

NEW MEXICO OIL CONSERVATION DIVISION

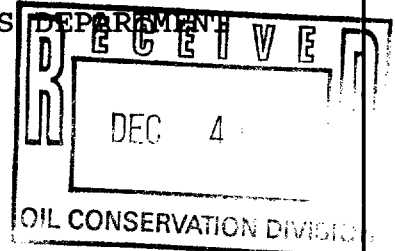
EXAMINER HEARINGSANTA FE, NEW MEXICOHearing Date November 20,
~~DECEMBER 4,~~ 1997 Time 8:15 A.M.

NAME	REPRESENTING	LOCATION
Paul Cooter	SW Royalties	Midland
Jon Tate	SW Royalties	Midland TX
JAMES BLOUNT	SW ROYALTIES	MIDLAND TX
Jim "JJ" BROTEN	SW ROYALTIES	MIDLAND TX

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. 11,881

APPLICATION OF SOUTHWEST ROYALTIES,)
 INC., FOR A PRESSURE MAINTENANCE PROJECT)
 LEA COUNTY, NEW MEXICO)

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGSEXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

November 20th, 1997

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, November 20th, 1997, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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 Examiner Hearing
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A P P E A R A N C E S

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 By: PAUL A. COOTER

* * *

1 WHEREUPON, the following proceedings were had at
2 8:15 a.m.:

3 EXAMINER STOGNER: This hearing will come to
4 order for Docket Number 36-97. Please note today's date,
5 November the 20th, 1997. I'm Michael Stogner, appointed
6 hearing officer for today's case.

7 At this time I will call Case Number 11,881,
8 which is the Application of Southwest Royalties, Inc., for
9 a pressure maintenance project, Lea County, New Mexico.

10 At this time I'll call for appearances.

11 MR. COOTER: Paul Cooter with the Kemp Smith firm
12 in Albuquerque, appearing on behalf of the Applicant. I
13 have three witnesses, Jon Tate, J.J. Broten and Jim Blount.

14 EXAMINER STOGNER: Are there any other
15 appearances?

16 Will the witnesses please to be sworn in at this
17 time?

18 (Thereupon, the witnesses were sworn.)

19 MR. COOTER: As a preface to the hearing, Mr.
20 Stogner, the docket sheet has an erroneous description.
21 The Application concerns a well in -- actually, it's Unit
22 L. The metes and bounds description is correct, but it's
23 Unit L and Section 26 South, Range 33 East.

24 Along with the Form C-108 submitted to the
25 Division, Southwest Royalties had advertised the

1 Application in the Hobbs paper, and that is correctly
2 described in that publication. The affidavit, I think, was
3 filed with the C-108. I don't know how you want to handle
4 that.

5 EXAMINER STOGNER: Okay, it has been noted that
6 the advertisement is wrong. However, since this matter is
7 advertised for hearing, we're going to readvertise it for
8 the 18th of December, after which time we'll call it, and
9 if any additional testimony or there are objections, which
10 I don't anticipate any, then an order can be issued after
11 that time.

12 But I'm prepared to go ahead and listen to any
13 testimony you have today.

14 MR. COOTER: I've advised the witnesses that it
15 most likely will be necessary that they return from Midland
16 to Santa Fe at that time for reaffirmation of their
17 testimony.

18 EXAMINER STOGNER: I don't think that will be
19 necessary if we get everything done today.

20 MR. COOTER: Just to be on the safe side, they
21 might ask them to come back.

22 EXAMINER STOGNER: Okay. Well, we can --

23 MR. COOTER: That is pretty close to Christmas
24 holidays, and...

25 EXAMINER STOGNER: Okay, we'll have a better feel

1 of it after today's testimony, and --

2 MR. COOTER: All right.

3 EXAMINER STOGNER: -- I'm not anticipating any
4 objection.

5 MR. COOTER: Let's see, the witness goes up
6 there? Is that --

7 EXAMINER STOGNER: Yes --

8 MR. COOTER: -- where you want --

9 EXAMINER STOGNER: -- right over here at this
10 chair.

11 MR. COOTER: Jon, would you go up and sit down?

12 JON P. TATE,

13 the witness herein, after having been first duly sworn upon
14 his oath, was examined and testified as follows:

15 DIRECT EXAMINATION

16 BY MR. COOTER:

17 Q. State your name for the record, please, sir.

18 A. My name is Jon Tate.

19 Q. And by whom are you employed, Mr. Tate?

20 A. Southwest Royalties, Inc., out of Midland, Texas.

21 Q. What's your position with Southwest Royalties?

22 A. Vice president and land manager.

23 Q. Would you give a brief resume of your education
24 and professional experience?

25 A. Yes, sir, I'm a graduate of Hardin Simmons

1 University in Abilene, Texas. Upon graduation I went to
2 work for a small land brokerage firm in Midland, Special
3 Services Company, for a year, whereafter I went to work in
4 October of 1991 for C.F. Lawrence and Associates, an
5 independent oil and gas exploration company in Midland. I
6 worked for the Lawrence firm for about seven and a half
7 years, at which point I changed and began my position with
8 Southwest Royalties in February of 1989, and I've been ever
9 since.

10 Q. State what Southwest Royalties seeks by this
11 Application.

12 A. We seek to re-enter and convert the Ammons Madera
13 Number 1 well to saltwater disposal -- injection, I should
14 say.

15 Q. Give the location of that well, if you would,
16 please, sir.

17 A. The well is located in Section 15, 26 South, 33
18 East.

19 Q. I've placed before you what has been marked as
20 Exhibit Number 1 in this case. Could you identify your
21 proposed injection well?

22 A. Yes, sir, it's highlighted on the land plat by
23 the red dot.

24 Q. The circle which appears around that red dot is
25 the area of review, one half mile in all directions?

1 A. Yes, sir, it is.

2 Q. What are the blue dots?

3 A. The blue dots indicate the current producing
4 wells within that half-mile radius.

5 Q. And the brown dots?

6 A. Those are the wells that have been plugged that
7 are located within the half-mile radius.

8 Q. And your lease is shown in yellow?

9 A. Yes, sir, it is.

10 Q. Let me next direct your attention to Exhibit
11 Number 2 and have you identify that.

12 A. Exhibit Number 2 is our affidavit of mailing.

13 Q. To the surface owners?

14 A. Yes, sir, to the surface owners.

15 Q. And to the offset operators?

16 A. Yes, sir.

17 Q. All within that area of review?

18 A. Yes, sir, that's correct.

19 Q. You made a title search and verified those names?

20 A. Yes, sir.

21 MR. COOTER: I didn't copy, but let me hand to
22 you the return receipts.

23 Q. (By Mr. Cooter) Next, let me direct your
24 attention to Exhibit 3 in front of you, which appears to be
25 an affidavit of publication from the Hobbs newspaper.

1 A. Yes, sir.

2 Q. When this form C-108 was filed with the
3 Commission, you first gave notice of its filing, and what
4 you seek to do?

5 A. Yes, sir.

6 Q. Was that original affidavit of publication mailed
7 to the Commission -- or to this Division with your
8 Application?

9 A. Yes, sir, it was.

10 MR. COOTER: Mr. Stogner, would you take
11 administrative notice of that affidavit of publication? I
12 think it's in your file.

13 EXAMINER STOGNER: Yes, it is. On Exhibit Number
14 3 administrative notice will be taken of the advertisement
15 as required in the 108. I believe that was done in
16 September, 1997.

17 Q. (By Mr. Cooter) Has Southwest Royalties received
18 any objections or adverse comments to its proposed plans?

19 A. None that I know of, no, sir.

20 Q. Were these three exhibits, the map, the affidavit
21 of mailing and the affidavit of publication, either
22 prepared by you, under your supervision or pursuant to your
23 direction?

24 A. Yes, sir, it was, they were.

25 MR. COOTER: That's all the testimony I have for

1 this witness.

2 EXAMINER STOGNER: Exhibits 1, 2 and 3 will be
3 admitted into evidence at this time.

4 EXAMINATION

5 BY EXAMINER STOGNER:

6 Q. Mr. Tate, in looking at Exhibit Number 1 there,
7 you have an area outlined in yellow. Is that
8 representative of a single lease?

9 A. No, sir, it's not. Actually, I think the -- and
10 I'm a little -- If memory serves me correct, the area
11 highlighted, which I think would be -- I would call the
12 southeast of the northwest, is a separate leasehold from
13 that which is the rest of the area highlighted in yellow.

14 Q. Okay. Now, are these -- So essentially made up
15 of two leases?

16 A. Yes, sir. There's actually, when you get into
17 the larger area -- again, if memory serves me correctly,
18 and it's been a while since I've looked at it -- I think
19 that is one lease, as we refer to our Ammons Madera lease
20 *per se*, but there may be two or three oil and gas leases
21 that make up that leasehold estate.

22 Q. Are they federal leases, state leases or fee --

23 A. I believe everything except that which is the
24 southeast of the northwest -- I believe that is a federal
25 lease. I believe the rest of it is all fee.

1 Q. Is this a unitized area?

2 A. No, sir, it's not.

3 Q. Okay, how are the expenses for the injection
4 going to be distributed throughout those leases?

5 A. I don't know that I can answer that question.
6 Typically what we do, if you would look at the well in the
7 southeast of the northwest, if we are going to take water
8 from that well, which is our well as well, we would
9 typically gauge that, and you would do it on a proportional
10 basis.

11 Q. Is there any kind of formal cooperative agreement
12 that covers this acreage --

13 A. Not to my knowledge.

14 Q. -- as to this waterflood activity?

15 A. Not to my knowledge, sir.

16 Q. Hm, that's unusual.

17 Okay, you notified the surface. Could you
18 identify on Exhibit Number 2 who the surface owners are?

19 A. I will try. I believe those are the Maderas and
20 also perhaps Norwest Investment Management and Trust.

21 Q. Is the BLM aware of this, that one of the federal
22 leases is going to be involved in a waterflood project, or
23 a pressure maintenance, some sort of contamination --
24 possibly contamination of a productive interval with
25 injection of water?

1 A. I don't know, sir.

2 Q. Really, and why not?

3 A. Primarily because this project has been headed up
4 at our production Group, and that's just a question I'm not
5 prepared to answer, I don't have your answer for you,
6 whether they were notified, whether anybody has spoken at
7 the BLM or not.

8 Q. Wells Number 3 and 4, are they in the same common
9 lease?

10 A. Yes, sir, they are.

11 Q. So it's safe to assume that that 80 acres there
12 is under one common --

13 A. Yes, sir.

14 Q. -- fee lease?

15 A. I believe everything but the southeast of the
16 northwest has the same mineral ownership, and they are all
17 under the same leases.

18 MR. CARROLL: Same lease or leases?

19 EXAMINER STOGNER: Lease?

20 THE WITNESS: I think there's more than one lease
21 out there. And again, I can pull my file and tell you.

22 MR. CARROLL: Why don't you pull your file?

23 THE WITNESS: Yes, it was as I suspected. You
24 have three undivided mineral owners in that tract, less and
25 except the southeast of the northwest. You have three

1 folks that own the minerals under the balance of that
2 yellow acreage. We took separate oil and gas leases from
3 each one of them, but they're all undivided interest
4 owners.

5 MR. CARROLL: Okay. In Section 21, who was
6 notified in the north half of 21? I can't tell if that's a
7 "Chevron" or "Coastal" or...

8 THE WITNESS: I don't know, sir, whether that
9 could be in any connection to Altura Energy or not. No, I
10 see Altura on there.

11 It's conceivable that one of our later witnesses,
12 Mr. Blount, can answer that.

13 MR. CARROLL: Because in the north half of 22 I
14 see Conoco and Dalen on the notice list, but I don't see
15 any party for the north half of 21.

16 THE WITNESS: You may be correct.

17 Q. (By Examiner Stogner) Are you aware of who's
18 supposed to be notified pursuant to the rules?

19 A. Yes, sir, I believe I am. The folks who own the
20 lease --

21 Q. Okay, why don't you tell me then, who's supposed
22 to be notified?

23 A. I believe it's the offset operators, the owners
24 of the leasehold estate, the surface owner where, indeed,
25 your well is located, or owners.

1 Q. Okay. So who owns the offset in 21?

2 A. Well, from looking at the map, apparently Chevron
3 does unless they've done something with it in the
4 intervening time since the lease was taken.

5 Q. Was Chevron notified?

6 A. They don't appear on the list, no, sir.

7 Q. Why not?

8 A. I don't know.

9 Q. But you just told me you know who's supposed to
10 be notified.

11 A. Well, it's conceivable that -- I suppose it's
12 conceivable that Chevron could have done something with
13 their interest.

14 Q. Wouldn't you know that?

15 A. I should. But I can't sit here today and tell
16 you that I do.

17 MR. CARROLL: Is there a later witness that can
18 answer that?

19 THE WITNESS: Perhaps. I don't know.

20 Q. (By Examiner Stogner) Okay. Looking over to the
21 east of your federal lease, who is the -- It's identified
22 as "Gas Production, e-n..."

23 MR. CARROLL: Enterprises, probably?

24 THE WITNESS: Yes, sir. Again, I don't have that
25 answer for you.

1 Q. (By Examiner Stogner) Why not?

2 A. I guess I'm unprepared, sir.

3 EXAMINER STOGNER: Mr. Cooter, are you prepared
4 to come back on the 18th with this information?

5 MR. COOTER: Yes, sir.

6 EXAMINER STOGNER: Okay.

7 Q. (By Examiner Stogner) Why wouldn't this area be
8 unitized, since you've got federal and fee mineral lease
9 that's enjoying the benefits of a waterflood?

10 A. I typically don't think of this as a waterflood
11 in my --

12 Q. Why not?

13 A. Well, to me it's more -- I think, typically, of a
14 waterflood as like a fivespot or something like that where
15 you're actually moving oil and pushing oil. To me, this --
16 I would have thought this is more of a disposal well, as
17 opposed to --

18 Q. Is it going into the same --

19 A. I beg your pardon?

20 A. Is it going into the same interval that is
21 producing oil and gas?

22 A. I believe so.

23 Q. All right. Now, those producing wells that are
24 in blue, are those the wells that --

25 A. Yes, sir.

1 Q. -- that are in the same interval?

2 A. Yes, sir.

3 Q. Now, conceivably, the location is close enough,
4 wouldn't that push that oil in that area?

5 A. It could. The reason we want to do this is
6 because -- I believe I'm correct -- we had -- another
7 operator had another disposal well off the premises that we
8 were taking our water too, and apparently he lost that
9 well, and we needed a source to economically dispose of our
10 water.

11 Q. Well, you may consider it a saltwater disposal,
12 but in all appearances it does look like a pressure
13 maintenance.

14 A. I understand what you're saying, sir.

15 EXAMINER STOGNER: Are there any other questions
16 of Mr. Tate?

17 You may be excused at this time.

18 Mr. Cooter?

19 MR. COOTER: J.J. Broten.

20 JIM "J.J." BROTEN,

21 the witness herein, after having been first duly sworn upon
22 his oath, was examined and testified as follows:

23 DIRECT EXAMINATION

24 BY MR. COOTER:

25 Q. Would you state your name for the record, please,

1 sir?

2 A. My name is Jim "J.J." Broten. I go by J.J.

3 Q. By whom are you employed, Mr. Broten?

4 A. With Southwest Royalties in Midland, Texas.

5 Q. And what's your position with Southwest
6 Royalties?

7 A. I'm a geologist.

8 Q. How long have you been with Southwest Royalties?

9 A. Approximately a year.

10 Q. Give a brief resume of your education and
11 professional experience.

12 A. Okay. I received my bachelor of science degree
13 in geology from Arizona State University in 1978. I've
14 been employed in the petroleum industries for 18 years,
15 practicing as a petroleum geologist. I'm a Certified
16 Petroleum Geologist, Number 5397, and I've appeared before
17 this Commission on a number of other occasions, and I'm
18 presently employed with Southwest Royalties.

19 Q. Let me direct your attention to Exhibit Number 4.
20 Would you identify that for us?

21 A. This is a cross-section labeled J-J', essentially
22 a north-south cross-section, that encompasses the
23 offsetting wellbores, to include the wellbore candidate for
24 saltwater disposal conversion.

25 On the particular cross-section is highlighted --

1 the well of interest is highlighted with the an orange dot.
2 Also on the small map attached, you'll see a red arrow
3 pointing to the candidate.

4 The cross-section is on a scale of 2.5 inches to
5 200 feet vertically. There's no horizontal scale. It is a
6 structural cross-section hung on a subsurface of minus
7 1600.

8 Also included in the cross-section is brief
9 information concerning each particular wellbore, with
10 intervals perf'd, cumulative production and present-day
11 status.

12 Also on the cross-section, you'll see my top of
13 the Ramsey sand, top of the Ford shale, and the top of the
14 Delaware Mountain group. These intervals are also in the
15 later exhibits as structure mapped and isopached.

16 As you can see, the candidates -- or I should say
17 the producing wells in the Salado field, all produce from
18 the Ramsey sand interval.

19 Q. Let me have you go back to Exhibit Number 1,
20 which is the area map. Could you identify the well shown
21 on your cross-section on that map?

22 A. Referring to -- This is Exhibit Number 1. The
23 wells on the cross-section? Is that what you're asking?

24 Q. Yes, sir.

25 A. Name each well or -- I don't understand.

1 Q. Do they -- The wells which you've shown on your
2 cross-section, could you identify those on Exhibit 1?

3 A. Yes.

4 Q. Okay.

5 A. Verbally or --

6 Q. Verbally, yes, uh-huh.

7 A. Okay. Beginning in the north with the well in
8 the most northwest corner. I guess that's unit D. Then it
9 proceeds to Unit C and then south to Unit F, and then it
10 proceeds to -- I have to mentally do it -- J, and then Unit
11 L, then to Unit N -- or M, I'm sorry, M --

12 Q. Mr. Broten --

13 A. -- and M, I'm sorry, I'm -- Okay, that's it.

14 Q. -- going from the left to the right on your
15 cross-section, there are -- and referring to Exhibit 1,
16 there are three producing wells shown on Exhibit 1 in blue.
17 Are those shown on your cross-section?

18 A. Yes.

19 Q. Going from the left of your cross-section,
20 identify those. In other words --

21 A. Okay, the second well and the third well, and
22 then the fifth well and the sixth well on the cross-section
23 J-J'.

24 Q. Okay. If you'd turn next to Exhibit Number 5,
25 would you identify that for us?

1 A. My Exhibit Number 5 is a structure map of the top
2 of the Ramsey sand, which is also shown on the cross-
3 section J-J'. The contour interval is on ten feet. The
4 yellow indicates Southwest acreage. The red dot is the
5 candidate for conversion.

6 The structure map basically shows to the
7 northwest with a dip in the southeasterly direction.

8 Q. Next, let me direct your attention to Exhibit
9 Number 6. Identify and explain it, if you would.

10 A. Exhibit Number 6 is an isopach map of the Ramsey
11 sand interval, also highlighted on the cross-section J-J'.
12 The sands are netted. They have to meet a criteria of at
13 least 20-percent sandstone, noted at 19-percent -- greater
14 than 19-percent sandstone for their footage. And the
15 contour interval is ten foot. And as you can see, there is
16 zero sand or thinning sand to the west, a thickening in the
17 center of Section 15, and we're losing the sand to the
18 east.

19 The productive wells have all been associated
20 with the updip structure and sand on the western portion of
21 Section 15.

22 Q. Were Exhibits Numbers 4, 5 and 6 prepared by you?

23 A. Yes, they were.

24 Q. And do they accurately reflect the information
25 you've testified about?

1 A. Yes, sir.

2 MR. COOTER: We would offer Exhibits 4, 5 and 6.

3 EXAMINER STOGNER: Exhibits 4, 5 and 6 will be
4 admitted into evidence.

5 MR. COOTER: That's all I have from this witness.

6 EXAMINATION

7 BY EXAMINER STOGNER:

8 Q. In referring to your cross-section on Exhibit
9 Number 4, those wells that are offset to the east that are
10 presently producing, are they also represented in the
11 cross-section?

12 A. Yes, sir.

13 Q. Okay, which wells are they?

14 A. By name or by location?

15 Q. By location on Exhibit Number 4. Like the third
16 one over, or the -- The third well over; is that one of the
17 wells?

18 A. The third well in Unit B?

19 Q. No, I'm talking about, when I look at Exhibit
20 Number 4 --

21 A. Yes, sir.

22 Q. -- the well logs from left to right --

23 A. Yes.

24 Q. -- would it be the third one? I'm having a hard
25 time reading the captions on the log information.

1 A. Oh, okay. The red arrow points to the candidate
2 well, and as the attached plat shows, as you go north
3 there, or toward the letter "J", the third well on the
4 cross-section is the immediate northern offset to the
5 candidate well for conversion.

6 Q. And how about the two others?

7 A. The two other producing wells are immediately to
8 the east and southeast of the candidate well.

9 Q. And are they depicted on the cross-section?

10 A. Yes, sir.

11 Q. And that would be the two wells to the right of
12 the well, the proposed injection well, that's designated by
13 the orange dot?

14 A. That's correct.

15 Q. On the well log, you show perforated intervals.
16 Do those accurately depict the productive intervals and the
17 producing intervals and the perforated intervals in those
18 wells?

19 A. Yes, sir, that's taken directly from the scout
20 ticket information recorded by Petroleum Services
21 Information Center.

22 Q. Okay, what can you tell me about that reservoir
23 that these wells are perforated in?

24 A. The reservoir -- Well, it's the Ramsey sand,
25 which is the -- one of the uppermost Bell Canyon sands. In

1 this particular locale it requires for reservoir
2 capabilities at least a 20-percent sandstone, so -- hence
3 the isopach.

4 The water cut can be extreme in the downdip
5 areas. You definitely need to be in the updip position in
6 this reservoir. The danger is to go too far updip, and
7 then you lose the reservoir-quality sand.

8 In fact, the two end-member wells on the cross-
9 section demonstrate that. They're thinning, the sands are
10 also thinning, and the reservoir quality is diminished.
11 Hence their nonproductibility or uneconomic status. They
12 tested uneconomic oil and gas, and the wells downdip,
13 slightly downdip to them, actually were productive in
14 economic quantities.

15 The vertical and lateral permeability of this
16 sand is very good, and disposal into this zone should be,
17 engineeringwise, not complicated. It should easily take
18 fluid, as well as it gives it up.

19 Q. How about fluid movement in this area, both of
20 your injection zone and then the source of oil that's in
21 there? Where is it coming from and what direction, and
22 what do you expect will be the outcome once injection gets
23 started, where that fluid will move?

24 A. There's a lot of conjecture where, if this thing
25 will actually push oil.

1 Primarily, the first reason for this conversion
2 was an economic basis for the other wells. Without a
3 disposal in the locale nearby, the cost of trucking
4 produced water overwhelms the economics of producing those
5 wells.

6 The other portion is, we may actually see some
7 benefit -- it's all conjecture at this point -- and we'd be
8 happy to see some influence as we dispose water into that
9 abandoned well, or converted well. We would -- That would
10 be an extra benefit if the wells actually were seeing
11 response with increased oil production as a result of that
12 injection.

13 Q. Well, that's all well and good, but I'm asking
14 you for your geological opinion now.

15 A. Uh-huh.

16 Q. What do you feel, as a geologist, of the movement
17 of that fluid? And geologically speaking, what's going to
18 happen to the water when it is injected? Where will that
19 move? Is it going to move downdip, maybe to the west?

20 A. That's very possible, yes. But I believe that --

21 Q. Tell me some more.

22 A. Well, okay, to further explain that, better
23 quality sands are, indeed, to the west. So I assume that
24 the fluid will always go in the -- point to the least
25 resistance, and it will probably move in that direction.

1 That's how I base that judgment.

2 I'm sorry, not to -- confused me. May I retract
3 that? The better sand quality is down dip to the east, I'm
4 sorry.

5 Q. Okay.

6 A. I said west; it was a mistake.

7 Q. Okay. Another reason why we're here for, not
8 only if is this a pressure maintenance is it going to
9 benefit -- Of course, as you know or may not know, the Oil
10 and Gas Act requires us to prevent the drowning by water of
11 any stratum or part thereof capable of producing oil or gas
12 or both oil and gas in paying quantities and to prevent the
13 premature or irregular encroachment of water. Now, that's
14 why you're here today, because you're close to wells that
15 are already producing.

16 We also need to ensure that this water that
17 you're going to reintroduce, or introduce, into the
18 productive intervals is not going to either contaminate any
19 present production or possibly future production and not be
20 capable back toward the west are -- There are some
21 undrilled areas. Of course, all of them are the same
22 lease, and hopefully you will benefit, but we also need to
23 make sure that you won't prematurely drown out anything.
24 that's another reason why we're concerned here on this.

25 So it's important for me to know what you feel

1 that water is going to do. If it's not going to benefit,
2 then is it going to hurt?

3 A. To answer your concern, I believe it's a win-win
4 situation for the lease and for ultimate recovery. I'm not
5 an engineer, but my understanding is that as the water --
6 First off, in this 40 acres, I don't know how quickly we
7 would see any influence on the offsetting wells.
8 Eventually there probably will be some influence.

9 But -- The engineer will have a chance to further
10 elaborate on this, but I believe if we lift the fluids
11 faster we will still continue to produce oil as we see in
12 other Delaware reservoirs that this occurs, as long as you
13 can lift the fluids and move the fluids and have a place to
14 dispose of the waters, you can continue to produce oil in
15 paying quantities.

16 Q. Does the Ramsey sand -- Is it prone to
17 fracturing, or is it a homogeneous reservoir, or what's the
18 properties of the actual producing sand itself?

19 A. That's a complicated question. I'll try best to
20 answer it.

21 It appears -- As a unit it's homogeneous, but
22 within this unit there are intervals, as you can see on the
23 cross-section itself, intervals of tight or silty streaks,
24 which would be reduced perm and porosities, most likely.
25 And they're random distribution through the entire unit.

1 This package of sand most likely was not a single event but
2 occurred almost simultaneously over a period of time, so it
3 may encompass actually three or four flow events.

4 But as a reservoir, it appears that whatever
5 minor permeability lenses, problems that -- I should say
6 problem lenses there, are overcome with the minor frac'ing.
7 And the problem here is that -- to be too aggressive with
8 hydraulic fracturing, because of the water problems from
9 the sands underlying the Ramsey sand. So perf'ing and
10 acidizing with maybe a minor frac is generally accepted
11 practice today.

12 Q. You alluded to an underlying water problem?

13 A. Well, just Delaware sands in general, even the
14 Ramsey sand itself, as you go east, those wells are all
15 water-bearing sands, no oil production capacities. And
16 also the sands underlying this are all water-bearing.

17 Q. Is this a water -- What kind of a reservoir is
18 this? Do you know?

19 A. I believe there's -- It's a combination. You
20 have a solution gas drive as well as, obviously, there will
21 be some water drive in this particular reservoir.

22 Q. Your proposed injection zone, is there a
23 distinguished oil-water contact that this will be injecting
24 underneath, or does that show up in this Ramsey sand
25 producing interval?

1 A. The only way to determine an oil-water contact in
2 this particular sand is essentially through the structural
3 relationship of the sand itself, of course.

4 And it is apparent as you move in the easterly
5 direction, in the downdip direction, as you get below 1710
6 subsurface or thereabouts, your water cut is so extreme
7 that it becomes uneconomic to produce. These sands are
8 very prone to water production, even in the most optimum
9 structural position.

10 EXAMINER STOGNER: Any other questions of this
11 witness?

12 MR. COOTER: One other question I meant to ask
13 and I didn't, Mr. Stogner.

14 FURTHER EXAMINATION

15 BY MR. COOTER:

16 Q. Mr. Broten, is there any evidence of open faults
17 or other hydrologic connection between the injection zone
18 and underground sources of drinking water?

19 A. No.

20 MR. COOTER: That's all.

21 EXAMINER STOGNER: I'm glad you brought that up.
22 As a geologist, will he be testifying or will there be any
23 additional testimony as far as the freshwater -- if there
24 are any freshwater wells within this area?

25 MR. COOTER: That's going to come up next --

1 EXAMINER STOGNER: Okay.

2 MR. COOTER: -- with Mr. Blount.

3 EXAMINER STOGNER: In that case, no other
4 questions.

5 JAMES BLOUNT,

6 the witness herein, after having been first duly sworn upon
7 his oath, was examined and testified as follows:

8 DIRECT EXAMINATION

9 BY MR. COOTER:

10 Q. Would you state your name for the record, please,
11 sir?

12 A. My name is James Blount.

13 Q. And by whom are you employed?

14 A. By Southwest Royalties.

15 Q. What's your position with Southwest Royalties?

16 A. I'm an area supervisor.

17 Q. Would you give a brief resume of your education
18 and professional experience?

19 A. Yes, I have a petroleum engineering degree from
20 Texas A&M University and graduated in 1984. I've worked
21 for Mitchell Energy as a production engineer for seven
22 years, from 1988 until 1995, and I worked for -- as a
23 contract engineer for Santa Fe Energy from 1995 till 1997,
24 and I've been with Southwest Royalties since February of
25 this year.

1 Q. Are you the same James Blount who signed the Form
2 C-108 --

3 A. Yes, I am.

4 Q. -- that has been filed in this case?

5 A. Yes, I am.

6 Q. Let me direct your attention to Exhibit 7. What
7 is that?

8 A. Exhibit 7 is a tabulation data of the wells in
9 the area of review within that half-mile radius. These are
10 showing the casing depths of the three producing wells. It
11 shows the perforated intervals of each of the three
12 producing wells and the stimulation involved with those
13 wells.

14 It also shows the cement involved in each of
15 those casing strings, the date drilled and where the top of
16 the cement is either calculated or was found by cement
17 bottom log.

18 Q. Referring to Exhibit 1, which is the land map,
19 those are the wells -- three wells in blue?

20 A. That is correct.

21 Q. Your tabulation of that well data commences with
22 the Ammons Madera Number 4, which is in the southeast
23 quarter of the southwest quarter --

24 A. That's right.

25 Q. -- of that Section 15, and then goes north, the

1 Number 3 well being in the northeast quarter of the
2 southwest quarter --

3 A. Right.

4 Q. -- and the third well being to north of that,
5 that's the Continental Federal Number 1 in the southeast
6 quarter of the northwest quarter?

7 A. Right.

8 Q. Where did you obtain this information that's set
9 forth on Exhibit 7?

10 A. All three of these wells are operated by
11 Southwest Royalties, and the data was obtained from our
12 well files.

13 Q. Next, let me direct your attention to a series of
14 four schematics marked as Exhibits 8A, 8B, 8C and 8D.
15 Identify those for us generally, first.

16 A. Okay, these are the schematics of wells that were
17 P-and-A'd in this are of review and of the plugs as
18 reported to the OCD, and --

19 Q. Now -- Pardon me.

20 A. It just shows the casing depths and where the
21 casing was cut off on any wells as they were plugged.

22 Q. Now, refer back to Exhibit Number 1 again, the
23 land map. These are the wells shown in brown?

24 A. That is correct.

25 Q. What was the source of your information as shown

1 on these four schematics?

2 A. The source of my information was both PI data and
3 also plugging forms that were sent to the OCD in Hobbs, New
4 Mexico.

5 Q. Did you review those records in Hobbs?

6 A. No, I had them sent to me in Midland.

7 Q. Is the information on Exhibit Number 7, the
8 tabulation of the production wells, as well as the four
9 schematics, which are Exhibit 8, true and correct to the
10 best of your knowledge and information?

11 A. Yes, to the best of my knowledge.

12 Q. For the proposed injection well, what's the
13 proposed maximum daily rate and volume of injection fluid?

14 A. We're anticipating a maximum rate -- or an
15 average rate of 400 barrels of water per day at a pressure
16 of approximately 600 pounds, and up to a maximum rate of
17 1000 barrels a day at 650 pounds.

18 Q. So you've answered, also, my next question, the
19 proposed average and maximum injection pressures.

20 A. Right.

21 Q. Will this be an open or a closed system?

22 A. It will be a closed system. All the water taken
23 in will be from the Delaware Ramsey.

24 Q. That is the source of the injection fluid?

25 A. That's correct.

1 Q. Let me next direct your attention to Exhibit
2 Number 9. What is that?

3 A. That is a water sample taken from a windmill in
4 the area. The windmill is located on the section line due
5 north of the Miller Ammons Number 1, which is in the Unit
6 Letter D of Section 15. It's a -- I guess it's
7 approximately 600 feet north of that well.

8 Q. What are the underground sources of drinking
9 water in this area? Give the name and the depth, if you
10 would.

11 A. According to the OCD, they told me that it was at
12 300 feet, and it was the Ogallala formation.

13 Q. Exhibit Number 9, which is the water analysis
14 prepared by Martin Water Laboratories, Inc., in Monahans,
15 was that prepared pursuant to your request and direction?

16 A. Yes, I asked my foreman to catch a water sample
17 from that well, and he took that sample himself to Martin
18 Water Labs in Monahans.

19 Q. Describe your proposed stimulation program.

20 A. We anticipate possibly having to acidize the zone
21 since it's been nonproductive for approximately two and a
22 half to three years, and that would be the only stimulation
23 that would be required. Approximately a thousand gallons
24 of acid.

25 Q. Next, turn to Exhibit Number 10 if you would.

1 Identify that.

2 A. Exhibit Number 10 is a wellbore diagram of the
3 well in question that we're looking at converting to an
4 injection well. It has the tabulation data of the casing
5 depths and also the proposed tubulars that are going to be
6 involved with the injection string, and the location of the
7 well stated on the heading.

8 Q. A well-data sheet similar to this was filed with
9 your Form C-108?

10 A. That's correct.

11 Q. Are there any differences between the Exhibit 10
12 which you're now looking at and the document filed with
13 your Application?

14 A. Yes, there were. There were two changes I've
15 made pursuant to filing this Application. I found a
16 recompletion report that was sent to the OCD that we didn't
17 have on our well files that another company had done, and
18 they had perforated an interval from 5065 to -85, and I
19 added that onto the new injection interval, now stating
20 5002 feet to 5085 feet.

21 Prior to this I had 5023, was the lowest perf.
22 And like I say, I found that out after I'd already sent out
23 this Application.

24 The second thing was, I got a better log on the
25 whole interval, and I was able to do a better calculation

1 on the top of cement, based on the caliper log that was on
2 that -- based on the caliper that was on that log. And I
3 changed that from estimating the top of cement from 4035 to
4 now 4284.

5 Q. Are the logs for this well on file with the OCD?

6 A. As far as I know, they are, yes. I got the log
7 from the PI, Petroleum Information.

8 Q. Were Exhibits 7, 8 and 10 compiled by your or
9 under your direction and supervision?

10 A. Yes, they were.

11 Q. And Exhibit Number 9, being the water analysis,
12 was requested by you. Has that company done water analysis
13 for you in the past?

14 A. Yes, they have.

15 Q. Have you always found their work to be accurate
16 and correct?

17 A. Yes, I find them to be some of the best water
18 analysis people in the Permian Basin.

19 MR. COOTER: We would offer Exhibits 7 through
20 10, Mr. Stogner.

21 EXAMINER STOGNER: Exhibits 7 through 10 will be
22 admitted into evidence.

23 EXAMINATION

24 BY EXAMINER STOGNER:

25 Q. Okay, referring to the wells on your Exhibit

1 Number 7 -- these are the present producing wells -- the
2 two -- or the oldest well looks like it was drilled in
3 1972?

4 A. That's correct.

5 Q. Has it been producing from this interval since
6 that time, or was it a deeper well?

7 A. No, it's been producing from this interval since
8 that time. The original perfs are added -- or at 5003 to
9 -13, and then the added perf from 5014 to -38, which is
10 also in the Ramsey, in July of 1995.

11 Q. What kind of production increase did you see in
12 1995 when those additional perfs were put in?

13 A. The production went from about three barrels of
14 oil a day and six barrels of water, up to approximately
15 eight barrels of oil, declined rapidly to the four-barrels-
16 per-day range, and about eight barrels of water. So very -
17 - a very minor increase.

18 Q. Okay. So this well is producing -- What did you
19 say? About eight barrels of water a day average?

20 A. That's correct.

21 Q. Okay. How about the two other wells, Number 3
22 and 4?

23 A. The Number 3 well, I believe, produces about 20
24 barrels of water a day. Let me double-check that. Thirty
25 -- or actually 40 barrels of water a day. And the Number 4

1 well produces approximately 200 barrels of water a day.

2 Q. Was this -- Well, that's quite a significant
3 difference between the three wells.

4 A. Yes, there was. The Number 4 had a substantially
5 larger frac job put on it, and it's anticipated that it got
6 into more of the total pay of the Ramsey. There was more
7 perfs added in the well to begin with.

8 Q. What's the current oil production on that Madera
9 Number 4?

10 A. The Madera Number 4 approximates 16 barrels of
11 oil a day. Right now we have it shut in due to the
12 uneconomic status of hauling water.

13 Q. Okay. Now, all these wells, all three of these
14 wells, were initially frac'd prior to being put on
15 production?

16 A. Yes, sir.

17 Q. Well, let me take that back. Number 3 and 4 you
18 show were frac'd --

19 A. Right.

20 Q. -- the initial completion.

21 A. Well, even the Continental was also --

22 Q. Okay.

23 A. -- although it was a much smaller frac.

24 Q. On the Continental Federal Number 1 well, was
25 there records back in the Seventies that the water -- that

1 it had low water productivity, or did it gradually increase
2 and then drop off or --

3 A. The maximum production on it was 20 barrels of
4 water per day, and then dropped from --

5 Q. And that was from those original perfs?

6 A. That's correct. And it dropped off into about
7 the eight-barrel-per-day range and stayed there for, oh, 15
8 years, it looks like to me.

9 Q. Okay. How about the oil production on the Madera
10 Number 3?

11 A. The Madera Number 3 makes approximately 12
12 barrels of oil per day.

13 Q. Is it presently producing?

14 A. Yes, it is.

15 Q. Okay. Let's take a look at the old plugged and
16 abandoned wells, first looking at Exhibit Number 8A which
17 represents your Madera Federal Number 1. That's up there
18 in Unit D of Section 15, I bel- -- No, the --

19 A. Section 22?

20 Q. I'm sorry, Unit D of Section 22.

21 A. Right.

22 Q. What's the -- Was that ever productive, or what
23 can you tell me about this one?

24 A. As far as I know, I believe that was P-and-A'd in
25 1963, and I'm -- Let me double-check in my record. I

1 didn't think that was ever a productive well, but let me
2 double-check.

3 Q. Okay. Well, referring to that well on Exhibit
4 Number 1, would that tell us any additional information?

5 A. Based on that, I would say it looks like a
6 drilled and abandoned well, since there was no black circle
7 that had a line drawn through it.

8 Q. And then perhaps the date over there to the left?

9 A. Oh, yes, sir. Yes, sir, it sure was. It was
10 drilled and abandoned in 1963, although the OCD records I
11 had showed it was actually plugged in 12 of 1963, so that
12 would indicate that they did attempt to -- They did run
13 casing, because we had 4-1/2-inch at 5276 --

14 Q. Okay.

15 A. -- although I have no records of perfs.

16 Q. Okay, how about 8B? This is your Conoco Federal
17 Number 3. That is the one furthest to the east of your
18 circle.

19 A. That's correct.

20 Q. What can you tell me about that production?

21 A. Yes, sir. That well apparently didn't have any
22 cumulative production. I'm looking for -- I had a
23 tabulated production for all those wells.

24 MR. COOTER: On your cross-section? Here's the
25 exhibits on the cross-section. Will that help?

1 THE WITNESS: It looks like it had a -- No, it's
2 not on this, it's not on the cross-section.

3 I have an EUR map drawn -- Oh, here's what I'm
4 looking for. The Conoco Federal Number 3 produced a total
5 amount of oil of 4000 barrels before being plugged in 1965.
6 The water was not reported.

7 Q. (By Examiner Stogner) It was plugged in 1965.
8 Do you know when it was drilled?

9 A. No, sir, I sure don't.

10 Q. Okay. Moving up, or over, to Unit Letter M of
11 Section 15, this is the Number 2 well.

12 A. Right.

13 Q. Did that have any production, or --

14 A. No, sir, that was drilled and abandoned in 1972.
15 There was no --

16 Q. Did it have --

17 A. -- no casing.

18 Q. -- casing? Oh.

19 A. That's correct, no casing was set.

20 Q. Okay. Now, did -- I'm assuming that these were
21 drilled for Delaware test.

22 A. Yes, sir, they were. The TD of that well was
23 5150, which would have been a Ramsey test.

24 Q. And how about the last well, the well up here in
25 Unit B of 15?

1 A. The last well is the Miller Ammons Number 1. It
2 was drilled and completed as a producer. It was run --
3 They had a 2-7/8-inch casing run in the hole and perforated
4 with basically three foot of perforations.

5 They produced a total of 1400 barrels of oil
6 and -- as reported by PI, which I find fairly incredible --
7 105 million cubic feet of gas -- or -- yes, sir, million
8 cubic feet of gas. That was very unusual for any well in
9 that particular area. The GOR was extremely high compared
10 to all of the other Delaware Ramsey.

11 And I've since pulled up some data that was
12 reported back in the Sixties when this was actually done to
13 try to see if I could confirm whether some data was missing
14 off of this well, and as far as I could tell, that was all
15 it had produced as far as oil, so --

16 Q. From two feet of perf?

17 A. That's correct. And I think it's highly unusual
18 myself.

19 The well was P-and-A'd prior to when I have data
20 on the PI. My data only goes back to 1970, so I couldn't
21 get a production plot from that particular well.

22 Q. Okay, now I show it -- Presently your water
23 production is up around 300 barrels, or potential of water
24 productivity from those three wells.

25 A. That's correct.

1 Q. Is that the only source water for this injection
2 or disposal, is just from these three wells?

3 A. Originally that's what we proposed, although
4 Ralph E. Williamson has some wells to the northeast that we
5 were going to see if he was interested in sending some of
6 his water to our well, because he's in the same situation
7 we are.

8 Q. Okay, how many wells is that and what's the
9 production?

10 A. He has four wells up there. I do not know the
11 exact number of what his barrels are that he produces right
12 now, but I think it's less than 100 barrels per day from
13 all of his wells.

14 I have the Goedeke Number 1 and Number 4 that are
15 up in Section 10. That would be the Unit Letter N and O.
16 And those two together make approximately 40 barrels of
17 water. And then he also has the Number 1 that's in Section
18 15. That would be the well in Unit Letter C, and I don't
19 have that current production right now. But those are his
20 three wells that he operates and the ones that I'd be
21 interested in taking his water.

22 Prior to our Application here, they had an
23 injection well on that Number 2 well, which is in Unit
24 Letter B of Section 15, and they lost this well earlier
25 this year due to a casing leak. They couldn't pass the

1 casing integrity test and they were told by the OCD to plug
2 the well, so they plugged it.

3 And ever since that time we've been having to
4 truck our water and that's -- you know, I've basically shut
5 in our Number 4, since it was the highest water producer,
6 since that time, and we're just producing the Continental 1
7 and the Ammons Madera 3.

8 And based on the fact that we have a -- We had a
9 pipeline from our Number 1 well, the one we're proposing to
10 enter. That's where our battery is located. We had a
11 pipeline going from there to his Number 2 well. We feel
12 like we could take his water by just reversing the flow on
13 that.

14 So that's something -- I haven't approached him
15 at this time. It's been in no -- the status of this
16 injection. But that's something we were going to do if we
17 get authorized to inject. That's where the 400 barrels a
18 day comes from.

19 Q. Would that essentially make this a commercial
20 facility then, if you took somebody else's water?

21 A. I guess you could say that.

22 Q. I mean, I would assume that you would --

23 A. I'm sure we would charge them per barrel to
24 dispose of the water, although it would all be Ramsey
25 produced water.

1 There's one thing that I would like to note, as
2 far as what you asked earlier about the -- to J.J. Broten,
3 about the effect of the water injection. I do have some
4 offset information on the Goedeke Number 1 and Number 4 as
5 to how it responded to the water that was injected into the
6 Number 2 Continental in Section 15.

7 Q. Okay, let's -- Let me see here. Is it a current
8 water injector?

9 A. The Number 2 was a current water injector up
10 until this year when it was plugged.

11 Q. Okay. Now, that's the one in Unit Letter B of
12 15?

13 A. That's correct.

14 Q. Okay, that was an injector. Okay. What can you
15 tell me about that?

16 A. Well, I have two plots, and basically this is
17 more or less an assumption on my part because I don't have
18 the exact date of when they actually put water into the
19 ground on that, but I do have the Goedeke Number 1 and
20 Number 4, and they both had a response of about a 20 -- or
21 10- to 20-barrel-per day oil increase back in 1973.

22 And I know that the R.E. Williamson Well Number
23 2, that Continental Number 2, has been off line since early
24 -- since 1970. So assuming they converted the well to
25 injection within a year or two after that, I can -- Like I

1 say, I'm only assuming that that was possible, but I can't
2 think of anything else of why these two wells would
3 increase in production, but there was a substantial
4 increase in oil production as well as water production at
5 that time. When I say "substantial", it was basically a
6 doubling of their oil and their water.

7 Q. So that would be the well immediately to the west
8 of that old injector well?

9 A. No, sir, that would be the well to the north.
10 They're in Section 10.

11 Q. Okay, the Number 1.

12 A. The Goedeke Number 1 is due north of that Number
13 2, and the Number 4 would be northwest.

14 Q. Are those wells still currently producing?

15 A. Yes, sir, they are. The Goedeke Number 1 has
16 produced a cumulative of 166,000 barrels of oil, and the
17 Goedeke Number 4 has made 119,000 barrels of oil.

18 Q. Do you know what the injected interval -- Was it
19 the Ramsey sand?

20 A. Yes, sir, it was.

21 Q. Do you know what the volume of the water or the
22 injection --

23 A. No, sir, I do not.

24 Q. Do you have working interests in those Williamson
25 wells to the north?

1 A. No, sir, we do not.

2 Q. Do you know if those royalty interests belong to
3 the Madera family?

4 A. No, sir. They're Continental federals, and my
5 assumption would be, that means it was federal minerals,
6 but I'm not -- I don't know that for a fact.

7 Q. Okay.

8 A. And it says on the map here that the ones in
9 Section 10 were U.S. Minerals.

10 Q. Okay, how about future activity in this lease or
11 this --

12 A. There is a possibility that we could look at
13 drilling a well due north of the Ammons Madera Number 1 in
14 Unit Letter E. I feel like, you know, based on the geology
15 information we've seen earlier the isopach shows that it is
16 pinching out as you go to the west, and the substructure as
17 you go to the west.

18 The best wells in the area were the Continental
19 Federal Number 1 and the Continental Federal 1 directly
20 north of that, that was operated -- that was originally
21 drilled by Coastal States. And those two Goedeke wells
22 were very good wells.

23 So that seems to be pretty much a sweet spot.
24 That Miller Ammons Number 1 that I referred to earlier,
25 making huge amounts of gas and very little oil, I'm not

1 sure that wouldn't be a good re-entry candidate to test a
2 little bit more of that zone. I think that was poorly
3 completed.

4 Q. Okay, let's talk about the injection well. Now,
5 what's the history of this particular well? When was it
6 drilled and --

7 A. Of the injection well itself?

8 Q. Yeah.

9 A. It was drilled in -- I believe it was the early
10 1970s. It was drilled in 1972, and it has produced, I
11 believe, 54,000 barrels of oil -- I'm sorry, 57,000 barrels
12 of oil.

13 Q. From the perms that you show, 5002 to 5085?

14 A. Yes, sir, with the large -- lion's share from the
15 upper portion. The response they had when they added those
16 lower 20 feet of pay was insignificant.

17 Q. Okay, I'm not sure I follow you here. I'm
18 looking --

19 A. Okay.

20 Q. -- at Exhibit Number 10, so --

21 A. Right.

22 Q. -- that was the original perm?

23 A. The original perms were from 5002 to 5023, and
24 then they added from 5060 -- I believe it was 5060 to 5085,
25 and they added that in 1993. I'm sorry, 5076 to -85 was

1 what they added in 1993.

2 And at the time that they reported on their C-103
3 form, that they had an increase in production from 1.5
4 barrels of oil a day and 3 MCF to 5.5 barrels of oil per
5 day and 6 MCF, but that was quickly lost, and it didn't
6 sustain more than about six months.

7 Q. Do you have any historical water activity from
8 that upper zone?

9 A. Water production from that --

10 Q. Yeah, water production.

11 A. -- well? Yes, sir. The original production back
12 when it was completed in 1972 was in the 30-barrel-per-day
13 range, and it declined within three years down to 10
14 barrels a day, and by 1977 it was at seven barrels a day
15 and stayed there until it was abandoned in 1994.

16 Q. So you didn't see any increase in water
17 production?

18 A. With the addition of that lower pay?

19 Q. Right.

20 A. That's correct.

21 Q. It just became uneconomical, dwindled away?

22 A. That's right. Basically, the well only produced
23 three months after they added that other pay.

24 Q. How was -- Was that fractured or acidized, the --

25 A. The lower --

1 Q. -- the lower zone?

2 A. The lower, I believe that was only -- I believe
3 it was only acidized. Double-check here.

4 Q. Similar to your completion technique on the
5 Continental Federal Number 1?

6 A. Well, the Continental Federal Number 1 had a
7 small frac job on it, has a 7500-pound frac job.

8 Q. That was in 1972?

9 A. That's correct.

10 Q. Okay. So the original perfs did not --

11 A. Oh, yes, I see. Yes, the ones that were added
12 later --

13 Q. Right.

14 A. -- that's correct.

15 Q. Okay.

16 A. They treated it when they added those nine perfs
17 at 5076 to -85, treated with 750 gallons of 10-percent
18 NEFE.

19 Q. I think you might have covered this. Is there
20 any additional work you're going to need to do to get this
21 well to take additional water or take water?

22 A. I don't believe so. I think it will take water
23 pretty readily as it's set up right now. Like I say, all I
24 foresee is possibly having to do an acid job, just because
25 it's been off line for a while and it's possible the perfs

1 scaled up.

2 Q. Now, you've asked for a maximum of 600 p.s.i. --

3 A. 650.

4 Q. -- injection pressure?

5 A. Right. And that's based on the frac gradient in
6 the area, on acid jobs that we've done. That's 50 pounds
7 below the frac gradient that we saw on the acid jobs on the
8 Ammons Madera 3 and 4.

9 I think the -- It's usually a blanket .2 p.s.i.
10 per foot, and this is well under that.

11 EXAMINER STOGNER: Any other questions of this
12 witness?

13 MR. COOTER: Just a couple, Mr. Stogner.

14 FURTHER EXAMINATION

15 BY MR. COOTER:

16 Q. Mr. Blount, in your opinion would the granting of
17 this Application result in the prevention of waste, both
18 economic and physical?

19 A. I believe it would. I think -- well, for -- One
20 thing for sure, we could get the Number 4 back on because
21 it would be a more economical well, and I think we would
22 see at least some response from water being injected into
23 that reservoir.

24 Q. And in the best interests of conservation of oil
25 and gas?

1 A. I think it would be in the best interest.

2 Q. Would the granting of the Application not
3 interfere with the correlative rights of the offsetting
4 operators?

5 A. I don't believe it would.

6 Q. While we're talking about that, let me go back to
7 Exhibit 1, if you would take a look at that. In this area
8 of review, the acreage not owned by the Applicant,
9 Southwest Royalties, that area includes some land or part
10 of the northeast of the northwest, which appears to be, as
11 I understand the map -- That operator is R.E. Williamson?

12 A. I'm sorry, could you repeat that question?

13 Q. Yeah, up in the -- describe it, I guess it's the
14 Unit C --

15 A. Right.

16 Q. -- but it's the northeast of the northwest
17 quarter --

18 A. Right.

19 Q. -- that lease, the operator is R.E. Williamson?

20 A. That's correct.

21 Q. Going on down to the south, it covers --
22 intersects some land in the south half of the northeast
23 quarter that appears Gas Production -- or Producing --
24 Enterprises?

25 A. Yes, sir. And we attempted to contact Gas

1 Producing Enterprises, and we could not find their listing
2 in any phone book.

3 And we also called the OCD to see if they had a
4 listing of the operators, and they said they didn't even
5 have a Gas Production Enterprises. So we had no way of
6 contacting this company.

7 Q. You did make an effort to locate them?

8 A. Yes, we did.

9 Q. Going on to the south and north half of the
10 southeast quarter, that again is land apparently -- the
11 operating rights are owned by R.E. Williamson?

12 A. That's correct.

13 Q. Going on to the south, the northwest quarter of
14 Section 22 is Dalen, D-a-l-e-n, Resources?

15 A. Right.

16 Q. They were notified?

17 A. Yes, sir, they were.

18 Q. And I see that the one-half-mile circle touches
19 the land owned by Conoco. Was Conoco notified?

20 A. Yes, they were.

21 Q. Go on to the west, the north half or the
22 northeast quarter of Section 21; is that Chevron?

23 A. That's what it appears to be.

24 Q. And they were not notified?

25 A. That's apparently the case. I looked through my

1 records to see if I had a copy, and I didn't see them on
2 there. That must have just been an oversight. I don't
3 know how that didn't get sent out.

4 Q. Then the land in Section 16 under the heading
5 "Amoco", that is Altura?

6 A. That's correct.

7 Q. And they were notified?

8 A. Yes, sir, they were.

9 Q. So all the offsetting operators within that area
10 of review were notified, with the exception of Chevron?

11 A. That's correct, and whoever owns that Gas
12 Production Enterprises. Like I say, we attempted to
13 contact that. We even called the OCD to see who they
14 showed as the lease operator there, and they said they had
15 the same map we had but they didn't have a listing of that
16 person as an operator, nor an address.

17 Q. What OCD office did you call?

18 A. Hobbs.

19 MR. COOTER: Hobbs?

20 We will notify Chevron and advise them that the
21 matter has been continued to the 18th.

22 MR. CARROLL: Pardon me. I notice Manzano is
23 listed on the affidavit of mailing. Where does Manzano fit
24 in? Are they --

25 THE WITNESS: That --

1 MR. CARROLL: Could they have acquired the
2 Chevron interest, or why is Manzano listed?

3 THE WITNESS: Actually, I had the same question.
4 I don't know if I -- It's been a while since I put this
5 thing together. But I'm not sure if we got that from the
6 fact that they had their name listed on where the
7 Continental Federal is, even though that's our acreage now.
8 I don't know if maybe that was -- they had some kind of
9 a --

10 MR. CARROLL: Oh, I see, Manzano, yeah.

11 THE WITNESS: -- override in there.

12 MR. CARROLL: Federal lease?

13 THE WITNESS: And that's what I was wondering.
14 But I really don't believe they do own that Chevron lease.
15 I think that is a Chevron lease.

16 Q. (By Examiner Stogner) Did you by chance check
17 with the BLM to show who the lease belonged to in that part
18 of that 80 acres that had Gas Production Enterprises?

19 A. No, sir, we just notified the OCD. And like I
20 say, we pulled out the -- We have a Burmass book of the
21 Permian Basin area and checked all the -- that name under
22 there, couldn't find it. We looked in the Dallas OCD,
23 couldn't find it -- or the Dallas Oil Directory, couldn't
24 find that name, and we looked in the Houston Oil Directory
25 and couldn't find it.

1 EXAMINER STOGNER: Mr. Cooter, I'm going to ask
2 that you check with the BLM and then contact whoever that
3 lease is with. And while you're at it, why don't you
4 contact the BLM, since they are somewhat involved in this
5 too? So we'll have Chevron, whoever the leasee is of that
6 gas -- or leasor, of that Gas Production Enterprises
7 property and the BLM.

8 MR. COOTER: As -- This doesn't have to be on the
9 record, but as an aside for my information, as I read the
10 rule it was the surface owners and the offsetting
11 operators.

12 EXAMINER STOGNER: That is correct. Now, there's
13 a little misnomer on that, but that's what I hear today,
14 and because of my concern of what the Oil and Gas Act says,
15 I'm going to require some additional notice, and that being
16 check and see who has the leasee -- the lessor, of the Gas
17 Production Enterprises --

18 MR. COOTER: All right, sir.

19 EXAMINER STOGNER: -- because they may still be.
20 And they'll have an address there, I would think. And also
21 I want the BLM involved in this too. There again, I think
22 it's added protection for you and us under the Oil and Gas
23 Act.

24 MR. COOTER: I asked my question in an
25 inappropriate way. I didn't mean it to be argumentative

1 but for informational purposes.

2 The state also is the royalty owner under Section
3 16.

4 EXAMINER STOGNER: Good, why don't you contact
5 them too?

6 MR. COOTER: If I erred once, I didn't want to
7 err twice.

8 EXAMINER STOGNER: Oh, no, no, that was -- I was
9 wondering if you was going to get around to that, because I
10 was thinking about it. But your geology shows that that is
11 zero over there, so I wasn't that concerned about to the
12 west --

13 MR. COOTER: Okay --

14 EXAMINER STOGNER: -- but --

15 MR. COOTER: -- but you would like the State Land
16 Office?

17 EXAMINER STOGNER: Yeah, let's go ahead and
18 include them.

19 MR. COOTER: Okay. We will forward to each one
20 -- I'll do some investigation on that south half of the
21 northeast quarter to see what we can -- might find.

22 We will notify both the BLM, the State Land
23 Office and Chevron and forward to them a copy of the
24 Application filed, and in the letter of transmittal I will
25 notify each one that the matter has been continued to the

1 December 18 docket.

2 EXAMINER STOGNER: Okay, with that, as soon as
3 you submit that notification, if you'll provide this case
4 file a copy of that, I don't think it will be necessary,
5 unless you anticipate some objection, to even be here on
6 the 18th. At that time we can take it under advisement. I
7 don't see any need of additional testimony with what I've
8 heard today, pursuant to the additional notification that
9 we've talked about.

10 MR. COOTER: Would you like a predicate laid for
11 the giving of that notice? I might ask Mr. Tate back to --
12 since he covered that in his original --

13 EXAMINER STOGNER: I really don't think that will
14 be necessary.

15 MR. COOTER: Let us do some work in that regard
16 and then contact the Division again.

17 MR. CARROLL: Yeah, why don't you just send us a
18 letter with the copies of the proof of notice, letter
19 saying this is what your research turned up regarding the
20 Gas Production Enterprises. If they're still unknown, say
21 it, state that.

22 EXAMINER STOGNER: And then we'll take care of it
23 by notifying the BLM, ultimately, since they are the owners
24 of the minerals underneath that property.

25 MR. COOTER: This certainly isn't for the record,

1 but, as an aside --

2 (Off the record)

3 EXAMINER STOGNER: With that, let's go back on
4 the record.

5 Is there anything further in this matter?

6 MR. COOTER: Nothing further.

7 EXAMINER STOGNER: Then this case will be
8 continued and readvertised for the December 18th Examiner
9 hearing.

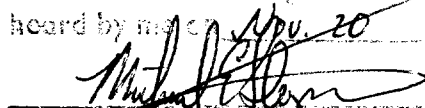
10 And with that, then, this hearing is adjourned.

11 MR. COOTER: Thank you, sir.

12 (Thereupon, these proceedings were concluded at
13 9:45 a.m.)

14 * * *

15
16
17 I do hereby certify that the foregoing is
18 a complete record of the proceedings in
the Examiner hearing of case no. 11881,
19 heard by me on April 20, 1997.

20  , Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL November 24th, 1997.



STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998