
22 with 5.9. On May 15th, your case will be dismissed if you
23 are not in compliance.

24 THE WITNESS: Okay, I understand.

25 HEARING EXAMINER: Is there anything else that

1 you need to submit?

2 MR. BRUCE: I think that's it, Mr. Examiner.

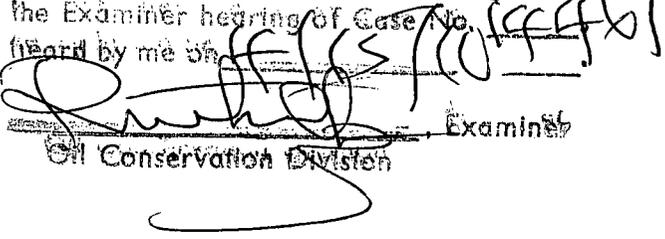
3 HEARING EXAMINER: Very good. Any other
4 comments on this?

5 MR. BROOKS: No, no questions.

6 HEARING EXAMINER: Very good. Then at this
7 point, Case No. 14461 will be taken under advisement. And
8 that concludes the docket today.

9 (Whereupon, the proceedings concluded.)

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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. 14461
heard by me on 11/15/81

Examiner
Oil Conservation Division

1 STATE OF NEW MEXICO)
) ss.
2 COUNTY OF BERNALILLO)

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REPORTER'S CERTIFICATE

I, PEGGY A. SEDILLO, Certified Court Reporter of the firm Paul Baca Professional Court Reporters do hereby certify that the foregoing transcript is a complete and accurate record of said proceedings as the same were recorded by me or under my supervision.

Dated at Albuquerque, New Mexico this 26th day of April, 2010.


PEGGY A. SEDILLO, CCR NO. 88
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