

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

4 ORIGINAL

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

CASE NO. 14360

8 APPLICATION OF APACHE CORPORATION FOR
9 APPROVAL OF A PILOT SECONDARY RECOVERY
10 PROJECT, LEA COUNTY, NEW MEXICO.

11 REPORTER'S TRANSCRIPT OF PROCEEDINGS
12 EXAMINER HEARING

13
14 September 3, 2009
15 Santa Fe, New Mexico

16
17 BEFORE: TERRY WARNELL: Hearing Examiner
18 DAVID BROOKS: Technical Advisor

19
20 This matter came for hearing before the New Mexico
21 Oil Conservation Division, Terry Warnell Hearing Examiner,
22 on September 3, 2009, at the New Mexico Energy, Minerals
23 and Natural Resources Department, 1220 South St. Francis
24 Drive, Room 102, Santa Fe, New Mexico.

25
26 REPORTED BY: PEGGY A. SEDILLO, NM CCR NO. 88
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A P P E A R A N C E S

20	FOR THE APPLICANT:	JAMES BRUCE, ESQ.
21		Attorney at Law
22		P. O. Box 1056
23		Santa Fe, NM 87501

1 HEARING EXAMINER: Mr. Bruce, help me out here.

2 The rest of the day is going to be yours, right?

3 MR. BRUCE: Yes.

4 HEARING EXAMINER: So we're looking at several
5 affidavits?

6 MR. BRUCE: Yeah. All I have left.

7 HEARING EXAMINER: Would you like to 14360,
8 then, right now or --

9 MR. BRUCE: Yes, I would prefer to do the Apache
10 case first, and then I have three Mewbourne cases that are
11 done by affidavit. Those will be quick but they do have a
12 little twist to them, just to make your day a little more
13 interesting.

14 HEARING EXAMINER: I appreciate that.

15 MR. BRUCE: And Mr. Examiner, also, there is one
16 case --

17 HEARING EXAMINER: 371?

18 MR. BRUCE: 371. I don't think I -- I was
19 looking in the file. I didn't get a letter over. I do
20 request that that one be continued for two weeks.

21 HEARING EXAMINER: All right. So we'll continue
22 case 14371 for two weeks, which will make that, I believe,
23 the October 1st docket.

24 MR. BRUCE: September 17th.

25 HEARING EXAMINER: September 17th, I'm sorry.

1 Thank you. We'll go ahead and continue, then, with Case
2 14360, the Application of Apache Corporation for Approval
3 of a Pilot Secondary Recovery Project, Lea County, New
4 Mexico. Call for appearances.

5 MR. BRUCE: Mr. Examiner, Jim Bruce of Santa Fe
6 representing the Applicant. I have three witnesses.

7 HEARING EXAMINER: All right. Will the
8 witnesses please stand, state your name, and be sworn,
9 please?

10 MR. MAYES: Kevin Mayes.

11 MR. PEARCY: Bret Percy.

12 MS. HANSON: Michelle Hanson.

13 (Note: The witnesses were placed
14 under oath by the court reporter.)

15 MR. BRUCE: Mr. Examiner, in this case, Apache
16 seeks to institute a pilot secondary recovery project in
17 the Blinebry, Tubb and Drinkard formations into the
18 Blankenship Well No. 2, which is located in Section 12 of
19 20 south, 38 east.

20 Apache had originally filed this as -- tried to
21 file it administratively, but because the purpose is
22 secondary recovery, it required a hearing. I think it
23 will be a pretty simple application for you to wade
24 through.

25 MR. BROOKS: Okay, I see. Is Apache in

1 compliance with Rule 5.9?

2 MR. BRUCE: As far as I know, yes.

3 MR. BROOKS: Very good. Thank you.

4 MICHELLE HANSON,

5 the witness herein, after first being duly sworn

6 upon her oath, was examined and testified as follows:

7 DIRECT EXAMINATION

8 BY MR. BRUCE:

9 Q. Would you please state your name and city of
10 residence for the record?

11 A. Michelle Hanson, Tulsa, Oklahoma.

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

13 A. Apache Corporation as a landman.

14 Q. Have you previously testified before the
15 Division?

16 A. No, sir.

17 Q. Would you please summarize your education and
18 employment background for the Examiner?

19 A. I began working at Apache September 2002.
20 Graduated with an international business degree in May of
21 2003. Worked in the Drilling Department, Reservoir
22 Engineering Department, Land Department, became a landman
23 in August of 2006. I'm presently working as a landman.

24 Q. And are you familiar with the land matters
25 involved in this application?

1 A. Yes.

2 Q. And does your area of responsibility at Apache
3 cover this area of Lea County?

4 A. Yes.

5 MR. BRUCE: Mr. Examiner, I tender Ms. Hanson as
6 an expert petroleum landman.

7 HEARING EXAMINER: Okay. Ms. Hanson, I hope we
8 didn't scare you here this morning your first time here.
9 It's usually not that exiting. But I think you're in good
10 hands. Ms. Hanson is so qualified.

11 Q. Ms. Hanson, what is Exhibit 1?

12 A. Exhibit 1 shows a map of the location of the of
13 Blankenship No. 2 with a half mile radius circle around
14 it. Attached to the first page is a Midland Company land
15 map of the Blankenship No. 2 location highlighted.

16 Q. And now, this is a lease project, is it not,
17 Ms. Hanson?

18 A. Yes.

19 Q. It's not a unit area?

20 A. No.

21 Q. And it's just referred to as the Blankenship
22 lease, I believe. What acreage is covered by that lease?

23 A. That is the west half of the southwest quarter,
24 also the southwest of the northwest quarter of Section 12,
25 20 south, 8 east.

1 Q. And is that 100 percent Apache working interest?

2 A. Yes.

3 Q. And it's a fee lease?

4 A. Yes.

5 Q. Okay. Now, looking at the first page, there's
6 the one-half mile circle drawn around the proposed
7 injection well. It appears that virtually -- well, except
8 for one exception we'll mention, almost all of the leases
9 at least as the Blinebry, Tubb, and Drinkard, are operated
10 by Apache, are they not?

11 A. Correct.

12 Q. And what is the exception insofar as
13 operatorship goes?

14 A. We have a tract on the southeast of the
15 northeast of Section 11 operated by Pronghorn Management,
16 and have different leasees in the surface to the base of
17 the Abo. And the northwest of the northwest has a
18 Grayburg operator, Ray Pierce.

19 Q. Okay. With respect to notice, since Apache --
20 I'll take a step back. The Apache operated leases, this
21 particular lease that we're here for today is 100 percent
22 Apache working interest, but with respect to other leases,
23 are there other interest owners besides Apache?

24 A. Yes.

25 Q. And are those reflected in Exhibit 2?

1 A. Yes.

2 Q. And does this come from Apache's current files,
3 division order files, or otherwise?

4 A. Yes.

5 Q. And so you would expect all of these addresses
6 to be current and up to date?

7 A. Yes.

8 Q. Right on the very back, the offset operator, a
9 couple of additions were made, the northwest northwest of
10 13, that's the Ray Pierce you referred to, correct?

11 A. Yes.

12 Q. And is the surface owner of the injection tract
13 Mr. Armando Valdez?

14 A. Yes.

15 Q. Okay. And notice was mailed to all of these
16 people, was it not?

17 A. Yes.

18 MR. BRUCE: And Mr. Examiner, that's reflected
19 in Exhibit 3, my affidavit of notice.

20 Q. And Ms. Hanson, if you could look at that, the
21 last few pages --

22 MR. BRUCE: And Mr. Examiner, if you could look
23 at the last, I think, four pages starting four pages up, I
24 just want to point out a few things. The mail to the
25 Morgan Trust, according to the Postal Service's website,

1 was delivered, but I have never received the green card.

2 And then going to the last two pages, you'll see
3 there's a -- it was returned as undeliverable from Mary
4 Seay.

5 Q. Ms. Hanson, to the best of your knowledge, was
6 the address for Mary Seay current and correct?

7 A. Yes. She's elderly. She may not have gotten to
8 the --

9 Q. Okay. So you know personally of her?

10 A. Yes.

11 Q. Okay. So you have chatted with her before?

12 A. Yes. Many times.

13 Q. Okay. And so you are aware that that address on
14 the mailing was her current address?

15 A. Yes.

16 MR. BRUCE: And then finally, Mr. Examiner, the
17 last page of the exhibit shows William Vaughn Properties,
18 Limited, and that one -- I could probably provide you with
19 a better copy, but it was -- they left three notices and
20 it was returned to sender, returned to me simply because
21 it wasn't picked up.

22 As a result, Mr. Examiner, one thing I did,
23 because there were a few pieces of returned property, I
24 did publish notice in the Hobbs newspaper of this matter
25 as against those three individuals. I did not get the

1 green cards back in time for this hearing. At the end of
2 this hearing, I would like the matter to be continued for
3 two weeks so I can submit the actual affidavit of
4 publication in this matter.

5 But as a result, everybody has either received
6 notice or has refused service or will have been notified
7 by publication.

8 HEARING EXAMINER: Okay.

9 Q. And were Exhibits 1 and 2 either prepared by you
10 or complied from company business records, Ms. Hanson?

11 A. Yes.

12 MR. BRUCE: Mr. Examiner, I'd move the admission
13 of Exhibits 1 through 4 with the knowledge that Exhibit 4
14 will be substituted by the actual publication affidavit at
15 the next hearing.

16 HEARING EXAMINER: Okay. Exhibits 1 through 4?

17 MR. BROOKS: Well, Mr. Examiner, I would
18 respectfully -- Now see, 4 is -- I don't have a 4 -- Okay,
19 I take back my interjection. I was -- I thought you were
20 asking us to admit an exhibit we didn't have yet, and I
21 was going to advise the Examiner not to do that, but
22 that's not the case.

23 HEARING EXAMINER: You wouldn't do that, would
24 you? Okay, so we'll admit Exhibits 1 through 4.

25 MR. BRUCE: I have no further questions of the

1 witness.

2 MR. BROOKS: And I have no questions.

3 MR. BRUCE: I'd call Mr. Pierce to the stand.

4 BRET PEARCY,

5 the witness herein, after first being duly sworn
6 upon his oath, was examined and testified as follows:

7 DIRECT EXAMINATION

8 BY MR. BRUCE:

9 Q. Mr. Percy, would you please state your full
10 name and city of residence?

11 A. My name is Bret Percy. I live in Broken Arrow,
12 Oklahoma.

13 Q. And who do you work for and in what capacity?

14 A. I work for Apache Corporation, I'm a staff
15 geologist.

16 Q. Have you previously testified before the
17 Division?

18 A. No, I have not.

19 Q. Would you summarize your educational and
20 employment background for the Examiner?

21 A. I graduated from Louisiana Tech University with
22 a BS in geology in 1986. I took a job with Exlog as a
23 mudlogger in 1986 and worked until 1988 where I took a job
24 as a geo tech with Terra Resources, a/k/a Pacific
25 Enterprises.

1 They were bought out. I took a job as an
2 associated geologist with Hunt Oil Company. And then in
3 1995, I took a job with Apache as a geo tech, and in 2000
4 I was promoted to a geologist where I worked in west
5 Texas. And then in 2006, I started working both west
6 Texas and southeast New Mexico.

7 Q. Does your area of responsibility at Apache cover
8 this part of Lea County?

9 A. Yes, it does.

10 Q. And are you familiar with the geology involved
11 in this case?

12 A. Yes.

13 Q. Okay. Let's go to your Exhibit 5, Mr. Percy,
14 and describe the well involved. And I know Mr. Mayes can
15 go into this in a little more detail. Maybe just briefly
16 discuss for the Hearing Examiner what Apache plans are for
17 this well.

18 A. Okay. The well involved is Apache Blankenship
19 No. 2. And our intentions, we have an evaluation for a
20 potential water flood going on in this area. And we are
21 wanting to propose this well and to inject into three
22 zones, the Blinebry, the Tubb, and the Drinkard.

23 Q. And this is a structure on top of the Blinebry.
24 Is structure important in this area in these zones?

25 A. Not really. This is -- although the traffic

1 mechanism is partially structural, but it's really mostly
2 stratigraphic.

3 Q. What does Exhibit 6 reflect?

4 A. Exhibit 6 is just a net pay map showing all of
5 our pay intervals. This is a total of Blinebry, Tubb and
6 Drinkard given our given cut off.

7 Q. Now, of course Apache has a number Blinebry,
8 Tubb, or Drinkard water floods to what would be to the
9 northwest of here, I believe?

10 A. To the south.

11 Q. To the south. That is correct. Forgetting my
12 townships for a minute. And is it your purpose to
13 evaluate this to see if perhaps those results can be
14 duplicated in this area?

15 A. Yes, sir, it is. To the south at the northeast
16 Drinkard unit, we've have really fine results with our
17 water flood program. We're in House Field, the reservoir
18 is probably not quite as good as it is at the northeast
19 Drinkard unit, but we still think it does have the
20 parameters that will enable our injection program to be
21 launched.

22 Q. Finally, what does your Exhibit 7 reflect?

23 A. Okay, that is the cross-section, and really just
24 points out the three zones that we'll be injecting into.
25 I put the perforations on the well bore, as well.

1 You'll notice the third well from the left is
2 the Blankenship No. 2, and basically I just wanted to show
3 the zones that we will potentially be injecting into,
4 which will include the Blinebry, Tubb and Drinkard.

5 Q. Okay. Looking at this, first of all, it shows
6 some perforations in the Paddock. What will Apache do
7 with respect to those perforations?

8 A. Okay, those were perforated by the previous
9 operator, and we do plan to go in and squeeze those off
10 and then come back and reperf into the Blinebry.

11 Q. Okay. In looking at these zones, which are
12 the -- I mean, you're seeking approval for the Blinebry,
13 Tubb, Drinkard, which zones are the most prospective for
14 the water flooding, in your opinion?

15 A. Really, probably the Drinkard zone is probably
16 the best. It's subtitled with some integrated silt zones
17 and mudstones, but yet I think it has a little bit the
18 best permeability and probably will take the most water.

19 Q. Okay. And what would be the second most likely
20 zone?

21 A. Probably the Blinebry. It's also subtitle with
22 some intermittent innerbedding silt zones, as well, and
23 then follow that up with the Tubb which is also subtitle.
24 All these zones are dolomitic, but the Tubb does have a
25 lot more silt zones and mudstones within the interval.

1 Q. Now, you're seeking approval to inject into
2 three zones. That's pretty much what Apache has been
3 doing to the south, I think those -- the main township
4 involved, I think, is, what, 21 south, 37 east?

5 A. That's correct.

6 Q. And as a matter of fact, in parts of that
7 township, the three formations have been combined into one
8 pool, have they not?

9 A. That's correct.

10 Q. And so, potentially in the future, that could be
11 something else that might be looked at if Apache decides
12 to move forward on a water flood?

13 A. That is correct.

14 Q. Do you have anything else to state, Mr. Pearcy?

15 A. No, sir.

16 Q. In your opinion, is the granting of this
17 application in the interest of conservation and prevention
18 of waste?

19 A. Yes, sir.

20 Q. And were Exhibits 5, 6, and 7 prepared by you?

21 A. Yes, sir.

22 MR. BRUCE: Mr. Examiner, I move the admission
23 of Apache's Exhibits 5, 6 and 7.

24 HEARING EXAMINER: Exhibits 5, 6, and 7 are
25 admitted. Any questions, Mr. Brooks?

1 MR. BROOKS: No, I have no questions of this
2 witness.

3 HEARING EXAMINER: Mr. Percy, I have a question
4 to you, I guess of your cross-section. Where you've got
5 there starting left to right, you squeezed the original
6 perforations -- That is the Blankenship well, right?

7 A. Yes, sir, that is the Blankenship No. 2, the
8 well we are proposing to inject into.

9 HEARING EXAMINER: Okay. So, that upper set of
10 perfs, those are perfs you're going to squeeze or these
11 are the -- after you squeeze in the new perfs.

12 THE WITNESS: These perfs will be squeezed,
13 we'll come back and we'll go and perforate and -- probably
14 along the zones that are similar to the two offset wells.

15 HEARING EXAMINER: Okay. And in that well down
16 around 6,700 to 6,800, what's that in the depth tract
17 there?

18 THE WITNESS: Those are our perforations.

19 HEARING EXAMINER: The little red squares or --

20 THE WITNESS: The little red squares.

21 HEARING EXAMINER: Okay. What's the highlighted
22 area?

23 THE WITNESS: It looks like at some point in
24 time, this zone was probably squeezed off. Because the
25 purple indicates the zone has been squeezed.

1 HEARING EXAMINER: The zone has been squeezed?

2 THE WITNESS: Yes, sir.

3 HEARING EXAMINER: Okay. And then you got the
4 perf zones down there at the bottom that actually drop off
5 the --

6 THE WITNESS: Yes, sir. Those will be in the
7 Drinkard, yes, sir.

8 HEARING EXAMINER: All right. I don't believe I
9 have any more questions. You can call your next witness.

10 KEVIN MAYES,
11 the witness herein, after first being duly sworn
12 upon his oath, was examined and testified as follows:

13 DIRECT EXAMINATION

14 BY MR. BRUCE:

15 Q. Mr. Mayes, would you please state your full
16 name?

17 A. Kevin Mayes.

18 Q. Where do you reside, Mr. Mayes?

19 A. I reside in Tulsa, Oklahoma.

20 Q. And who do you work for?

21 A. Apache Corporation in the capacity of a
22 petroleum engineer.

23 Q. Have you previously testified before the
24 Division?

25 A. Yes, I have.

1 Q. And were your credentials as an expert petroleum
2 engineer accepted as a matter of record?

3 A. Yes, they were.

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

6 A. Yes, I am.

7 Q. And were you also the engineer involved in the
8 various unitizations of all the units that Mr. Percy
9 mentioned?

10 A. Yes, I was.

11 MR. BRUCE: Mr. Examiner, I tender Mr. Mayes as
12 an expert petroleum engineer.

13 HEARING EXAMINER: Mr. Mayes is recognized as an
14 expert petroleum engineer.

15 Q. I forgot to ask Mr. Percy one question,
16 Mr. Mayes, what is the current status of the proposed
17 injection well?

18 A. It is currently a producer or producing at very
19 marginal rates, less than a barrel of oil a day and less
20 than 10 MFC a day.

21 Q. Let's move on to your first exhibit, Exhibit A,
22 Why don't you run through the highlights of that, and
23 maybe before you get into any specifics, does this C-108
24 contain data on all wells in the area of review?

25 A. Yes, it does.

1 Q. Are there any plugged and abandoned wells?

2 A. Yes, there's three plugged and abandoned wells
3 in the area of review.

4 Q. And are the plugged and abandoned wells, the
5 data that is contained on those is in this packet, is it
6 not?

7 A. That's correct.

8 Q. And are they all sufficiently plugged and
9 abandoned so as to prevent any movement between the zones?

10 A. Absolutely.

11 Q. Secondly, maybe go into a little more detail on
12 Page 3, what will you do, how will you recomplete the
13 Blankenship No. 2, the proposed injection well?

14 A. Yeah, again, Exhibit 8 is the form C-108
15 application to inject water into the Blankenship No. 2.
16 The first two pages are instructions.

17 So yes, skipping to Page 3, when we start
18 talking about the mechanical integrity of the well we
19 propose to convert, it is the Blankenship No. 2 and
20 Proration Unit L, Section 12, 20 south, 38 east.

21 Surface casing, which is 8 5/8, was set down to
22 1,527 feet. Cement was circulated behind that pipe all
23 the way to surface. The long string is 5 1/2 casing set
24 down to 7,125 feet. Top of cement on that string of
25 casing was 3,160 feet as determined by a temperature log.

1 So we have good cement, almost 4,000 feet of
2 cement from top of the cement to the top of the Blinebry
3 formation.

4 Let's see. Actually, while we have that
5 schematic in front of us, our intent again is the set of
6 perforations that runs from 5,940 to roughly 6,050 will be
7 squeezed off. The previous operator had gotten those
8 classified as Blinebry, but when we reviewed Mr. Pearcy's
9 cross-section, it's pretty obvious it's up in the Paddock
10 formation.

11 We did talk to the Division's geologist at your
12 Hobbs office and he confirmed that, indeed, those were up
13 in the Paddock formation. So that is the reason we're
14 going to squeeze them off.

15 The Hobbs geologist thought of some ways we
16 might expand the top of the Blinebry, but I think at this
17 time, we would prefer to just squeeze them off and just
18 inject -- and actually, I'll correct some of Mr. Pearcy's
19 testimony.

20 Initially, I think we'll just inject into the
21 Tubb and the Drinkard formations, we will not complete the
22 Blinebry at this time. But we would like to have the
23 order to contain the Blinebry if we decide to complete it
24 down the road.

25 Going on to Page 4, then, to finish up the

1 discussion on the subject well, the first line of Page 4
2 discusses the tubing we'll install. We will install 2 7/8
3 inch tubing.

4 In this application, we were citing that the
5 lining material would be none. I want to correct that, we
6 will be plastic coating our tubing.

7 Also, it says we're going to set a Packer lock
8 set with the Packer depth being 5,900 feet in that we will
9 be squeezing those top set of perfs. I want to change
10 that to 6,480 feet, which would be approximately 40 feet
11 above the top perf of the Tubb formation.

12 Q. Okay.

13 A. And the rest of that page kind of discusses the
14 pools that are being impacted here. We thought we were
15 going to be impacting the House South Blinebry pool, the
16 House Tubb pool, and House Drinkard pool.

17 So initially, we'll just be affecting the House
18 Tubb and the House Drinkard pool.

19 Q. And Mr. Mayes, those are all pools based on 40
20 acre statewide rules, are they not?

21 A. That's correct.

22 Q. Go ahead.

23 A. Pages 5 and 6 actually are just the same
24 information, really, on a different format, just the
25 current competition of the well we plan to convert.

1 Probably the thing to point out is that there is
2 a cast-iron bridge plug currently set above the Drinkard
3 formation and we will be drilling that out of course
4 whenever we convert the well.

5 Q. And the next two pages are also data sheets on
6 the No. 2 well?

7 A. Right. The next two pages -- I've lost track of
8 page numbers, 7 or 8, at the top it's entitled The
9 Proposed Completion. So this will be the status of the
10 well when we get it converted.

11 Again, we need to make a couple of changes. We
12 will be squeezing that top set of perms. We will be
13 dropping the Packer on down to 6,480 feet.

14 Q. The next couple of pages are land plats,
15 Mr. Mayes, and they've already been submitted, but they're
16 part of the C-108 package also. Even though the lease
17 covers 120 acres, really what you're going to be looking
18 at for your engineering evaluation initially is just that
19 highlighted 40 acres, is that correct?

20 A. That's correct.

21 Q. The 40 acres on which the well is located. How
22 many wells are on that 40 acres?

23 A. Actually, there are three wells completed in the
24 Blinebry, Tubb and Drinkard formations on that tract.
25 We'll be injecting into the well in the center of the

1 tract, and then one producer is 330 out of the corner to
2 the northeast, and one producer is 330 out of the
3 southwest corner.

4 Q. And then you go a couple of pages and there is a
5 well data sheet. Please discuss that for us.

6 A. Sure. With the map with the half mile radius
7 area of investigation, there's actually 21 Blinebry, Tubb,
8 and Drinkard penetrations.

9 And then the spreadsheet actually has 22 wells
10 on it. The well fourth up from the bottom, the House A
11 No. 1 actually TD'ed at 4,440 feet. So it did not
12 penetrate the Blinebry, Tubb and Drinkard.

13 Outside of that, this spreadsheet represents
14 information on all 21 wells that penetrated the Blinebry,
15 Tubb and Drinkard, starting out at the columns with the
16 API number, operator, which Apache operates all the wells
17 within the area of review except the three wells that have
18 been plugged. Lease name, well number, the TD of the
19 well, information on the surface casing including the
20 casing size, the depth, sacks of cement used to cement it,
21 the type of cement.

22 The middle column is the same information for
23 intermediate casing. The right column is the same
24 information for the production casing, and then comments
25 on the completion in the very far column.

1 All 21 wells are completed in such a way that
2 there's complete mechanical integrity. The fresh water
3 zones are covered with surface casing and/or intermediate
4 casing with cement completely behind the pipe.

5 And the deepest top of cement, if you will, is
6 the third well up from the bottom, the House Field No. 1,
7 which is the top of cement of 5,500 feet. Sorry for the
8 small print. But that should allow for 400 feet of cement
9 between the top of cement and the top of the Blinebry
10 formation.

11 Q. So other than squeezing half of the perms you're
12 going to have to do in the Blankenship No. 2, in your
13 opinion, no remedial work needs to be done on any of these
14 wells?

15 A. That's correct.

16 Q. What are the next several pages, Mr. Mayes?

17 A. The next six pages are wellbore schematics and
18 detailed information on the three wells that have been
19 plugged in the area of review.

20 Again, they were all plugged according to
21 Division rules and all appear to be mechanically sound as
22 to not allow fluids to exit the interval of injection.

23 Q. Let's get into the proposed operations. Would
24 you discuss what you envision where the water's coming
25 from, the pressures, et cetera?

1 A. Yeah. This page is Item No. 7 from the C-108
2 form. Our proposed average injection, at least what we
3 hope to get, is 500 barrels of water a day. Maximum
4 injection if all the moves were to line up would be 5,000
5 barrels of water a day.

6 The source of that water is going to be produced
7 Blinebry, Tubb and Drinkard water from the House Field.
8 We recently installed a water disposal system collecting
9 water from the 21 tank batteries we operate in the field.

10 That water is going to be going to that salt
11 water disposal system that -- we're just a thousand feet
12 away from that disposal system, so we're just going to tap
13 into that and use that as our source water for this
14 injection attempt.

15 We'll be operated as a closed system. The
16 maximum pressure we anticipate the Division awarding us is
17 1,189, I believe. That's based on the .2 PSI per foot
18 times the depth to actually the old top perf.

19 If the Division would like to grant us a little
20 higher pressure on down to the top perf of the Tubb, we
21 would appreciate that. We will run a step-rate test on
22 this well once we get it stabilized and we'll probably be
23 asking for a higher injection pressure anyway. That's
24 about it on that page.

25 Q. Okay. The next page, what is the fresh water

1 source in this area?

2 A. It is the Ogallala running from a depth of 50
3 feet to 250 feet. There were eight fresh-water wells in
4 the area of review. The deepest of those wells was 90
5 feet. This page also makes a statement as to the geology
6 which Mr. Pearcy covered.

7 Q. And again, you don't see any problem with the
8 way the wells are completed as to any adverse effect on
9 fresh water sources?

10 A. That's correct.

11 Q. The last few pages just appear to be the
12 amylases of the water in the area?

13 A. That's correct. And the next two pages lists
14 the eight fresh water wells in the area of review. We
15 sampled two of those, and the analysis of those waters is
16 presented as the last four pages, both in file data and
17 anagraphical data it. Looks like Ogallala water.

18 Q. And because the injection water is going to be
19 Blinebry, Tubb and Drinkard water, you don't anticipate
20 any compatibility problems between the injection water and
21 the fluids in the injection zones?

22 A. That's correct.

23 Q. Okay. All right. And let's move on to your
24 other exhibit, Exhibit 9. Can you discuss what you see as
25 the economics in this area?

1 A. Exhibit 9 is just an economic summary sheet.
2 Capital, which Apache will be paying a hundred percent of,
3 is estimated at \$184,000.

4 Incremental reserves, which is basically the
5 volumetrics of the 40 acre proration unit, is 69,000
6 thousand barrels.

7 And you see the impact, the economic impact to
8 various people. Working interest owners, which is one
9 hundred percent Apache, we make a good profit on this
10 project.

11 The mineral owners, being fee acreage, will
12 share in a nice profit from the project, and the State of
13 New Mexico through tax revenues should receive \$179,000
14 over the course of a 12 year life.

15 Q. And based on your economics, this pilot project
16 is economically feasible at this time?

17 A. Yes, it is.

18 Q. And it should result in the recovery of
19 hydrocarbons which would otherwise not be recovered?

20 A. That's correct.

21 Q. Was Exhibit 9 prepared by you?

22 A. Yes, it was.

23 Q. And Exhibit 8 was submitted by Sophie Mackay who
24 works for Apache, does she not?

25 A. She does. She prepared that under my

1 supervision.

2 Q. And you have reviewed all the data in the C-108
3 and agree with it?

4 A. Yes, I do.

5 Q. And in your opinion, would the granting of this
6 application be in the interest of conservation and the
7 prevention of waste?

8 A. Yes, I do.

9 MR. BRUCE: Mr. Examiner, I would move the
10 admission of Exhibits 8 and 9.

11 HEARING EXAMINER: Exhibits 8 and 9 are
12 admitted.

13 MR. BRUCE: I have no further questions of the
14 witness.

15 HEARING EXAMINER: Mr. Brooks?

16 MR. BROOKS: 40 acre water plug project is a lot
17 smaller than what I'm accustomed to seeing.

18 THE WITNESS: Yes, sir. The real intent of this
19 is to check the injectivity of these reservoirs.

20 MR. BROOKS: Yeah.

21 THE WITNESS: They are the same reservoirs that
22 we flood down south, but that's several miles away. We're
23 a little more back from the shelf reef, and the quality of
24 these rocks, according to the little bit of core data we
25 have and the log analysis, is a little tighter than we

1 have down south.

2 So the concern is whether we'll get enough water
3 into these rocks to make a full water-flood project
4 profitable or not.

5 MR. BROOKS: Okay. I that leads to the next
6 question I was going to ask you. Do you have an opinion
7 as to whether or not the quantities of water you're going
8 to be injecting will be confined to this 40 acre unit or
9 whether they may disburse in to adjacent tracts?

10 THE WITNESS: Over the time frame that we will
11 test injectivity, it probably won't take us three, maybe
12 six months to recognize that we're going to get enough
13 injection into these zones to justify a full field.

14 The offset leases, we operate all of them but we
15 do have working interest owners in those leases, and we've
16 discussed this project with them. They've actually come
17 to us requesting that we form a water-flood unit and water
18 flood the entire field.

19 We told them we wanted to do this project first,
20 and they're well aware of our intents. I do not think it
21 will escape the 40 acre pattern before we make a decision
22 to move forward with the full flood or deem that a full
23 flood is not economic.

24 MR. BROOKS: Okay, but if this proves
25 successful, it is your intention to form a water-flood

1 unit, a more extensive water-flood unit?

2 THE WITNESS: Yes, sir it is. Absolutely.

3 MR. BROOKS: Thank you. That's all I have.

4 HEARING EXAMINER: Mr. Mayes, you've mentioned a
5 higher pressure on the injection. What is the top perf in
6 -- I guess would be the Tubb, right?

7 THE WITNESS: That's correct.

8 HEARING EXAMINER: You did your calculations
9 based on those other perms at 5,900, I believe?

10 THE WITNESS: That's correct.

11 HEARING EXAMINER: So what would you be looking
12 at to propose to plug a depth into that equation?

13 THE WITNESS: 6,520 feet.

14 HEARING EXAMINER: 6,520 feet?

15 THE WITNESS: Yes, sir.

16 HEARING EXAMINER: Okay. I don't believe I have
17 any other questions. You may step down. I do have a
18 question for Mr. Bruce.

19 MR. BRUCE: Yes, sir?

20 HEARING EXAMINER: This was originally submitted
21 administratively?

22 MR. BRUCE: Yes, sir. But it was kicked back
23 because it was deemed a secondary recovery.

24 HEARING EXAMINER: Because it's a secondary
25 recovery?

1 MR. BRUCE: Yes.

2 HEARING EXAMINER: Okay.

3 MR. BRUCE: And my clients wanted a trip up to
4 Santa Fe.

5 HEARING EXAMINER: Well, we're always happy to
6 have folks come up to Santa Fe.

7 MR. BRUCE: And so I would ask that the matter
8 be continued for two weeks to get the affidavit of
9 publication into the record.

10 HEARING EXAMINER: I'm glad you reminded me of
11 that. I did write that down here at the bottom of my
12 folder. Okay, so we will go ahead, then, and continue
13 Case No. 14360 for two weeks. I believe that's September
14 17th.

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

_____, Examiner
Off Conservation Division

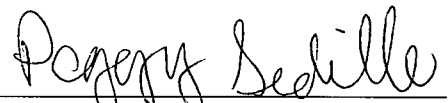
1 STATE OF NEW MEXICO)
) ss.
 2 COUNTY OF BERNALILLO)

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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
 10th day of September, 2009.


 PEGGY A. SEDILLO, CCR NO. 88
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