

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. 13,961

APPLICATION OF CHEVRON USA, INC., FOR)
AMENDMENT OF DIVISION ORDER NO. R-4442,)
AS AMENDED, TO AUTHORIZE A TERTIARY)
RECOVERY PROJECT BY THE INJECTION OF)
CARBON DIOXIDE IN ITS VACUUM-GRAYBURG-)
SAN ANDRES PRESSURE MAINTENANCE PROJECT)
AREA, APPROVAL OF AMENDMENT OF THE)
COOPERATIVE WATER INJECTION AGREEMENT)
BETWEEN THE CENTRAL VACUUM UNIT AND THE)
VACUUM-GRAYBURG-SAN ANDRES UNIT, LEA)
COUNTY, NEW MEXICO)

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

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

August 23rd, 2007

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID K. BROOKS, Jr., Legal Examiner, WILLIAM V. JONES, Jr., Technical Examiner, on Thursday, August 23rd, 2007, at the New Mexico Energy, Minerals and Natural Resources Department, 1220 South Saint Francis Drive, Room 102, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

STEVEN T. BRENNER, CCR
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August 23rd, 2007
Examiner Hearing
CASE NO. 13,961

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A P P E A R A N C E S

FOR THE APPLICANT:

HOLLAND & HART, L.L.P., and CAMPBELL & CARR
 110 N. Guadalupe, Suite 1
 P.O. Box 2208
 Santa Fe, New Mexico 87504-2208
 By: WILLIAM F. CARR

* * *

1 WHEREUPON, the following proceedings were had at
2 1:20 p.m.:

3 EXAMINER BROOKS: Okay, we have a full staff
4 again now, and at this time we will call Case Number
5 13,961, Application of Chevron USA, Inc., for amendment of
6 Division Order Number R-4442, as amended, to authorize a
7 tertiary recovery project by the injection of carbon
8 dioxide in its Vacuum-Grayburg-San Andres Pressure
9 Maintenance Project Area, approval of amendment of the
10 cooperative water injection agreement between the Central
11 Vacuum Unit and the Vacuum-Grayburg-San Andres Unit, Lea
12 County, New Mexico.

13 Call for appearances.

14 MR. CARR: May it please the Examiner, my name is
15 William F. Carr with the Santa Fe office of Holland and
16 Hart, L.L.P. We represent Chevron USA, Inc., in this
17 matter, and I have three witnesses.

18 EXAMINER BROOKS: You may proceed.

19 MR. CARR: Mr. Examiner, just by way of an
20 introductory statement, as you may be aware, back in 1972
21 the Division approved waterflood operations in the Vacuum-
22 Grayburg-San Andres Unit. That was done by Order R-4442.
23 In two thousand and -- and waterflood operations have been
24 conducted in the unit area since approval in 1972.

25 In 2001, Texaco appeared before the OCD. At that

1 time they were the unit operator, and they obtained an
2 order, R-4442-A, which authorized implementation of a
3 tertiary recovery project in this unit by injection of CO₂.
4 The order was never acted on by Texaco and expired of its
5 own terms.

6 The property has now been acquired by Chevron,
7 and they seek approval now to do basically what was
8 approved back in 2001. They seek authorization to
9 implement a tertiary recovery project. They're looking at
10 the same area that was involved in the Texaco case, they're
11 looking for the same pressure increases that were approved
12 in that case, and this Application covers the same wells
13 that were addressed in the case back in 2001. Basically we
14 seek to reinstate that order.

15 Since that order, several things have happened.
16 There have been wells drilled and wells plugged, and we
17 have submitted to you and filed with our Application the
18 original C-108. Our witnesses will show that they have
19 checked that and confirmed that the data in the original
20 C-108 remains accurate.

21 We also filed with our prehearing statement some
22 supplemental information. That information makes
23 everything that is now before you complete. And so we
24 believe we have all information required before the
25 Division at this time.

1 Since the original approval, several other things
2 happened that, as we started working on this surprised us.
3 We discovered there had been some administrative orders
4 entered that approved the addition of wells to this
5 project, additional injection wells. When we were here a
6 week ago we had one. We now have three.

7 But what happened was, applications were filed to
8 add injection wells to the project -- they were approved by
9 administrative orders -- and these orders referenced a
10 tertiary recovery project. There is none. These orders
11 referenced the higher pressure that was authorized in those
12 original cases.

13 But you need to know, these wells have never been
14 used for anything but water injection. And the original
15 waterflood order authorized the addition, you know, of
16 additional injection wells to the project by administrative
17 process.

18 And so in addition to just reinstituting the
19 prior authority that this Division gave Texaco, we are
20 going to ask the Division to clarify those administrative
21 orders, recognizing they were only for waterflood
22 operations. And then beyond that, if these wells are
23 needed for CO₂ injection, there will be separate
24 administrative application filed at a later date, after you
25 dispose of the Application that is pending before you.

1 I don't have the docket before me. We had also
2 -- we're going to request approval of the incentive tax
3 rate under the Enhanced Oil Recovery Act. And when you
4 called the case I did not hear that.

5 EXAMINER BROOKS: And I don't believe that there
6 is a case for that set --

7 MR. CARR: Okay.

8 EXAMINER BROOKS: -- because --

9 MR. CARR: And what we would do, Mr. Examiner, if
10 it's acceptable to the two of you, is, we do have that
11 application as our last exhibit, and we would go ahead and
12 present that. And then if, in fact, we need that
13 authorization we would file a separate application and ask
14 that you incorporate this record at that time.

15 EXAMINER BROOKS: Okay, I would think that would
16 be reasonable under the circumstances.

17 MR. CARR: And I have three witnesses who need to
18 be sworn.

19 EXAMINER BROOKS: Okay. Hopefully the time when
20 you will need that will never come.

21 MR. CARR: Hopefully it never will. We were
22 concerned, though, that if we didn't ask for it, that might
23 be the fact that would mean someday we would need it, so...

24 EXAMINER BROOKS: Okay, will the witnesses stand
25 and state their names?

1 MR. PEQUEÑO: My name is Daniel Pequeño.

2 MR. INGRAM: I'm Scott Ingram.

3 MR. BRUGGER: I'm Brent Brugger.

4 EXAMINER BROOKS: Please swear the witnesses.

5 (Thereupon, the witnesses were sworn.)

6 EXAMINER BROOKS: Call your first witness.

7 MR. CARR: At this time, Mr. Examiner, we would
8 call Daniel Pequeño.

9 DANIEL PEQUEÑO,

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

12 DIRECT EXAMINATION

13 BY MR. CARR:

14 Q. Would you state your full name for the record,
15 please?

16 A. Daniel Pequeño. It spells out as P-e-q-u-e-ñ-o.

17 Q. Mr. Pequeño, where do you reside?

18 A. Midland, Texas.

19 Q. By whom are you employed?

20 A. Chevron.

21 Q. And what is your position with Chevron?

22 A. I'm a land representative on the Vacuum team.

23 Q. Have you previously testified before the New
24 Mexico Oil Conservation Division?

25 A. Yes, I have.

1 Q. And how long ago was that?

2 A. In the late 1990s when I used to work with Mobil.

3 Q. Would you summarize your educational background
4 and work experience for the Examiners?

5 A. Okay, I have a BBA in marketing from Texas A&I
6 University, I am a certified professional landman and also
7 an environmental site assessor.

8 Q. And you're the landman who has been working on
9 this project for Chevron?

10 A. That is correct.

11 Q. Are you familiar with the Application filed on
12 behalf of Chevron in this case?

13 A. Yes, sir.

14 Q. And are you familiar with the status of the lands
15 in the Vacuum-Grayburg-San Andres Unit area?

16 A. Yes, I am.

17 MR. CARR: We tender Mr. Pequeño as an expert
18 witness in petroleum land matters.

19 EXAMINER BROOKS: He is so qualified.

20 Q. (By Mr. Carr) Mr. Pequeño, would you briefly
21 summarize what it is that Chevron seeks with this
22 Application?

23 A. Today we are seeking an amendment of Division
24 Order R-4442, dated November 27, 1972. This order approved
25 the Vacuum-Grayburg-San Andres Unit -- excuse me, San

1 Andres pressure maintenance project in the Vacuum-Grayburg-
2 San Andres Unit.

3 We want to amend this order to authorize the
4 implementation of a tertiary recovery project by the
5 injection of carbon dioxide in the Vacuum-San Andres Unit
6 area.

7 And to do this, we want to increase the maximum
8 surface injection pressure for water in certain injection
9 wells to 1850 pounds, provided this pressure can be
10 increased following step-rate tests, and secondly to
11 provide for the differences in density of CO₂ by permitting
12 the injection of CO₂ to be conducted at a maximum of 350
13 pounds -- p.s.i., above the allowed surface water injection
14 pressure, not to exceed the 1850 pounds mentioned before,
15 and pursuant to those step rate tests.

16 Now as Mr. Carr alluded earlier, this project was
17 previously approved for CO₂ injection when the unit was
18 owned by Texaco Exploration and Production, Inc., under
19 Order R-442-A [sic], and what Chevron is proposing today is
20 the same project.

21 Q. Mr. Pequeño --

22 EXAMINER BROOKS: Excuse me, the order number --
23 What was the order number of the 1972 order?

24 THE WITNESS: R-442 [sic].

25 EXAMINER BROOKS: 442.

1 THE WITNESS: Yes, sir.

2 EXAMINER BROOKS: Just 442, okay.

3 THE WITNESS: Three 4s and a 2.

4 EXAMINER BROOKS: Thank you.

5 Q. (By Mr. Carr) Mr. Pequeño, Chevron will call an
6 engineering witness to present the testimony concerning the
7 request to increase pressure; is that correct?

8 A. That's correct.

9 Q. Let's go to what has been marked Chevron Exhibit
10 Number 1. Would you identify that and review it for Mr.
11 Brooks and Mr. Jones?

12 A. Okay. The Exhibit Number 1 -- does everybody
13 have it? -- is the unitized acreage in the Vacuum field for
14 the Grayburg-San Andres in Lea County, New Mexico. In the
15 map you see in tan -- either gold or tan -- the units owned
16 by Chevron. Slated in the slight blue or greenish is the
17 Phillips East Vacuum. And then you have your State 35 Unit
18 in the middle. Then the other waterflood units are
19 surrounding the map there.

20 The three units that Chevron owns, the one that
21 we're proposing the CO₂ project for is the one in the
22 middle. And the CO₂ projects currently approve an
23 operating -- active operations, is the East Vacuum Unit,
24 the Central Vacuum Unit, operated by Chevron, and the State
25 Unit 35.

1 Q. On this exhibit we show the State 35 Unit as
2 being operated by Phillips?

3 A. Yes, we need to make a note here that the
4 operator, the current operator of that unit, is McGowan
5 Working Partners -- Working Interests, Incorporated.

6 Q. Now the plat shows Phillips, but when you
7 provided notice you did notify McGowan, did you not?

8 A. Yes, we provided proper notice to McGowan.

9 Q. Is what Chevron seeks in this case consistent
10 with the CO₂ floods that are authorized in offsetting CO₂
11 floods?

12 A. That is correct.

13 Q. Could you identify what has been marked as
14 Chevron Exhibit 2?

15 A. Okay, Exhibit 2 is an amendment to the
16 cooperative water injection agreement for CO₂. This
17 Exhibit 2 is -- it governs the cooperative water injection
18 between the Central Vacuum Unit and the Vacuum-Grayburg-San
19 Andres Unit for the lease line wells.

20 And as we have stated before, the Central Vacuum
21 Unit is under CO -- it's an approved CO₂ that was done back
22 by Order R-5530-E, dated April 30th, 1997. And both of
23 those units are operated by Chevron.

24 Q. This amendment really is just to amend the
25 lease line agreement to authorize the injection of CO₂; is

1 that not --

2 A. That is correct, yes.

3 Q. And the agreement -- this very same amendment was
4 approved back by Order R-4442-A for Texaco?

5 A. Yes, sir, under Finding Number 8 under that
6 order.

7 MR. CARR: Mr. Examiner, the order approving this
8 lease line injection agreement is the order that terminated
9 of its own -- expired of its own terms. And so the reason
10 we're asking you to re-approve that is just to be sure that
11 we have everything back in place at the conclusion of this
12 hearing.

13 Q. (By Mr. Carr) Mr. Pequeño, when was the Vacuum-
14 Grayburg-San Andres unit formed?

15 A. Okay, it was formed on -- Let's see, the unit was
16 approved by Division Order R-4433, dated November 27th,
17 1972, and is operated by Chevron.

18 Q. And when did waterflood operations commence?

19 A. Waterflood operations have been conducted in the
20 unit area since 1973, pursuant to that Division Order
21 R-4442.

22 Q. Does the unit agreement provide for CO₂ flooding?

23 A. Yes, it does.

24 Q. And is Chevron Exhibit Number 3 a copy of that
25 unit?

1 A. That is correct.

2 Q. How many acres are in the unit area?

3 A. 1486 acres.

4 Q. And what is the character of the land in the unit
5 area?

6 A. They're 100-percent state lands.

7 Q. And does Chevron own 100 percent of the working
8 interest in the unit?

9 A. That is correct.

10 Q. Is Chevron Exhibit Number 4 an affidavit
11 confirming that notice of this hearing has been provided in
12 accordance with the Rules of the Oil Conservation Division?

13 A. That is correct.

14 Q. And to whom was notice provided?

15 A. To all leaseholders within a half a mile of a
16 proposed injection well, the surface owner of each tract on
17 which an injection well is to be located, and all offset
18 operators.

19 Q. Could you identify Chevron Exhibit 5?

20 A. Exhibit 5 is a waiver letter from the State Land
21 Office.

22 MR. CARR: And Mr. Examiner, with the original
23 mailout we did not notify the Commissioner of Public Lands.
24 When the case was continued we did, but it was one day late
25 just because of the way the timing worked out, and so we

1 have obtained a waiver from the Commissioner of Public
2 Lands, just to clarify that they are noticed and do not
3 oppose the Application.

4 EXAMINER BROOKS: Thank you.

5 Q. (By Mr. Carr) Mr. Pequeño, will Chevron call
6 geological and engineering witnesses to review the
7 technical portions of the case?

8 A. That is correct.

9 Q. Were Chevron Exhibits 1 through 5 either prepared
10 by you, or have you reviewed them and can you confirm their
11 accuracy?

12 A. Yes.

13 MR. CARR: At this time we would move the
14 admission into evidence of Chevron Exhibits 1 through 5.

15 EXAMINER BROOKS: 1 through 5 are admitted.

16 MR. CARR: That concludes my direct examination
17 of Mr. Pequeño.

18 EXAMINATION

19 BY EXAMINER BROOKS:

20 Q. Okay, on this list of people that you notified do
21 you have the information available as to what the
22 relationship of each one is to the -- what the reason is
23 why each one was given notice?

24 A. They're listed on -- let me --

25 MR. CARR: We have -- Mr. Examiner, we have the

1 list, obviously. I'd be happy to, if you want, provide
2 after the hearing a revised list that just ties their names
3 to individual tracts and units.

4 EXAMINER BROOKS: That would be helpful --

5 MR. CARR: Okay. You know, we --

6 EXAMINER BROOKS: -- that will speed matters up.

7 MR. CARR: It will, and -- We offset the Central
8 Vacuum Unit and things that are operated by Chevron, but we
9 have checked to confirm that when there are differences in
10 ownerships they've been notified, and I will provide you
11 after the hearing -- I'll go back and from our notes send
12 you just a revised Exhibit A that identifies those interest
13 owners by tract.

14 EXAMINER BROOKS: That would be acceptable.

15 MR. CARR: Okay.

16 EXAMINER BROOKS: Okay, I have no other questions
17 for this witness?

18 Mr. Jones?

19 EXAMINATION

20 BY EXAMINER JONES:

21 Q. I have only one question --

22 A. Okay.

23 Q. -- Mr. Pequeño. The Vacuum-Grayburg is still
24 100-percent --

25 A. The Vacuum-Grayburg, yes, sir.

1 Q. -- 100-percent operated -- owned and operated
2 by --

3 A. That's right. Chevron is the sole operator.

4 Q. And then you still want the lease line agreement
5 with the Central Vac for those injection wells, right?

6 A. Yes.

7 Q. And what about any lease line agreements for
8 injection wells with the State 35 for the West Vacuum Unit?
9 You're not going to put any injection wells to contain that
10 CO₂ along the lease line?

11 A. They are in place, those --

12 Q. Oh, they are?

13 A. -- are the -- Yes. They're not covered in this,
14 they're covered under a different lease line agreement.

15 Q. Okay.

16 A. Uh-huh.

17 Q. And that doesn't need to be restated or anything?

18 A. Okay. No.

19 Q. No --

20 A. No.

21 EXAMINER JONES: Thank you.

22 EXAMINER BROOKS: Thank you.

23 MR. CARR: At this time, Mr. Examiner, I would
24 call Scott Ingram. He's our geological witness.

25 EXAMINER BROOKS: Okay.

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SCOTT M. INGRAM,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. Yes, Scott McCoy Ingram.

Q. Mr. Ingram, where do you reside?

A. In Midland, Texas.

Q. By whom are you employed?

A. Chevron.

Q. And what is your position with Chevron?

A. I'm a senior staff geologist and Vacuum project manager.

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

A. No, I haven't.

Q. Could you summarize for the Examiners your educational background and then review your work experience?

A. Yes, I've got a bachelor's in science in geology from Texas Tech University in 1979, and I've worked since then for Gulf, Chevron, ChevronTexaco, and now Chevron again, 28 years in the industry, 20 of which has been in part or in full in assignments related to southeast New

1 Mexico.

2 Q. Are you familiar with the Application filed in
3 this case on behalf of Chevron?

4 A. Yes, I am.

5 Q. Are you familiar with Chevron's plans to
6 implement a tertiary recovery project in a portion of the
7 Vacuum-Grayburg-San Andres Unit?

8 A. Yes, I am.

9 Q. Have you reviewed the C-108 Application that was
10 filed in 2001 by Texaco?

11 A. Yes, I've reviewed that, in particular the
12 geological components and the well-data sheets, and I was a
13 part of preparing the subsequent information for this
14 Application.

15 Q. Based on your review, was the data that was filed
16 by Texaco in 2001 accurate?

17 A. Yes, it is.

18 Q. And you're going to be presenting, actually, some
19 of the same exhibits that were used by Texaco at that time?

20 A. That's correct.

21 Q. And based on your review, do they accurately
22 depict the formation and reservoir?

23 A. Yes, they do.

24 Q. And you have made a geological study on your own
25 of this area?

1 A. Yes, I have.

2 Q. And you're prepared to share the results of that
3 work with the Commission?

4 A. Yes.

5 MR. CARR: We tender Mr. Ingram as an expert in
6 petroleum geology.

7 EXAMINER BROOKS: He is so qualified.

8 MR. CARR: Mr. Ingram, could you refer to what
9 has been marked Chevron Exhibit Number 6, identify it and
10 review it for the Examiners?

11 A. Yes, this is the type log section for the Vacuum-
12 Grayburg-San Andres Unit. It's got the depth references
13 that are included in the unit agreement. It includes
14 portions of the Grayburg and San Andres formations making
15 up the unitized interval. It's roughly 900 foot in
16 thickness, and it has stratigraphic markers in it of the
17 Grayburg and San Andres.

18 Q. And based on your review and as you'll show with
19 later exhibits, these are the same zones that really go
20 across this area; isn't that correct?

21 A. Yes.

22 Q. Let's go to what has been marked -- Before we go
23 to that, why don't you describe for the Examiner generally
24 the characteristics of the Grayburg-San Andres formation in
25 the area?

1 A. Okay, the Grayburg and San Andres sections here
2 are cyclical carbonate deposits with some evaporites, some
3 sandstones. They were deposited on a Permian/Guadalupian-
4 age shelf margin that we call the Northwest Shelf. The
5 terminate as you go to the south into the Delaware Basin
6 and transition into their basinal equivalents. They're
7 stratigraphically continuous along the strike and
8 terminate, as I said, as you go into the -- dip into the
9 Basin.

10 Q. Let's go to Exhibit 7. Would you identify and
11 review that?

12 A. Okay, this is a structure map on top of the San
13 Andres. It was chosen -- it's in the middle of the
14 unitized interval. It's an easily correlatable marker, so
15 it's very easy to correlate, especially along strike.

16 You can see that we're at the structural crest,
17 the localized structural crest in the east portion of the
18 Vacuum-Grayburg-San Andres Unit, at subsea depths of about
19 200 foot subsea, and as you go to the southwest we fall
20 quickly into the Delaware Basin, and the same horizon is
21 encountered at subsea depths as deep as 800-foot subsea.

22 Contour interval is 25 feet.

23 Q. And this is an exhibit that was presented by
24 Texaco at the last hearing?

25 A. That is correct.

1 Q. Do you believe this accurately depicts the
2 structure in the area of interest?

3 A. Yes, I've created similar structure maps, and
4 they show the same character.

5 Q. Let's go to what has been marked Chevron Exhibit
6 Number 8. Would you just identify this, please?

7 A. Yes, this is just a cross-section index map. It
8 shows an east-west cross-section, which I'll call a strike
9 section, along the strike of the horizons, and then a
10 north-south section, which is a dip section.

11 Q. Okay, let's go to those cross-sections. Let's go
12 to Chevron Exhibit 9, the east-west structural cross-
13 section.

14 A. This is a structural cross-section reflecting
15 that as we go to the east, we're gaining on structure.
16 I've chosen to highlight the Grayburg dolomite, just to
17 make the relative structure more obvious from a greater
18 distance.

19 You can see on the left of each well trace
20 there's the gamma-ray log, and on the right is a porosity
21 log. We've highlighted the porosity above 6 percent to
22 show that there's quite a bit of net porosity through the
23 section, fairly continuous porosity, a lot of net pay, and
24 it makes for a very good flood and CO₂ target.

25 Q. Let's go, then, and look at the north-south

1 structural cross-section, Exhibit Number 10.

2 A. This exhibit, again, is a north-south structural
3 cross-section. It starts at the left, the northern end of
4 the cross-section, actually in the Central Vacuum Unit
5 which we're contiguous with, and you see the dip as we go
6 to the south or to the right of the cross-section, as we
7 dipped into the Basin.

8 The porosity is again quite continuous through
9 two-thirds of this cross-section. As you see as we get to
10 the right, as we start to fall into the Delaware Basin, the
11 porosity becomes less continuous, the reservoir quality
12 degrades.

13 Q. These two cross-sections show continuity of the
14 reservoir across the area of interest?

15 A. Yes, they do.

16 Q. And it demonstrates a good candidate for a CO₂
17 flood?

18 A. A very good candidate for a CO₂ flood.

19 Q. And why does Chevron seek to implement the CO₂
20 flood at this time?

21 A. Well, because we've seen very good response to
22 CO₂ in the Central Vacuum unit adjacent to us. This is
23 essentially a stepout or a continuation of that CO₂
24 project, and it's continuous with our -- it's a core
25 property, and this is consistent with our corporate

1 strategy to develop tertiary reserves.

2 Q. Mr. Ingram, will Chevron call an engineering
3 witness to review the other portions of this case?

4 A. Yes, we will.

5 Q. Were Exhibits 6 through 10 either prepared by you
6 or have you reviewed them and can testify to their
7 accuracy?

8 A. Yes, that is correct.

9 MR. CARR: May it please the Examiners, at this
10 time we would move the admission into evidence of Chevron
11 Exhibits 6 through 10.

12 EXAMINER BROOKS: 6 through 10?

13 MR. CARR: Yes, sir.

14 EXAMINER BROOKS: 6 through 10 are admitted.

15 MR. CARR: And that concludes my direct
16 examination of Mr. Ingram.

17 EXAMINER BROOKS: I don't believe I have any
18 questions at this time. I'll let Mr. Jones proceed.

19 EXAMINATION

20 BY EXAMINER JONES:

21 Q. I'll just keep it brief here. Is the San Andres
22 the main pay out here?

23 A. Yes, it is. There's reservoir-quality rock in
24 the Grayburg section, but the predominant volume of
25 hydrocarbon and reservoir-quality rock is in the San Andres

1 section.

2 Q. That bottom part of the San Andres, is it -- does
3 it have a long oil-water contact?

4 A. We're actually studying that currently. We
5 believe that there is a transition zone that actually
6 continues beneath the current unitized interval, and we're
7 evaluating proposing extending the unitized interval in
8 this unit.

9 Q. So right now the unitized interval only goes --

10 A. The unitized interval goes to a depth of 4809 --

11 Q. Oh.

12 A. -- in the type well, which is about 800 foot
13 subsea, and we think that there's hydrocarbon slightly
14 beneath that, so we're in preparation for an amendment to
15 the unitized agreement to include an additional horizon.

16 Q. Mr. Ingram, are you the project manager of this
17 project? Is that right?

18 A. Yes.

19 Q. Okay. The difference between 2001 and now, as
20 far as -- obviously the prices are a lot better now, but
21 what other differences are there? Do you guys have CO₂
22 available now you didn't then or --

23 A. To be -- to cut right to the chase, this would
24 have been implemented in 2001 or early 2002, had not the
25 Chevron and Texaco merger taken place.

1 Q. Okay.

2 A. Chevron was not as aggressive in developing
3 tertiary reserves at that time, and the management
4 structure changed, and so we -- it took us a while to get
5 aligned and -- yes, certainly with today's prices, with the
6 proven track record of the CVU now, several years of
7 successful CO₂ flood, it's something we definitely want to
8 pursue.

9 Q. Okay. So it's -- so the Central Vacuum Unit --
10 was that done over the whole Central Vacuum Unit, or was it
11 just a portion of it?

12 A. It was not done over the whole unit. It's been
13 done in phases. Most recently we've expanded it into Phase
14 8. I'd say probably two-thirds of that unit are now under
15 CO₂ flood.

16 Q. Okay. I remember the Central Vacuum -- the north
17 part and the south part weren't near as good as the middle
18 part, so --

19 A. That's where we started. Phase 1 was in the
20 middle part, which is just across the lease line from this
21 unit.

22 Q. Okay. That polymer project that was done on the
23 Vacuum-Grayburg Unit, is that going to affect your CO₂
24 project any?

25 A. Personally, I'm not familiar with the details of

1 that project. I know, you know, for the most part
2 Basinwide, none of them proved to be highly successful. We
3 don't anticipate any problems.

4 EXAMINER JONES: Okay. You've sure got some tax
5 breaks there, for a while, I guess.

6 Okay, I don't have any more questions.

7 EXAMINER BROOKS: Very good, you may call your
8 next witness then.

9 MR. CARR: Mr. Examiner, with your permission
10 we'd like to have Mr. Pequeño and Mr. Ingram excused at
11 this time. We have a need to get Mr. Ingram quickly, if
12 that's acceptable, if it's all right with you.

13 EXAMINER BROOKS: That is acceptable.

14 EXAMINER JONES: I apologize for that.

15 MR. INGRAM: No, that's okay, that's okay.

16 MR. CARR: Yeah, we're in good time right now,
17 but it -- All right, thank you.

18 And at this time we would call Brent Brugger,
19 B-r-u-g-g-e-r.

20 EXAMINER BROOKS: I'm sorry, can you spell that
21 again?

22 MR. CARR: B-r-u-g-g-e-r.

23 And everyone is having trouble with what is a
24 Bill Carr map-folding. Sorry.

25 EXAMINER JONES: I've been yelled at by

1 geologists lots of times, no ability to fold a map.

2 BRENT BRUGGER,

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

5 DIRECT EXAMINATION

6 BY MR. CARR:

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

8 A. My name is Brent Brugger. It's spelled
9 B-r-u-g-g-e-r.

10 Q. And Mr. Brugger, where do you reside?

11 A. I reside in Houston, Texas.

12 Q. By whom are you employed?

13 A. I'm employed by Chevron USA.

14 Q. And what is your position with Chevron USA?

15 A. I am a CO₂ project manager.

16 Q. Have you previously testified before the New
17 Mexico Oil Conservation Division?

18 A. No, I have not.

19 Q. Would you summarize your educational background
20 and review your work experience for the Examiners?

21 A. I have a bachelor of science in petroleum
22 engineering from the University of Tulsa, graduated in
23 1996. I've held a number of positions, production and
24 reservoir engineering, both CO₂ floods and primary gas
25 production, within the company.

1 Q. Are you familiar with Chevron's plans to
2 implement a tertiary recovery project by the injection of
3 CO₂ into the Vacuum-Grayburg-San Andres Unit?

4 A. Yes, I am.

5 Q. And have you made an engineering study of the
6 unit area in this proposed tertiary program?

7 A. Myself and the team.

8 Q. Are you prepared to share the results of
9 Chevron's work with the Examiners?

10 A. Yes, I am.

11 MR. CARR: We would tender Mr. Brugger as an
12 expert in reservoir engineering.

13 EXAMINER BROOKS: So qualified.

14 Q. (By Mr. Carr) Would you refer to Chevron Exhibit
15 11 and identify that and review the information on this
16 exhibit for the Examiner?

17 A. What we have here on Exhibit Number 11 --

18 Q. Wait just a second.

19 A. Sorry.

20 Q. Okay.

21 A. What we have here on Exhibit Number 11 is an area
22 map showing the wells of the vacuum area, and I'll go
23 through and explain the specifics of the map itself.

24 What we have is, the unit in question here that
25 we're asking for the addition of the carbon dioxide

1 injection is outlined in red, which is the Vacuum-San
2 Andres Unit. The green-outlined unit is the Central Vacuum
3 Unit, which is currently being CO₂-flooded. And the target
4 area is the area -- the purple dashed line is our CO₂-
5 targeted area, which includes about 21 patterns. And then
6 the tan dashed lines around that are the areas of review
7 for the proposed CO₂ injection.

8 Q. And this also shows offsetting tracts and units,
9 does it not?

10 A. That's correct.

11 Q. What is the current status of Chevron's efforts
12 to implement the proposed carbon dioxide flood in this
13 unit?

14 A. We are in the process of final engineering for
15 the target area, both on the geologic, reservoir as well as
16 the facility engineering. And what we're doing here is to
17 get the permits before getting final corporate approval on
18 this project, which is designated for December of this
19 year.

20 Q. That's the date for corporate approval?

21 A. That's the --

22 Q. And when would you anticipate being able to
23 inject CO₂?

24 A. Our anticipation right now is about second
25 quarter of 2008, with industry lead times and so forth,

1 making those adjustments.

2 Q. How will the CO₂ flood be implemented?

3 A. Well, currently under this review we have the 25
4 injection wells that are subject to this review. We
5 currently have injected about 225 million barrels of water
6 in the area. Currently we're doing about 23,000 barrels a
7 day of injection.

8 The plan is to implement an up-front CO₂ slug,
9 approximately 30 percent -- it will depend upon the
10 economics at the time -- up front, and then we will move
11 towards a WAG process, which is water alternating gas,
12 which helps with the future development of the area.

13 Currently we've cum'd so far about 59.3 million
14 barrels of oil from the Vacuum-Grayburg-San Andres Unit,
15 both from primary and secondary operations, and the
16 secondary operations to date is about 34.5 million barrels.

17 Q. Now when we talk about the target area that is
18 shown on this map, what is that?

19 A. The target area is basically the sweet spot of
20 the structure. As Scott was talking to you or explaining
21 to you, the Central Vacuum and the Vacuum-Grayburg-San
22 Andres are sitting over a large structure, and the targeted
23 area is the -- as I said, the sweet spot, the good
24 conformance and the good area -- the primary for CO₂
25 flooding.

1 Q. And how many acres are in this target area?

2 A. There's approximately 1280 acres.

3 Q. And about how much of the unit area does that
4 represent?

5 A. About 86 percent.

6 Q. Are there current plans to add producing and
7 injection wells to the area covered by the Application?

8 A. We are currently under review of those wells, but
9 they're not subject to this Application.

10 Q. And what we're doing here is, we are confining
11 this Application to what was previously approved.

12 Let's go to Exhibit 12. That is in the binder
13 and -- 12 and 13 are in the ring binder. Can you just
14 identify Exhibit 12, please?

15 A. Exhibit 12 is the C-108 and the Application for
16 authorization to inject CO₂.

17 Q. And this is the C-108 that was filed by Texaco,
18 reviewed by Chevron and filed again in this Application; is
19 that right?

20 A. That is correct.

21 Q. Have you reviewed the data in the Application
22 filed by Texaco?

23 A. Yes, we have, and with the Exhibit Number 13 this
24 will actually complete the entire C-108. The Exhibit 13
25 includes the additional wells that were drilled and/or

1 P-and-A'd from basically January of 2001. So this is a
2 complete and accurate set of documents.

3 Q. Can you just explain generally how the C-108
4 Application is organized and what information is there?

5 A. It has the C-108 form, then it's all the
6 associated data in response to the C-108, which includes --
7 it shows all the wells in the Vacuum-Grayburg-San Andres
8 Unit, it shows all the wells within a half mile of the
9 injection wells, and it shows all the P-and-A'd wells in
10 the CO₂ project area.

11 Q. Now Exhibit 13, the supplemental information,
12 basically what is included in that material?

13 A. Those are the well data sheets for eight
14 injection wells. As stated before, this is the additional
15 wells that have been drilled or P-and-A'd since January of
16 2001, that had been used for the waterflood itself. And --

17 Q. Have you revised the tabular information that's
18 included on all the new wells?

19 A. That is correct.

20 Q. Does this supplemental data also contain a plat
21 showing water wells in the area with recent water analysis?

22 A. That is correct.

23 Q. Now have some of the wells covered by this
24 Application also been included in C-108 applications for
25 other projects?

1 A. Yes, they have, for the Central Vacuum project.

2 Q. And so what we have here with the supplemental
3 information is all information required by the C-108 for
4 each of the wells in the area?

5 A. (Nods)

6 Q. Based on your review, are the wells in the
7 project area properly completed and cased, so as to prevent
8 any problems with any water wells?

9 A. Yes, they are.

10 Q. And have you reviewed the available data on wells
11 within the area of review for the CO₂ flood and satisfied
12 yourself that there's no remedial work required on any of
13 these wells to enable Chevron and others to safely operate
14 these wells in close proximity to the CO₂ flood?

15 A. Yes.

16 Q. What is the current status of the wells Chevron
17 is proposing to utilize for injection?

18 A. Within this order we've got 25 active water-
19 injection wells. Also one of the wells that we are
20 requesting is actually an active oil well that is projected
21 to be converted to injection --

22 Q. And that's --

23 A. -- for the CO₂ flood.

24 Q. And that's also identified in the Application?

25 A. That's correct.

1 Q. How does Chevron monitor these wells to assure
2 the integrity of the wellbores?

3 A. The injection system, we actually have a SCADA
4 system. They are pressure-controlled chokes that is
5 monitored by SCADA, so they have set points that if they
6 see low pressure they shut them -- automatically shut them
7 in.

8 They also -- during their normal evaluation
9 pumpers are out there daily checking the wells, looking for
10 any abnormalities in the wells themselves that will shut
11 them in.

12 We also have our wellbore integrity test that we
13 comply with, with New Mexico, every five years on these
14 wells as well.

15 Q. Are there freshwater zones in the area?

16 A. Yes, there are.

17 Q. And what is that?

18 A. The Ogallala aquifer, which is -- the base of is
19 about 220 feet below, and it's the primary source of
20 drinking water in the area.

21 Q. Are there freshwater wells within one mile of any
22 proposed injection well?

23 A. Yes.

24 Q. Does the -- the last information and the
25 supplemental information in Exhibit 13, is that a plat that

1 identifies these wells?

2 A. That is correct.

3 Q. And are current water analyses attached to the
4 plat?

5 A. Yes, they are.

6 Q. And what do they show?

7 A. They are consistent to what was submitted in
8 2001. Recent analyses have been done which shows no issues
9 at all with the fresh water and well within range.

10 Q. Is it your opinion that the injection of CO₂ as
11 proposed will not pose a threat to any freshwater supplies
12 in the area?

13 A. It should not have any effect on the freshwater
14 supply.

15 Q. And have you examined the available engineering
16 and geologic data on this reservoir?

17 A. Yes, I have.

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

22 A. No.

23 Q. What is the source of the CO₂ you propose to
24 inject?

25 A. The source of the CO₂ is coming out of McElmo

1 dome, which is southwest Colorado, transported down the
2 Cortez pipeline to our field.

3 Q. And what are the average volumes you propose to
4 inject?

5 A. The average volumes that we're looking at is
6 about 2.5 million a day on the -- for CO₂, or about 1000
7 barrels a day on water.

8 Q. And what is the source of the water to be
9 injected?

10 A. The source of the water is the produced water.

11 Q. Would you advise the Examiners of the maximum
12 daily injection rates that you will be utilizing?

13 A. The maximum we're looking at is probably 5
14 million a day or 2500 barrels a day of water.

15 Q. Let's talk for a minute about the pressure data.
16 What pressure limitations is Chevron requesting for this
17 CO₂-injection project?

18 A. We're looking for a pressure of 1850 pounds on
19 CO₂.

20 Q. Now this is higher than surface injection
21 pressures for water in the area?

22 A. That is correct, and that's to take into account
23 the density difference between CO₂ and water.

24 Q. And if you do that and inject at this pressure at
25 the surface, will you be obtaining actually an injection

1 bottomhole pressure that's equivalent to the approved
2 pressure for water?

3 A. That is correct, and it's also -- will have
4 equivalent bottomhole pressures between water and CO₂.
5 It's also the same pressures that we're operating the
6 Central Vacuum Unit that was approved for that CO₂ flood as
7 well, and all we're asking for is the same pressure
8 limitations as that flood.

9 Q. And is Chevron prepared to run step rate tests to
10 confirm any increase in pressure will --

11 A. Yes.

12 Q. -- not endanger the reservoir?

13 A. That's correct.

14 Q. In your opinion is there a potential risk that
15 any of these injection fluids will get out of zone,
16 damaging other formations if this increase is accepted by
17 the Division?

18 A. I don't believe.

19 Q. And are the pressures that you're seeking in this
20 unit area comparable to the injection pressures that have
21 been authorized in Central Vacuum Unit and other CO₂ floods
22 in the area?

23 A. Yes.

24 Q. Let's go to Exhibit Number 14, copies of
25 administrative orders. Can you explain to the Examiners

1 what these are?

2 A. As stated before, these are some of the
3 additional wells that were applied for, drilled for after
4 the 2001 application. They are the administrative orders
5 WFX-823 and PMX-216 and PMX-217.

6 Q. If we look at the top one, WFX-823, that
7 administrative order references the enhanced oil tertiary
8 recovery project, does it not?

9 A. That's correct.

10 Q. And by the time this order was entered, that
11 project -- the order approving it had expired?

12 A. That is correct.

13 Q. It also on the second page references the 1850-
14 p.s.i. pressure limitation, does it not?

15 A. That's correct.

16 Q. And that is a pressure limitation that Texaco
17 sought only for CO₂ injection?

18 A. That is correct.

19 Q. What are the status of these wells?

20 A. The status of these wells are active water
21 injection. There has not been any CO₂ injected into these
22 wells at all.

23 Q. And how does Chevron recommend that each of these
24 orders be handled?

25 A. What we recommend is that we go forward and treat

1 these strictly as water injection wells, and as an order is
2 approved we will amend the order with these wells and
3 reapply the CO₂ injection.

4 Q. And the conversion or the use of these wells or
5 -- adding these wells as water-injection wells in the unit,
6 that was actually approved back in '72 by the original
7 order?

8 A. That is correct. It was during the engineering
9 evaluation that it was critical for the waterflood
10 operations for these wells to be drilled.

11 Q. And this is just a result of --

12 A. That's correct.

13 Q. Now, Mr. Brugger, I'd like to talk a little bit
14 with you about Exhibit Number 15, the Application for an
15 enhanced oil recovery project. Does this exhibit, this
16 Application, meet all the requirements of Division Rules
17 for an application for the incentive tax break?

18 A. Yes, it's complete and provides all the data
19 required.

20 Q. And what are the additional estimated costs to be
21 incurred in the project -- or in this tertiary project?

22 A. The proposal is about \$64.4 million for the
23 facilities and well work to implement the CO₂, along with
24 total costs being somewhere around \$233 million.

25 Q. And how much additional production does Chevron

1 expect to obtain from the project?

2 A. About 24.5 million barrels.

3 Q. And what is the estimated total value of this
4 additional production?

5 A. \$504 million, based on a \$45-barrel-of-oil price,
6 as well as a \$30-per-barrel of NGLs, in that targeted area.

7 Q. And you realize that this incentive tax rate
8 would only kick in if the price of oil significantly drops?

9 A. That is correct.

10 Q. And by bringing this, you're assuring for the
11 industry that the price will drop?

12 A. That is correct.

13 (Laughter)

14 Q. Let's look at Exhibit A to this Application, and
15 what is this?

16 A. Exhibit A of -- Well, Exhibit A of Exhibit 15 is
17 actually all the wells that are contained within the CO₂
18 VGSAU proposed target area.

19 Q. This list includes the 25 CO₂-injection wells
20 covered by this Application?

21 A. That's correct.

22 Q. It also includes water-injection wells in the
23 area?

24 A. That is correct.

25 MR. CARR: Mr. Examiner, that means that the list

1 will be very hard for you to utilize when you try and write
2 an order. But what I want to tell you is that we will file
3 a proposed order, and the Application that was filed in
4 this case contained tables that also separated the 25 wells
5 covered by this Application from the total injection wells
6 that were included on the list.

7 So the list that you have has more than 25
8 injection wells, because some of those are the wells that
9 are being used for water injection but for which we are not
10 seeking authorization in this case to convert to CO₂. So
11 that's why those numbers may not line up.

12 EXAMINER BROOKS: This exhibit, then, doesn't
13 distinguish between the wells that are being --

14 MR. CARR: Not -- covered by this Application and
15 all the injection wells in the unit. We discovered that
16 yesterday.

17 EXAMINER BROOKS: Okay.

18 MR. CARR: Our Application does have an
19 attachment to it. It's Exhibit A or B to the Application,
20 and it identifies the wells that are covered by the
21 Application. And I'm also drafting a proposed order with a
22 table that correctly states exactly the wells that are
23 covered by this Application, that are exactly the wells
24 that were covered by the Texaco application.

25 EXAMINER BROOKS: Very good.

1 Q. (By Mr. Carr) Mr. Brugger, let's go to the last
2 attachment to Exhibit 15, or Exhibit B or Attachment B.
3 What is this?

4 A. This is the production history proposal for the
5 CO₂ expansion for the VGSAU targeted area.

6 Q. And it also forecasts where we go for years to
7 come, correct?

8 A. That is correct.

9 Q. In your opinion, will approval of this
10 Application and the implementation of a CO₂ flood in the
11 Vacuum-Grayburg-San Andres Unit as requested, and
12 increasing the pressures as request, be in the best
13 interest of conservation, the prevention of waste and the
14 protection of correlative rights?

15 A. Yes, it is.

16 Q. And how soon does Chevron hope to commence
17 operations? May of next year?

18 A. May of next year.

19 Q. And you need the order in time to then go and get
20 corporate approval at the end of this year?

21 A. That is correct.

22 Q. Were Chevron Exhibits 10 through 15 prepared by
23 you or have you reviewed them and can you confirm their
24 accuracy?

25 A. Yes, I can.

1 MR. CARR: May it please the Examiners, at this
2 time we'd move the admission into evidence of Chevron
3 Exhibits 10 through 15.

4 EXAMINER BROOKS: 10 through 15 are admitted.

5 MR. CARR: That concludes my direct examination
6 of Mr. Brugger.

7 EXAMINATION

8 BY EXAMINER BROOKS:

9 Q. Very good. Just some overall things since I
10 haven't studied the Application, I'll have to admit, here.

11 How many injection wells -- water injection wells
12 are you currently using in this unit, total?

13 A. Total, it should be 30 to 31.

14 Q. Now are you going to be -- or the CO₂ -- how many
15 CO₂ injection wells are you asking to permit?

16 A. Twenty-five.

17 Q. And are all those currently injecting water
18 except the one that's to be converted?

19 A. That is correct.

20 Q. Okay. So there's only one well to be converted.
21 It's currently producing oil?

22 A. That's correct.

23 Q. Now have you had the wells that are the subject
24 of the Application marked on Exhibit Number 11 in any
25 particular way?

1 A. I don't believe.

2 MR. CARR: We do not. We can supplement this
3 with --

4 EXAMINER BROOKS: Well --

5 MR. CARR: -- an exhibit that identifies those.

6 EXAMINER BROOKS: -- if you give us a list, I
7 think we can go through and identify them.

8 MR. CARR: Okay.

9 Q. (By Examiner Brooks) Now I note that the target
10 area includes the area -- a portion of the area on the
11 north boundary that is not within the unit; is that
12 correct?

13 A. That is correct, that's part of the lease line
14 that we've discussed with the Central Vacuum Unit area.

15 Q. Okay, the green is the Central Vacuum Unit?

16 A. Yes.

17 Q. Now what about the area in Section 35? That's
18 the State 35 Unit?

19 A. That's correct. Basically the Section 35, which
20 is operated by McGowan, working interest owners, we are --
21 at this time have not gotten into amending that for the CO₂
22 specifically with them until we get approval.

23 Q. So would this be issued subject to that approval
24 occurring or --

25 A. It -- the go-forward plan is not dependent upon

1 the McGowan --

2 Q. Okay.

3 A. -- piece.

4 Q. Are any -- are all the injection wells within the
5 unit area --

6 A. Yes.

7 Q. -- all the proposed injection wells?

8 A. Yes.

9 Q. But there will be producing wells that will be
10 outside the unit area?

11 A. Correct, which is maintained by that lease line
12 agreement with the Central Vacuum unit.

13 Q. But not within the McGowan?

14 A. Not with the McGowan. That is --

15 Q. So none of the producing wells that you expect --
16 you don't expect any of your producing wells to be on that
17 McGowan property, then?

18 A. The line-of-injection wells along that lease line
19 well will not be injecting CO₂ at the front end of the
20 project --

21 Q. Okay.

22 A. -- currently. The producers that are associated
23 with those patterns will see CO₂, but they'll be coming
24 from the south side, from the solely owned VGSAU injectors.

25 EXAMINER BROOKS: Okay. I guess that's all my

1 questions. I'll turn it over to the expert here.

2 EXAMINER JONES: Yeah, listen to that.

3 I really -- I apologize for making you miss your
4 plane.

5 THE WITNESS: No, I'm actually fine. Mine
6 doesn't leave till 6:30, so --

7 EXAMINER JONES: Oh, okay.

8 THE WITNESS: -- no problem.

9 EXAMINER JONES: We're okay.

10 MR. CARR: The people who were in trouble are
11 gone.

12 THE WITNESS: Yeah.

13 EXAMINER JONES: Bill can take you out.

14 (Laughter)

15 EXAMINATION

16 BY EXAMINER JONES:

17 Q. The pattern that you're going to have, is it
18 going to be the same as the waterflood pattern?

19 A. Yes.

20 Q. And what pattern would that be? Is it a 40-acre
21 and fivespot?

22 A. Well, they're actually going to be line drive,
23 they're 20-acre linedrive patterns. During the course --
24 after the waterflood injection and through the development
25 of the waterflood, they've gone into looking at downspacing

1 the injection wells and they've gone to more of a line
2 drive, which -- that's the plan, is to keep that consistent
3 with the CO₂.

4 Q. That well you're going to convert, how much oil
5 does it make?

6 A. Off the top of my head I do not know.

7 Q. But it takes a lot of guts to persuade management
8 to convert one of those producers?

9 A. Yes, but the other piece of that is, they're
10 looking at the larger scope of this project, which the CO₂
11 enhanced oil recovery project will outweigh the production
12 life of that well.

13 Q. Okay. Now the numbers you gave earlier for
14 volumes of recovery of secondary oil to date and projected
15 CO₂ oil -- enhanced oil recovery, those numbers -- did you
16 change those between 2001 and now?

17 A. Those are current, up-to-date --

18 Q. -- projections?

19 A. -- projections.

20 Q. Okay. Now what percentages -- Can you go over
21 the percentages of ultimate primary, ultimate secondary and
22 ultimate tertiary?

23 A. The total projection right now is 36 percent with
24 the waterflood. With the CO₂ flood we have to expect to
25 pick up another 12 to 13 percent.

1 Q. Okay, so 18 percent primary or so?

2 A. Thereabouts, yes.

3 Q. The producers out there, are they pretty much
4 degassed or -- have you swept a lot of the gas out already?

5 A. A lot of the gas is. Most of GOR for this area
6 is 300, 400, so it's fairly low.

7 Q. That's a lot lower --

8 A. Yeah.

9 Q. -- than it used to be.

10 A. Yeah.

11 Q. So you don't have to deal with variable speed
12 drives and ~~vertical~~ pumps? *WJS*
SUBMERSIBLE

13 A. No. No, and that is an issue with the CO₂ that
14 we'll have to handle, but that's already in the planned
15 project scope of being able to handle the artificial lift
16 with that and make the appropriate conversions as we see
17 gas breakthrough.

18 EXAMINER JONES: Okay, that's -- I think -- You
19 guys covered so much in such a short amount of time, but
20 the projections you're using are new projections, and
21 they're not necessarily exactly the same as was in the
22 2001, but -- Correct me if I'm wrong, but the order
23 you're -- you're going to provide a proposed order, but --

24 MR. CARR: Yeah --

25 EXAMINER JONES: -- it's going to be similar to

1 the order that was issued in 2001?

2 MR. CARR: It's going to be very similar to the
3 2001 --

4 EXAMINER JONES: Okay.

5 EXAMINER JONES: -- with any change in italics
6 concerning recent orders, and I will confirm to you now
7 that we think we've gotten everything in the table
8 correctly identified, and we'll be e-mailing it to you. I
9 will send the other information that you requested on land
10 ownership for the other sets.

11 EXAMINER JONES: Thank you. Okay, that's all I
12 have.

13 EXAMINER BROOKS: I have nothing further.

14 MR. CARR: And that concludes our presentation.

15 EXAMINER BROOKS: Very good. Then Case Number
16 13,961 will be taken under advisement.

17 (Off the record)

18 EXAMINER BROOKS: Okay, I believe I already said
19 Case Number 13,961 will be taken under advisement.

20 And Mr. Jones, you're welcome to stay and listen
21 to the rest of the cases, but I don't believe that -- I
22 think the rest of the cases are not sufficiently technical
23 that I will need your assistance on them if you have other
24 things that you --

25 EXAMINER JONES: I sure do.

1 EXAMINER BROOKS: -- feel worthwhile to be doing.

2 EXAMINER JONES: Yes.

3 EXAMINER BROOKS: Feel more worthwhile to be --
4 perhaps wouldn't be that --

5 MR. CARR: I do have an engineering witness in
6 the next case.

7 EXAMINER BROOKS: Well, I think probably this is
8 one I can handle.

9 (Thereupon, these proceedings were concluded at
10 2:18 p.m.)

11 * * *

12
13
14
15 I do hereby certify that the foregoing is
16 a complete record of the proceedings in
17 the Examiner hearing of Case No. _____
18 heard by me on _____, Examiner
19 _____
20 Oil Conservation Division
21
22
23
24
25

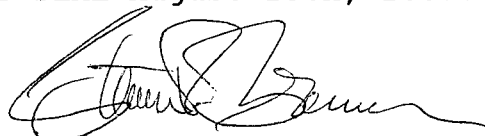
CERTIFICATE OF REPORTER

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 August 28th, 2007.



STEVEN T. BRENNER
CCR No. 7

My commission expires: October 16th, 2010