

NEW MEXICO OIL CONSERVATION DIVISION
STATE LAND OFFICE BUILDING
STATE OF NEW MEXICO

IN THE MATTERS OF:

The Application of The Wiser Oil
Company for Statutory Unitization,
Lea County, New Mexico.

Case 10930

The Application of The Wiser Oil
Company for Approval of a
Waterflood Project, Lea County
New Mexico.

Case 10931

The Application of The Wiser Oil
Company to Authorize the Expansion
of the Malijamar Caprock Unit Water-
flood Project and Qualify Said
Expansion for the Recovered Oil
Tax Rate Pursuant to the New Mexico
Enhanced Oil Recovery Act,
Lea County, New Mexico.

Case 10932

BEFORE:

DAVID R. CATANACH

Hearing Examiner

State Land Office Building

March 3, 1994

REPORTED BY:

APR 12 1994

CARLA DIANE RODRIGUEZ
Certified Shorthand Reporter
for the State of New Mexico

COPY

A P P E A R A N C E S

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I N D E X

	Page Number
Appearances	2
WITNESSES FOR THE APPLICANT:	
1. <u>ROBERT M. WILLIAMS</u>	
Examination by Mr. Cooter	5
Examination by Mr. Catanach	35
Examination by Mr. Stovall	59
Certificate of Reporter	82

E X H I B I T S

	Page Marked
Exhibit No. 1	7
Exhibit No. 2	9
Exhibit No. 3	9
Exhibit No. 4	9
Exhibit No. 5	11
Exhibit No. 6	13
Exhibit No. 7	13
Exhibit No. 8	13
Exhibit No. 9	14
Exhibit No. 10	26
Exhibit No. 10(a)	29
Exhibit No. 10(b)	28
Exhibit No. 10(c)	29
Exhibit No. 10(d)	27
Exhibit No. 11	30

1 EXAMINER CATANACH: Call the hearing
2 back to order at this time, and we'll call Case
3 10930.

4 MR. STOVALL: Application of the Wiser
5 Oil Company for statutory unitization, Lea
6 County, New Mexico.

7 EXAMINER CATANACH: Are there
8 appearances in this case?

9 MR. COOTER: Mr. Catanach, my name is
10 Paul Cooter. I'm with the Rodey law firm here in
11 Santa Fe, appearing on behalf of the Wiser Oil
12 Company.

13 At this time I would ask that, for
14 purposes of this hearing and the taking of
15 testimony, that Cases 10930, 10931 and 10932 be
16 consolidated.

17 EXAMINER CATANACH: Very well. At this
18 time we'll call Cases 10931 and 10932.

19 MR. STOVALL: 10931 is the application
20 of the Wiser Oil Company for approval of a
21 waterflood project, Lea County, New Mexico. Case
22 10932 is the application of the Wiser Oil Company
23 to authorize the expansion of the, Maljamar
24 Caprock Unit Waterflood Project and qualify said
25 expansion for the recovered oil tax rate,

1 pursuant to the New Mexico Enhanced Oil Recovery
2 Act, Lea County, New Mexico.

3 EXAMINER CATANACH: Any additional
4 appearances in any one of these cases? There
5 being none, can I get the witnesses to stand and
6 be sworn in at this time.

7 MR. COOTER: Two witnesses.

8 [And the witnesses were duly
9 sworn.]

10 ROBERT M. WILLIAMS

11 Having been first duly sworn upon his oath, was
12 examined and testified as follows:

13 EXAMINATION

14 BY MR. COOTER:

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

17 A. Robert M. Williams.

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

20 A. Yes, I have.

21 Q. To refresh the record, would you
22 briefly state your education and professional
23 experience?

24 A. I was a petroleum engineering graduate
25 of Penn State in 1953. Worked for Shell Oil

1 Company, Monterey Oil Company. Monterey was
2 purchased by Humble. Worked for Humble for a
3 period of time, and then for Morris R. Antweil,
4 an independent operator in Hobbs, for
5 approximately 20 years, and have since been
6 involved with oil field service companies in
7 Hobbs. And then Quality Production Corporation
8 for the last two years.

9 In all this period I have been involved
10 with engineering, waterflood projects,
11 supervision of the geologic and field production
12 work in conjunction with waterfloods and normal
13 production operations.

14 Q. Mr. Williams, are you familiar with the
15 Caprock, Maljamar Unit area, which is the subject
16 matter of the instant applications?

17 A. I am.

18 MR. COOTER: We would ask you to
19 recognize Mr. Williams as an expert petroleum
20 engineer.

21 EXAMINER CATANACH: Mr. Williams is so
22 qualified.

23 Q. Relate what Wiser seeks by these three
24 applications, Mr. Williams.

25 A. Yes. We're asking for statutory

1 unitization of some 4,160 acres, Lea County, New
2 Mexico. We seek that unitization to initiate a
3 waterflood project, and seek your approval of the
4 project and the injection.

5 And, in conjunction with that, we would
6 ask for a provision in that approval, for
7 administrative approval, for additions to that
8 project as additional injection wells are to be
9 added, Phase II and III of the project.

10 We're also requesting qualification of
11 the project as an enhanced oil recovery project
12 for the tax rate treatment.

13 Q. Let me direct your attention, if I may,
14 to Exhibit 1, which is a map.

15 A. Yes. It is the map of the proposed
16 unit area, and shows the offsetting leases and
17 wells. The acreage of the proposed unit area is
18 located about six miles southeast of the townsite
19 of Maljamar.

20 Some of the offsets were bounded by
21 other units, like the Southeast Maljamar Unit,
22 the MCA Unit of Conoco's, and the Malmar Unit of
23 Penroc. It's not a unit, but effectively so,
24 Phillips has a large Leamex lease that's some
25 15,000 acres to the east of us. And, of course,

1 a lease that size operates much like a unit.

2 And those are some of the boundaries of
3 our proposed unit.

4 The unit is located in the Maljamar
5 Grayburg-San Andres pool of Lea County, New
6 Mexico, and the production is from the Grayburg
7 sands and the San Andres dolomites, at depths of
8 approximately 4,000 to 4,500 feet.

9 Q. Mr. Williams, while we're looking at
10 Exhibit 1, the map, I believe the Wiser Oil
11 Company recently acquired this acreage from
12 several different courses. Would you explain to
13 Mr. Catanach something about that?

14 A. Yes. The properties were acquired over
15 a period of, oh, approximately six months to a
16 year, from a group of operators, the largest of
17 which was Pennzoil. And the other operators that
18 were acquired was the Brothers, which actually
19 had a unit, the Mal-Gra Unit.

20 Southwest Royalty had two leases
21 comprising a section; Murphy Baxter, operator,
22 had three leases that would be approximately a
23 section and a half. And there was a 40-acre
24 tract acquired from Phillips that had an
25 abandoned well on it, that fit well in the unit

1 project.

2 In total, there were 13 leases acquired
3 that totaled 4,160 acres. Of those lands, 3,400
4 were state lands, state leases, and 760 acres
5 were federal lands, and there is no fee acreage
6 in the unit.

7 Q. Let's go to Exhibit No. 2 which is also
8 a map, I believe?

9 A. That's correct. Exhibit 2 is a map of
10 the unit area that is our proposal to renumber
11 the wells, with the approval of the unitization.
12 Rather than carry the old designations, we're
13 proposing that this numbering system will be used
14 for the wells, once the unit is formed.

15 Q. Attached to that map is a tabulation,
16 which I've marked as a separate exhibit, Exhibit
17 No. 3?

18 A. Right. Exhibit No. 3 is a
19 cross-reference, the old well number to the
20 proposed new well number, and it's
21 cross-referenced. You can go either direction
22 there to tie that together in this interim
23 period.

24 Q. Let's turn next to the unit agreement
25 itself, which has been marked as Exhibit No. 4.

1 That describes the same 4,160 acres, does it not,
2 that you've already testified about?

3 A. Yes. This is the standard unitization
4 agreement. It was supplied to us--the standard
5 form was supplied by the State Land Office to be
6 used in the case where there's federal and state
7 lands involved.

8 The additions or changes to that
9 agreement are minimal. One, of course, is the
10 description of the unit area, the 4,160 acres.
11 The other is the designation of the unitized
12 interval, which we are proposing to be from the
13 surface to 5,500 feet below the surface, which is
14 the rights that are held by Wiser Oil Company.

15 The other point of significance is the
16 participation factor that is recommended to use
17 for determining the tract participations. We're
18 recommending a participation formula based 35
19 percent on the number of usable wells, 35 percent
20 on the cumulative oil production, and 30 percent
21 on the current production as based on 1992
22 production.

23 Q. Let me stop you right there.

24 MR. COOTER: Mr. Catanach, that's
25 Section 13 of the unit agreement, and I would

1 also refer you to Exhibit No. 5, which is a
2 separate restatement of that part of the unit
3 agreement. Attached to that is a tabulation of
4 how that works out for the various tracts
5 committed.

6 A. Yes. The attached table shows the
7 number of usable wells, the cumulative
8 production, and the 1992 current production for
9 each of the 13 tracts to be included in the unit,
10 and what the percentage of each of those
11 parameters is to the total of that particular
12 parameter. And the factors, then, that were used
13 in determining the proposed tract participations,
14 which are listed in the right-hand column.

15 Q. Mr. Williams, in your opinion, is that
16 tract participation such that it allocates
17 production to the separate tracts on a fair,
18 reasonable, and equitable basis?

19 A. Yes. We selected this. We felt this
20 was reasonable and gave approximately equal
21 weight to the cumulative, which is a measurement
22 of the quality of that pay on that tract, a
23 factor for the current production, which is a
24 measure of that tract's current income, and a
25 factor for the usable wells, which is a decided

1 factor in the development of the waterflood
2 program, the value of that tract to the unit,
3 depending on how many of the wells are usable on
4 that tract.

5 Q. Before we leave the unit agreement, is
6 there anything else you want to touch on?

7 A. I mentioned specifically the unit
8 agreement includes the normal exhibits: Exhibit
9 A, being the map showing the individual tracts,
10 the numbering system of the tracts, and it also
11 designates what acreage is state acreage and what
12 acreage is federal; Exhibit B is a standard tract
13 ownership, which gives the ownership of each
14 tract. The working interest ownership is 100
15 percent The Wiser Oil Company. The basic
16 royalty, of course, is the state and the federal
17 government, and the overriding royalties are
18 listed on the tracts where they're applicable;
19 and Exhibit C is the tabulation of tract
20 participation, by tract, and, of course, again,
21 Wiser is the hundred percent working interest
22 owner.

23 MR. COOTER: At this point I might
24 state, Mr. Catanach, and we'll come to an
25 affidavit in just a minute, but we've heard no

1 objections from any of the royalty or overriding
2 royalty interest owners, and, in fact, have
3 received ratifications from 81.72 percent of
4 those interests at this time.

5 The largest one we don't have back yet,
6 but they've indicated approval, is Phillips
7 Petroleum. They've indicated approval, so, we
8 anticipate no objections by anyone to it.

9 Q. You mentioned that it was submitted
10 both to the BLM and the State Land Office?

11 A. That is correct. We made the
12 preliminary submittal to both those agencies and
13 received their approvals.

14 MR. COOTER: I would invite your
15 attention to Exhibits 6 and 7; 6 is the
16 preliminary approval from the BLM, and 7 is the
17 preliminary approval from the State Land Office.

18 To continue in the same order of
19 numbering, I have marked as Exhibit 8 the
20 affidavit of mailing to all interest owners.

21 MR. STOVALL: Mr. Cooter, with respect
22 to that, do you have the return receipt cards?

23 MR. COOTER: Yes.

24 MR. STOVALL: We don't need them at the
25 moment, but we do need copies.

1 MR. COOTER: Sure, I've got them here.
2 Why don't I just give you the originals? I don't
3 need them. I won't mark them as an exhibit, but
4 are a part of--

5 MR. STOVALL: We'll attach them to
6 Exhibit 8.

7 MR. COOTER: As I said, we haven't
8 heard a bad word from anyone.

9 Q. (BY MR. COOTER) All right, Mr.
10 Williams, I think now we're ready to go to
11 Exhibit No. 9, which is our waterflood
12 development study, and some of the exhibits
13 attached to it.

14 Let's start out, if we may, you gave a
15 brief history of the geology, or the area. Will
16 you expand a little bit on that?

17 A. Yes. As we pointed out before, this
18 production is from the Maljamar Grayburg-San
19 Andres pool. The Grayburg and San Andres are
20 prorated together as a common source of supply
21 for this reservoir.

22 The production is from the Grayburg
23 sands. These tend to be dolomitic sands,
24 multi-zone of sands through the Grayburg section,
25 and the porous dolomites of San Andres. And in

1 figure 2 of the engineering report, we've shown a
2 type log which shows the commonly used local
3 designations of the sands in the Grayburg and the
4 porous zones of the San Andres that are
5 productive in this area.

6 This production is located in what's
7 known as the Artesian Vacuum trend. It's the
8 northwest shelf of the Delaware Basin, and
9 east/west anticlinal feature that extends some
10 30, 40 miles from Artesia to the Vacuum field.
11 This production is located on that feature.

12 In figure 3 of the engineering report
13 we've shown a structure map, which is on top of
14 the San Andres formation, which would be in
15 approximately the middle of our producing
16 interval. This shows a very low relief
17 structure. The only structural feature of any
18 significance is on the southern edge of the
19 producing trend. You start getting the
20 closely-spaced contours, indicating where the
21 formation starts to fall off into the Delaware
22 Basin, and this is effectively the southern
23 boundary of the production, where that falls off
24 into the Basin there.

25 Q. Let me ask you to stop right there and,

1 as shown on figure 3, what you were just talking
2 about is to the south in the Cross-Timbers
3 Waterflood Unit and not in this one?

4 A. Yes. It's the south edge of the
5 Cross-Timbers Waterflood Unit, and in the
6 southwest of our Phillips federal tract, included
7 in this unit, is right on the edge of where that
8 falls off in the Basin. By the time you get into
9 the southern half of those sections, Sections 32
10 and 33, there's no production from the
11 Grayburg-San Andres.

12 The other wells that are shown in there
13 are Abo and Queen wells, Corbin Queen and Abo
14 production, in the southern part of those two
15 sections.

16 So the productive limits end pretty
17 abruptly there when you fall off into the Basin.
18 But the production, other than that, other than
19 that boundary, the productive limits are
20 determined by the stratigraphy, the porosity,
21 permeability development, rather than structure.

22 The field is characterized by very
23 little primary water production. There's no
24 oil/water contact known. It's a solution gas
25 drive producing mechanism in the reservoir.

1 Permeabilities from cores were
2 indicated to be from a tenth of a millidarcy to
3 20 millidarcies, and the average porosity
4 indicated from cores was 11.4 percent average.

5 As we indicated, it's a multi-zone
6 reservoir with many zones producing, and I think
7 this is characterized by the two cross-sections
8 that are provided. In figures 4 and 5 of the
9 report, we've provided cross-sections that show
10 the multi-zone nature of the producing interval,
11 the reservoir, and shows the correlation in an
12 east/west direction on figure 4, and the
13 north/south cross-section in figure 5.

14 The volume of the reservoir was
15 determined through an isopach map, provided in
16 figure 6, provided in the report, which is the
17 isopach of the net pay. And, based on that
18 volume indicated by the isopach, the 11.4 percent
19 porosities, the 35 percent irreducible water
20 saturation and a formation volume factor of
21 1.24. The original oil in place underlying the
22 unit area was estimated at 52 million barrels.
23 That's all volumetric.

24 The gas production data and the
25 reservoir pressure data aren't sufficient to do

1 any kind of material balance calculation and, of
2 course, then, it's not closed reservoir. The
3 reservoir continues across the boundaries for
4 many miles, actually. So, the volumetric is the
5 only estimate that's available on oil in place.

6 Q. Tell us about the cumulative
7 production, Mr. Williams, from the area.

8 A. In the report, we've tabulated the
9 production history from the individual leases,
10 tables 3, 4, 5, 6 and 7 of the report give a
11 breakdown on the production history. The
12 figures, beginning with figure 10, figures 10
13 through 14 give a production graph that probably
14 best shows the history of these individual leases
15 that are proposed to be included in the unit
16 area. So that basic data has been provided.

17 Q. What has been the production from the
18 area to date?

19 A. The cumulative production to date from
20 the area has been 10.18 million barrels. Of
21 that, 4.6 million barrels has been determined to
22 be the indicated primary production, which is
23 only about nine percent of the oil in place. The
24 waterfloods that were operated in the area have
25 recovered an additional, approximately five

1 million barrels, to bring the present cumulative
2 to 10.18 million barrels.

3 I would like to review a little of the
4 development history in the area, and that will
5 tie in, then with this cumulative information.
6 The field was discovered in 1926. This was,
7 actually, the first well that was productive in
8 Lea County.

9 This first drilling and development on
10 the leases, to be included in the unit, was in
11 1942, and the major development period for the
12 unit area was in the 50s and 60s.

13 In the latter part of the 60s, a
14 waterflood program was initiated on all the
15 leases that are to be included in the unit. This
16 program was an 80-acre five-spot pattern
17 waterflood. At its peak there were 63 producing
18 wells and 46 injection wells within the proposed
19 unit area, 109 total wells.

20 The waterflood, in our opinion and our
21 review of it, was not supervised the way we would
22 like to see it supervised, and there was a
23 minimum of any workover work on any of the wells
24 to control the injection into desired producing
25 intervals. There was a lack of coordination

1 between the zones that were open to production,
2 in the injection wells and the producing wells.

3 And, by the 1970s and by 1980, the
4 waterflood program was fairly well abandoned and
5 decreased to just a water disposal type program
6 where the produced water was put back in
7 injection wells, irregular pattern of injection
8 wells. And, from the 80s on, it's really not
9 been a waterflood project as such, with any
10 makeup water.

11 Despite the operations of it, there was
12 a good response in quite a few areas, and
13 additional oil recovered. And, in figure 9 of
14 the report, we've shown a map that shows the
15 waterflood cumulative oil recovery--wait. I'm
16 looking at the wrong map here. The waterflood
17 performance map is shown in figure 15 to the
18 report. We've shown the recovery of the
19 different patterns where operators crossed the
20 unit area, and some of the response has been
21 quite satisfactory on some of those patterns.

22 But with the minimum of workover and
23 the minimum of injection control, we don't think
24 the project operated nearly as efficiently as it
25 could have.

1 We estimate that the cumulative to date
2 is 10.18 million, and we estimate that the
3 reserves, through a continuation of the present
4 mode of operation, would be about 636,000 barrels
5 of oil remaining to be recovered without
6 instituting some other type of program.

7 Looking at the opportunities--

8 MR. COOTER: Before you go to that, Mr.
9 Williams, let me point out to Mr. Catanach that
10 the water injection orders are set forth in the
11 application, all with the exception of the order
12 of unitizing the Mal-Gra, and that Mal-Gra Unit
13 Order is R-2768. But all of the water injection
14 orders are set forth on page 3 of the
15 application.

16 Q. Pardon me. Go ahead.

17 A. As the acquisition of these properties
18 were considered and we looked at the
19 opportunities that there might be in the area for
20 additional recovery from these properties, the
21 analogies that were available there to look at
22 were, of course, the Conoco MCA Unit, which is a
23 large 8,000-acre unit, which has been very
24 successful in the area. They've drilled a
25 hundred infill wells in their unit. They

1 maintain support of those wells with a good
2 injection program. The injection program has
3 been an inverted nine-spot, which gives you less
4 injectivity than you could obtain if you went to
5 closer spacing on your injection wells.

6 But with their hundred infill well
7 program, they've recovered--had initial responses
8 of about 50 barrels of oil per day, per well, on
9 their hundred-well infill.

10 The Avon is a more recent infill
11 program. They went in and drilled 22 infill
12 wells, had initial productivity of 95 barrels of
13 oil per day, per well, but their recoveries are
14 indicated to be about 55,000 barrels per well.
15 They did not follow-up with injection support to
16 those infill wells, like their original plans,
17 and we feel that that hurt the recoveries shown
18 to date.

19 Evidence of that, Cross-Timbers Oil
20 Company has the Southeast Maljamar flood, which
21 adjoins our proposed unit. They drilled 16
22 infill wells and supported them immediately with
23 the offsetting injection wells on a 40-acre
24 five-spot. And their recovery looks like it's
25 going to be about be 106,000 barrels per well.

1 This is offsetting acreage to our unit. And they
2 operated much as we are proposing to operate the
3 Caprock Maljamar Unit.

4 The information on those other units
5 we've provided in tables 8 and 9 to the
6 engineering report, but from this analogy and
7 review of these projects, we recommended to
8 institute a waterflood program, where we would
9 redevelop the waterflood program going to a
10 40-acre spacing, and drill infill wells as the
11 producing wells.

12 So, in effect, all the existing wells
13 will be converted to water injection. Infill
14 wells will be drilled in the center of each of
15 those patterns, to serve as the producing wells
16 for that waterflood program. That operation will
17 give us the 20-acre infill wells, the 40-acre
18 five-spot pattern, and we've estimated that we'll
19 have initial productivities of about 50 barrels a
20 day, per well, on the infill wells, and recover
21 approximately 116,000 barrels per well, per
22 producer.

23 This will give us an additional
24 estimated recovery, and this is in addition to
25 the 636,000 barrels that we expect to get from

1 continuation of the present operations, an
2 additional recovery of 6.8 million barrels of oil
3 from the project.

4 We point out that this additional oil
5 recovery is as a result of the 40-acre waterflood
6 project. The infill wells are just a facility to
7 that project, to give us a drainage point in each
8 of the patterns.

9 The cost of the proposed program, we've
10 proposed to institute this in three-phase steps.
11 Figure 17 of the report is color-coded, to show
12 the areas and the wells that are going to be in
13 Phase I, which is what we're requesting approval
14 for at this point, and then what we foresee as
15 the area to be included in Phase II and Phase
16 III. Of course, we want to maintain the option
17 to modify those plans from what we learn from
18 drilling the initial wells and the initial
19 conversions.

20 The estimated cost in Phase I is 4.2
21 million dollars to drill 10 wells and develop 11
22 waterflood patterns. Phase II would be 10.7
23 million dollars to drill 28 wells and develop 31
24 patterns. And Phase III would be 8.1 million
25 dollars to drill 21 wells and 19 additional

1 patterns. So, that's a total of 23 million
2 dollars to drill 59 wells and develop 61
3 injection patterns.

4 I think, as I pointed out in figure 17
5 of the report, we've shown how that development
6 would progress. We would intend to initiate the
7 Phase I development as soon as we could obtain
8 the approvals of the required agencies, and
9 proceed with our plans.

10 The total investment, as I pointed out,
11 is 23 million dollars. In the report, we provide
12 the economic projections for this development.
13 The 10 percent discounted net cash flow from the
14 project is estimated at 34 million dollars. The
15 rate of return would be 46 percent. Calculate 46
16 percent, and a payout in 3.7 years. This is on
17 the additional recovery of 6.8 million barrels
18 that would not be recovered if the waterflood
19 wasn't redeveloped.

20 This would bring the ultimate recovery
21 to about 17.9 million barrels of oil.

22 Q. What's the time period, Mr. Williams,
23 that's anticipated for each of the three phases?

24 A. Of course, that would depend somewhat
25 on the experience we have with the initial part

1 of the project. Right now, everyone is looking
2 at the price of oil, also. That may have some
3 effects on it. But we anticipate approximately
4 two to three years to develop the full project.

5 Q. In your opinion, would the drilling of
6 infill wells without the waterflood be
7 economically feasible?

8 A. I think it would be questionable
9 economics. We would estimate you would probably
10 be looking at 40-, 50,000 barrels. And I think
11 it be wouldn't be the type of economics that you
12 would be looking for. You would probably be
13 getting your money back.

14 The crux of the program is that you
15 have to do the waterflood and do it at the same
16 time. The wells are just drilled to provide the
17 producing point on each of those patterns.

18 Q. While we're talking about waterflood,
19 let's turn next, if we may, to that application,
20 and the Form C-108 that was filed with it.

21 A. Yes, the complete Form C-108 was filed
22 with the Commission, and multiple copies, and I
23 think you marked that total submission of the
24 C-108 and all its attachments to be Exhibit 10.

25 The C-108 provides all the information

1 which is required there by the form. I think
2 significant, we should point out the fluid to be
3 injected will be all the produced water that's
4 produced in the unit, plus fresh Ogallala water
5 as makeup volume to balance the withdrawals from
6 the reservoir, as required.

7 Injection rates we've estimated at 250
8 barrels of water per day per injection well.
9 This is the injectivity that we would like to
10 attain. The injection pressures, we think, would
11 probably average around a thousand pounds, but we
12 will be looking to increase those pressures,
13 probably, with step rate testing, to maintain our
14 injectivity.

15 We would like to request that
16 provisions be made in the order for
17 administrative approval to increase the injection
18 pressure when the proper step rate testing
19 information is provided to the Commission.

20 The well data and schematics are
21 provided by the C-108. Exhibit D, I believe it
22 is, provides the information on the P & A'd wells
23 that are within the area of review, and there's a
24 couple right on the south edge of the area of
25 review there that I've included the data.

1 Whether they're on the line or outside the line
2 or not, you would have to measure or survey,
3 probably. But they were not included because
4 they were close enough to be questionable.

5 The thing I wanted to point out was in
6 Exhibit--well, okay, Exhibit B to that C-108.
7 The first page of that is a schematic, which is a
8 typical injection well set-up that will be used
9 in the unit area.

10 Most of the wells are 5-1/2-inch casing
11 with a perforated completion. We'll set a packer
12 approximately 50 foot above those perforations,
13 have plastic-lined tubing to the surface for our
14 injection fluids. The annular space behind the
15 tubing and above the packer will be circulated
16 with corrosion-inhibited fluid in that tubing
17 casing annulus, and, of course, a pressure
18 monitor on that braiden head to monitor the
19 condition of the well.

20 That would be the type of injection
21 well provision that would be made for each of the
22 injection wells.

23 Q. Following that typical injection well,
24 then, you set forth the data on each of the
25 actual wells, have you not?

1 A. That's right, present condition of the
2 proposed injection wells is shown for each of the
3 wells that we're proposing in Phase I.

4 Q. All right. Go to Exhibit C to that
5 form.

6 A. Exhibit C is just the well data on each
7 of the wells within the area of review that
8 penetrated the producing formation provided. And
9 Exhibit D, then, is the well data and schematic
10 diagram of all the plugged and abandoned wells
11 that are within the area of review.

12 And the last exhibit is a tabulation
13 and a little map showing the existing fresh water
14 wells that are within the area of our proposed
15 injection. None of the fresh water wells are
16 currently active.

17 I visited them, made a field trip and
18 visited the locations of all those, except the
19 one I couldn't find, and they've all been
20 abandoned, a couple of them plugged, but most of
21 them abandoned.

22 Q. Exhibit A to that form is a map which
23 shows your area of review, is it not?

24 A. That's correct. It shows the area of
25 review and the offsetting leases, and the

1 proposed injection wells.

2 MR. COOTER: I have marked as Exhibit
3 11 the affidavit of mailing, to the operators
4 within the half-mile area of review, and I have
5 the return receipts on that. Again, we've heard
6 no objections. Those are the unit, and these are
7 the flood.

8 A. There was just one other point that I
9 wanted to make in conjunction with the
10 consideration of the qualification for the
11 enhanced oil recovery project.

12 This is an area that was waterflooded
13 previously. That waterflood has been abandoned.
14 Operating it as a flood has disintegrated into
15 just using it as a water disposal for the
16 produced water from those leases, and injecting
17 into an erratic pattern of injection wells, it's
18 no longer a waterflood.

19 We're talking about instituting an
20 entirely new project. It will be a 40-acre
21 waterflood. All the existing wells will
22 basically be converted to injection. The 40-acre
23 spacing, from what experience Conoco and
24 Cross-Timbers have had, gives a much better
25 waterflood sweep efficiencies, better

1 recoveries.

2 We'll institute that and drill the
3 infill wells to provide the producing outlet for
4 each of those patterns. This is, in reality, a
5 new project, related only to the previous project
6 by the similar areas, and continued water
7 disposal under those existing waterflood orders.

8 Q. Mr. Williams, is the proposed project
9 area now so depleted that it is prudent to apply
10 the enhanced recovery techniques which you've
11 testified about, to maximize the ultimate
12 recovery of crude oil?

13 A. Yes. The waterflood program that was
14 carried out is, basically, depleted. As you can
15 see from our reserve estimates, from an area this
16 size, has a reserve estimate of 600,000 barrels,
17 is nearing its economic limit.

18 And the other matter that makes it
19 attractive and prudent is that experience that
20 people have demonstrated in offsetting units,
21 80-acre waterflood programs, don't recover all
22 the oil that can be recovered. Going to a
23 40-acre pattern will improve that recovery and
24 recover additional oil that, in no other way,
25 would be recovered.

1 Q. So, it is technically and economically
2 feasible to proceed as you have testified?

3 A. Yes, sir.

4 Q. Are the applications, particularly the
5 enhanced oil recovery application, is that
6 prematurely filed?

7 A. I don't--

8 Q. The application for the enhanced oil
9 recovery project is not prematurely filed?

10 A. Oh, no. We would intend to proceed
11 with the project immediately on receiving the
12 approvals of the agencies.

13 Q. Nor is the project prematurely
14 proposed?

15 A. No. The sooner we could do the
16 project, the better.

17 Q. If the Commission were to grant these
18 applications for the unit and for the waterflood
19 effort, in your opinion, will Wiser Oil recover
20 hydrocarbons not otherwise recoverable?

21 A. Yes. In our analysis, the 6.8 million
22 barrels that we estimate can be recovered with
23 this waterflood program is oil that, in no other
24 way, would be recovered without the institution
25 of this program.

1 Q. Would the granting of these
2 applications be in the best interest of
3 conservation?

4 A. Yes, they would.

5 Q. Prevention of waste?

6 A. Yes.

7 Q. And protect correlative rights?

8 A. Absolutely.

9 Q. The exhibits that you've referred to in
10 your testimony, are they true and correct, and
11 accurately set forth the information that is
12 referred to therein?

13 A. Yes, sir.

14 MR. COOTER: With the exception of the
15 affidavits, which are mine. We would offer all
16 the exhibits. I think they're 1 through 11.

17 EXAMINER CATANACH: Exhibits 1 through
18 11 would be admitted as evidence.

19 Q. Bob, anything else?

20 A. I don't have anything else.

21 MR. COOTER: That concludes our
22 presentation.

23 THE WITNESS: Paul, maybe we should
24 mention, as we pointed out in our application, we
25 listed all the orders that were currently in

1 effect authorizing water injection in the area,
2 and these go back many years.

3 There's also the order approving the
4 Mal-Gra Unit, that we're proposing to be included
5 into this unit. Upon the requested approval of
6 the unit and waterflood project, as we see it,
7 those older orders should be terminated and, I
8 guess, should we request that?

9 MR. COOTER: We would so move. They're
10 all set forth in the application. If you would
11 like, I'll read them into the record.

12 EXAMINER CATANACH: Why don't we do
13 that, Paul.

14 MR. COOTER: The Mal-Gra Unit Order is
15 No. R-2768. The other waterflood injection
16 Division Orders No. R-2156, R-2157, R-3011,
17 R-3129, and WFX, which I understand are
18 Administrative Orders, 132, 139, 149, 160, 171,
19 173, 185, 200, 211 and 295.

20 THE WITNESS: One addition there, Paul.
21 There's an Order R-2769 that goes in conjunction
22 with 2768, which is the unitization of Mal-Gra,
23 and 69 was the waterflood authority.

24 MR. COOTER: Okay. Thank you.

25

EXAMINATION

BY EXAMINER CATANACH:

Q. How many separate waterfloods did we have in this proposed unit?

A. I hadn't counted them that way. Perry, can you help us?

MR. STOVALL: Is there another witness who would be more appropriate to answer that?

THE WITNESS: No. We weren't planning another witness. Pennzoil had an operation, and I would say all theirs could be counted as one. Brothers had an operation, that would be two. Southwest Royalties had an operation, that would be three. And Murphy Baxter had an operation. So there would be four waterflood operations.

But some of those, say, like Murphy Baxter, it was on three separate leases, so I think they had three authorizations.

MR. STOVALL: There were three leased waterfloods, is what you're saying?

THE WITNESS: Yes, units. And Southwest Royalties was two separate leases. Pennzoil was four or five leases.

MR. HUGHES: They may have had two orders.

1 THE WITNESS: Yeah, several of them had
2 more than one order, you can tell by the number
3 of them, because they put in a few injection
4 wells and then expanded it with other orders.
5 So, there were--

6 Q. (BY EXAMINER CATANACH) Several?

7 A. That many operations in the area. And,
8 like the area adjoining our proposed unit, some
9 of it was not in units and they had little floods
10 going there, too.

11 MR. STOVALL: And just for the record,
12 since you have spoken and it's on the record,
13 would you identify yourself, please?

14 MR. HUGHES: My name is Perry L.
15 Hughes.

16 Q. (BY EXAMINER CATANACH) Okay. Within
17 the proposed area, was the Mal-Gra Unit the only
18 unitized--

19 A. It was the only thing that was actually
20 a unit, yes, sir.

21 Q. The rest of them were on a lease basis,
22 as you understand?

23 A. They were operated on a lease basis.

24 Q. Do you know if that unit has
25 terminated?

1 A. No, it has not. It's still a valid
2 unit. And we're proposing that that acreage be
3 included in this unit, and that older unit be
4 terminated.

5 Q. Is Wiser the unit operator for that
6 unit?

7 A. They own it 100 percent.

8 MR. STOVALL: Are any of the overrides
9 in that unit? For record purposes, let's get you
10 to answer that.

11 THE WITNESS: Yes.

12 MR. STOVALL: I guess maybe the more
13 important question is, any of the ones you're
14 seeking to statutorily unitize.

15 THE WITNESS: Let me look at my unit
16 agreement.

17 MR. STOVALL: While you're looking, can
18 you tell me if that was a statutory unit or was
19 it a voluntary unit.

20 THE WITNESS: I can't tell you
21 offhand. I would have to look at the order. I'm
22 guessing it was voluntary.

23 MR. STOVALL: Do you know about the
24 year of the order, or decade.

25 THE WITNESS: No, sir. Can you tell

1 from the number? 2768.

2 MR. STOVALL: The Statutory Unit Act
3 didn't come into play until the 70s.

4 MR. COOTER: I don't think it was a
5 statutory unit.

6 [Discussion off the record.]

7 EXAMINER CATANACH: What I was
8 discussing with Bob up here was whether we had
9 authority to terminate a unit, and he said that
10 you, the operator, probably did. I guess that
11 would be a question I have.

12 Within the unit agreement, what are the
13 terms for terminating the unit?

14 MR. COOTER: Wiser is the 100 percent
15 working interest owner of that unit.

16 MR. STOVALL: There are probably still
17 some steps that would have to be taken to make it
18 official. It's a federal unit or a state unit?

19 MR. COOTER: State.

20 MR. STOVALL: You have to do something
21 particularly to let the Land Office know.

22 THE WITNESS: They know our plans, and
23 we've discussed with them what they thought would
24 be better, to call this whole thing an expansion
25 of the Mal-Gra Unit, or just do a new unit and

1 terminate the Mal-Gra, and their suggestion was,
2 do a new unit and terminate the Mal-Gra on an
3 effective date.

4 MR. STOVALL: I don't disagree with
5 that, from a practical standpoint. What I'm
6 suggesting is that you need to take a look at the
7 unit agreement, primarily for title reasons. It
8 may be a matter of simply recording documentation
9 to reflect that that unit is terminated, and then
10 record it, because I think that would be where
11 you would run into trouble is in a title
12 situation; not from a regulatory standpoint, but
13 from an ownership participation standpoint.

14 THE WITNESS: In answer to your
15 question regarding the overrides, the overrides
16 on that lease, except for a two-percent override
17 held by Phillips, which we don't have approval in
18 hand, but they've indicated they're going to
19 approve it and it's in the bureaucracy, but the
20 rest of the overrides there are on that tract are
21 all overrides that we've created as we acquire
22 the properties, and they've all approved the
23 unit.

24 MR. STOVALL: So you don't have a
25 problem with taking an override out of the unit,

1 without their participation, and putting them in
2 a new unit.

3 THE WITNESS: No. The only override
4 that was in existence was Phillips, and they've
5 indicated that they are going to approve our unit
6 agreement.

7 MR. STOVALL: So, what I'm hearing you
8 say, then, all the overrides that are being
9 brought in under the Statutory Unitization Act
10 are on the other leasehold waterflood areas?

11 THE WITNESS: That's right. The
12 nonconsenting parties that we have would not be
13 on that Tract 10, which is the Mal-Gra Unit.

14 MR. STOVALL: That simplifies things a
15 little bit, primarily from a title standpoint and
16 not from a regulatory standpoint.

17 EXAMINATION RESUMED

18 BY EXAMINER CATANACH:

19 Q. Mr. Williams, which other parties,
20 other than Phillips, have not agreed to
21 participate in the unit?

22 A. Paul has the tabulation of who has and
23 who hasn't ratified. Of course, your big
24 ratifications, we're going to have the indication
25 from the state, the letter of approval, and we

1 have the indication from the feds. The rest is
2 overriding royalty interest, and these are
3 small.

4 One of the bigger ones is Phillips,
5 which they've indicated they're going to approve
6 and they haven't, as yet. The rest will be very
7 small interests, and most of the lack of approval
8 there is probably just locating the right party.
9 There are trusts and estates and so forth, and
10 finding a person that can actually sign is a
11 problem.

12 Q. Okay. You do have some 81.72 percent
13 signed up?

14 A. Yes, sir, already ratified.

15 Q. Wiser, being the only working interest
16 owner, is going to be 100 percent cost-bearing,
17 right?

18 A. That's correct.

19 MR. STOVALL: Let me go back on those
20 numbers. What is the percentage of the
21 uncommitted overrides as to the total of the
22 noncost-bearing interests? Do you have that?

23 MR. COOTER: Including Phillips, is a
24 little under 19 percent. If you'll look at
25 Exhibit B to the unit agreement, you'll see that

1 the overrides are rather split. They're all
2 fairly small with the exception of the one on
3 Tract 1 and Tract 2. The other interests are on,
4 Phillips is the--

5 MR. STOVALL: Let me back up and make
6 sure we're talking about the same thing. Under
7 the Statutory Unitization Act, you don't have a
8 working interest problem, because you've got a
9 hundred percent?

10 MR. COOTER: Right.

11 MR. STOVALL: You have to get 75
12 percent approval of the noncost-bearing
13 interest?

14 MR. COOTER: Correct.

15 MR. STOVALL: Which includes both
16 overrides and royalties?

17 MR. COOTER: Yes.

18 MR. STOVALL: Now, my assumption is, is
19 that with 12-and-a-half percent state and federal
20 royalties, that probably--am I correct that that
21 constitutes at least 75 percent of the noncost-
22 bearing interest?

23 MR. COOTER: I didn't add that up, Mr.
24 Stovall.

25 MR. STOVALL: What you do is, you

1 essentially lump the overrides and the royalties
2 together. So, I think what you need to do is
3 make sure that you have satisfied that. And I
4 guess if you only have 19 percent of the
5 overrides who haven't committed--what is the
6 total? Do you know what the total burden is, the
7 overriding royalty burden on the entire project?
8 Or, conversely, what's the net revenue interest
9 on the project?

10 MR. COOTER: Wiser's net revenue
11 interest is just about 80 percent. It's a little
12 under that on Tracts 1 and 2. It's almost 87 on
13 Tract 3. It's 77 on Tracts 4 and 5. It's 80
14 plus a fraction on 6. It's just under 80 on 7.
15 It's over on 8 and 9. It's just a fraction under
16 on Tracts 10 and 11. It's a fraction over on
17 Tracts 12 and 13.

18 In that 81.72 percent, I have included
19 the federal and state as approving. The federal,
20 as you will note on some of the tracts, has a
21 reduced royalty. On Tract 2 it's five percent,
22 on Tract 3 it's .037. I think those are the only
23 royalties less than the customary 12-and-a-half.

24 I also would state that, as you'll
25 notice on Tract 7, there was a net profits

1 interest which, when this was prepared, was owned
2 by Caspin Oil, Inc. That appears on page 6 of
3 Exhibit B to the unit agreement. That interest
4 has been acquired by Wiser.

5 MR. STOVALL: So, when you say you have
6 an 81 percent approval, that includes the federal
7 and state royalties?

8 MR. COOTER: Yes, sir.

9 MR. STOVALL: And the overrides? That
10 was kind of what I was trying to get at in the
11 first place, and that satisfies the 75 percent
12 noncost-bearing interest?

13 MR. COOTER: I think so. And the way I
14 calculated that was taking the interest from that
15 exhibit, and applying it to the tract
16 participation under the proposed unit, and came
17 up with that 81.72 percent.

18 As I said, that does not include
19 Phillips, which has indicated that--I don't know
20 whether it's in Houston or Bartlesville or where
21 it is, but the indications are that they're in
22 accord.

23 MR. STOVALL: That's pretty scary, Mr.
24 Cooter, having a lawyer do all that arithmetic.

25 MR. COOTER: I agree.

1 THE WITNESS: Do we need to furnish you
2 anything on that?

3 MR. STOVALL: No, as long as I know the
4 basis for the calculation, and it appears to have
5 satisfied.

6 MR. COOTER: I have copies of the
7 ratifications with me. Or, if you would like us
8 to wait a little bit longer, until we get
9 everyone?

10 MR. STOVALL: Technically, if you read
11 the statute, you're supposed to get the
12 ratifications after the order is entered. You've
13 got six months. So, what you need to do is
14 submit your ratifications within six months of
15 the time the order is entered, and that will
16 solve that.

17 EXAMINATION RESUMED

18 BY EXAMINER CATANACH:

19 Q. I have a question on the letter from
20 the Commissioner of Public Lands, which states
21 that they received your unit agreement on behalf
22 of Quality Production Company.

23 A. Quality Production Company is the
24 operator of these properties for the Wiser Oil
25 Company. Wiser owns the properties. They're the

1 working interest owner. Quality is the operator,
2 as a contract operator for Wiser on the
3 properties.

4 MR. STOVALL: Who is the operator of
5 the wells of record on the OCD--

6 THE WITNESS: Wiser.

7 MR. STOVALL: Wiser is? Wiser is the
8 responsible party for these wells? Wiser is
9 responsible for paying royalties and taxes and
10 plugging wells, and Quality is somebody who is
11 paid to go out there to do the work?

12 THE WITNESS: We're like a contract
13 pumper. We're the contract operator of the
14 property.

15 MR. STOVALL: So, as far as we're
16 concerned, we're dealing with Wiser, and we
17 couldn't care less who Quality is?

18 THE WITNESS: That's correct.

19 EXAMINER CATANACH: But on the unit
20 agreement, is the agreement going to be signed on
21 behalf of Wiser or Quality?

22 MR. COOTER: It will be signed by
23 Wiser. When you're talking about that, one thing
24 that you may question sometime is the operating
25 agreement. There is no operating agreement.

1 MR. STOVALL: Probably the answer to
2 this would be clarified if, let's see, Mr.
3 Cooter, apparently you submitted it. Did it go
4 in on Quality Production letterhead?

5 MR. COOTER: To the BLM and the state?

6 MR. STOVALL: Yes. Well, the BLM
7 letter is to Quality Production Corporation,
8 too. I think what you need to do is make sure
9 that you get those approved. You need to make
10 sure that both regulatory agencies know that
11 Wiser is the operator of the property. The BLM
12 one says, "Quality, submitted on behalf of
13 Wiser," and the State Land Office says, "Rodey
14 law firm, submitted on behalf of Quality."

15 THE WITNESS: Here's the letter we
16 submitted to the Land Office, and we said it was
17 submitted on behalf of Wiser, but we did the work
18 as the operator.

19 MR. COOTER: It's Wiser's bond.

20 MR. STOVALL: Well, I'm going to make a
21 suggestion to you, is that you not refer, because
22 they become, kind of, terms of art, is that you
23 not refer to Quality as the operator, but refer
24 to them as the contract operations manager, or
25 something like that. That will keep the

1 bureaucrats from getting confused. Wiser is the
2 operator and Quality is the contract manager, I
3 guess is probably the cleanest way to do it.

4 I understand what your distinction is,
5 but when you put it on paper, it's not as clear.
6 Because operator is a term of art in the
7 regulatory world.

8 THE WITNESS: Okay. Do you need a
9 clarification letter on that?

10 MR. STOVALL: I don't think we do.
11 It's on the record. But with the Land Office and
12 the BLM, you need to make sure that they report
13 Wiser as the operator of the project.

14 EXAMINER CATANACH: Yes. The orders we
15 issue will be on behalf of Wiser.

16 THE WITNESS: That's correct.

17 MR. STOVALL: Again, what that means,
18 too, when you submit reports to the Division, as
19 far as production reports, those should be
20 submitted in the name of Wiser, or they won't be
21 accepted. Don't put Quality's name on it.
22 Unless it says, Quality, as agent for Wiser.

23 THE WITNESS: Right. No, the heading
24 on all those reports we file are filed in the
25 name of Wiser.

1 EXAMINATION RESUMED

2 BY EXAMINER CATANACH:

3 Q. Mr. Williams, does the unitized
4 interval surface to 5,500 feet, is there a type
5 log within the unit agreement that we're going to
6 use to identify that?

7 A. Is there a what?

8 Q. A type log, or a well we can use to
9 identify that interval?

10 A. The reason we asked for it in that
11 manner is the rights that we finally obtained all
12 just say, "From the surface to 5,500 feet below
13 the surface." It's not actually a stratigraphic
14 interval. The formations in this area are
15 relatively flat. The depth that Wiser has, and
16 we would like to include it all, is to 5,500 foot
17 below the surface.

18 Q. Does that include or go down to the
19 base of the San Andres?

20 A. That's approximately--it's probably,
21 what, 300 feet above the real base of the San
22 Andres, yeah. And that's probably through all
23 the known producing intervals that have been
24 completed in the San Andres.

25 MR. STOVALL: In other words, what

1 you're saying to us is that your rights are not
2 measured by formation, but by vertical measured
3 footage?

4 THE WITNESS: That's correct. It was
5 just a depth designation. And it's common. It's
6 not always stratigraphic. Sometimes they'll say
7 to the base of the San Andres, or to the top of
8 the San Andres, and other times they'll say 50
9 foot below the depth drilled in the first well,
10 so that will just give you depth. And it's not
11 stratigraphic.

12 If it doesn't go over too large an
13 area, the stratigraphic change is minimal.

14 MR. STOVALL: I think I heard you say a
15 minute ago that, to the best of your knowledge,
16 below that 5,500 foot, to the extent you're still
17 in the San Andres, there's no productive
18 formation anyway?

19 THE WITNESS: I'm not aware of any
20 production in the San Andres deeper than that.

21 MR. STOVALL: So you're not likely to
22 get the owner of those rights to go out and start
23 drilling a well, and put a well on your proration
24 unit, below your unit--

25 EXAMINER CATANACH: In the same pool?

1 MR. STOVALL: Do you follow what we're
2 saying?

3 THE WITNESS: I see what you're
4 saying. I wouldn't expect it, but I'm not aware
5 of any productive prospects below that 5,500
6 depth limit in the San Andres.

7 When we started working on the project,
8 these leases were all individuals leases, and
9 they had all been farmouts from Phillips. And
10 each lease had a different depth limit, and depth
11 limits varied from 4,000 to 5,200, I think.

12 And, through quite a bit of
13 negotiation, we went back to Phillips and got
14 them to revise all those farmout agreements to
15 grant the 5,500 depth limit over this entire
16 area. So we had something consistent, and didn't
17 have additional depths drawn on each tract in the
18 unit.

19 MR. COOTER: I might add in that
20 regard, just to supplement, the overriding
21 royalty owners treated it as farming their
22 interests to the 5,500 foot depth, even though
23 they may not--

24 MR. STOVALL: It seems to me we had
25 that discussion prior to your filing this case,

1 as to how to treat that, didn't we?

2 MR. COOTER: We treated it as if they
3 own it clear to the 5,500 feet. There are no
4 penalties attached to any of the interests.

5 Q. (BY EXAMINER CATANACH) The BLM and
6 State Land Office don't have any problem with the
7 tract participation?

8 A. No. They were in agreement. Their big
9 command was, don't use any acreage in the
10 formula.

11 MR. STOVALL: Is that what they said?

12 THE WITNESS: That was the desires of
13 BLM.

14 Q. I missed some of the figures. If I
15 originally heard right, you said 52 million
16 barrels original oil in place?

17 A. We determined volumetrically at 52
18 million barrels.

19 Q. Cumulative production to date, and that
20 means to when?

21 A. I think it's the beginning of 93.

22 MR. STOVALL: Has there been any
23 production, to speak of, in 93?

24 THE WITNESS: In the engineering
25 report, I think that's on--yeah, 7/1/92, is when

1 the report was done. The cumulative figure they
2 used at the time of the report was 7/1/92, 10.18
3 million barrels.

4 Q. Okay. Now, you gave me a number after
5 that about the primary number?

6 A. We've estimated that the primary was
7 4.6 million barrels.

8 Q. Roughly, or about nine percent?

9 A. That's right.

10 Q. And the rest?

11 A. To get to our present cumulative, you
12 would have about 5.58 million barrels of
13 secondary oil that was recovered from the unit
14 area. And then we've estimated that the
15 remaining recovery that you would get, with a
16 continuation of the present mode of operations,
17 would be 636,000 barrels.

18 And I think those numbers are detailed
19 in both the Table 1 and Table 2 of our exhibit,
20 being the Waterflood Redevelopment Study.

21 Q. Were there waterfloods that were
22 originally conducted, were they 80-acre
23 five-spot?

24 A. Yes, they were all 80-acre five-spot
25 patterns, with conversion of every other existing

1 location to injection.

2 Q. Were there any areas that were
3 developed on closer than 80-acre five-spot?

4 A. Exhibit 8 in the report shows the
5 pattern development for that waterflood. There
6 were some infill wells that were drilled on four
7 or five of the leases as evaluating what they
8 thought of it at that time. There were, I think,
9 four infill wells that were drilled back through
10 the years, but, other than that, everything is
11 80-acre five-spots, 40 acres per well.

12 Q. 6.8 million barrels, estimated
13 additional recovery as a result of waterflood
14 operations?

15 A. That's correct. That's what we
16 estimate that this program would recover, and
17 that's additional oil over and above that
18 remaining estimated recovery of 636,000 barrels
19 from continuation of the present mode of
20 operations.

21 Q. Okay. 23 million dollars, total cost
22 of the project?

23 A. That's correct. This is, what I guess
24 you would call, capital costs. That's in
25 addition to your operating costs, which I think

1 there's another about 46 million dollars in
2 operating costs estimated to carry out the
3 project over the years. \$42,500,000 are the
4 estimated operating costs, so your total costs,
5 then, would be 65 million dollars.

6 Q. Phase I, II and III, you gave me some
7 numbers. Phase I you're going to drill, was it,
8 10 wells?

9 A. That's correct. There will be 10
10 infill wells drilled.

11 Q. Do you know how many injection wells
12 converted in Phase I?

13 A. Yeah. The Tables 10, 11, 12 and 13
14 detail those conversions that will be made. The
15 wells will be drilled. In Phase I we're going to
16 drill 10 wells, and there will be a total of 21
17 injectors, total injections. 12 of them will be
18 conversions from producing wells, and nine of
19 them will be workovers of existing injection
20 wells.

21 The costs are broke out, then, on how
22 much the estimated cost is for the drilling of
23 the infill wells, how much cost is for conversion
24 of injection wells and workover of injection
25 wells and facilities; a complete break out of

1 those costs is provided on those tables by
2 Phase. Tables 10, 11 and 12, and then the total
3 summary on Table 13.

4 Q. Am I correct in adding up my figures,
5 you're going to have 92 injection wells? Is that
6 right?

7 A. That sounds high. 86 total injectors.

8 MR. STOVALL: 86 injectors and 59
9 producers, is that correct?

10 THE WITNESS: That's correct.

11 Q. Now, are you attempting to permit all
12 86 injectors at this time?

13 A. No, just--

14 Q. Phase I?

15 A. Phase I injectors, which are tabulated
16 in our requests and shown on the maps in the
17 Phase I program.

18 MR. STOVALL: If Phase I is successful,
19 you'll come back and ask for Phase II and III?

20 THE WITNESS: We'll ask for those by
21 separate submittal of C-108. And we would like
22 to ask that that be set up where that could be
23 done administratively, if possible.

24 Q. Of the wells that we're permitting for
25 Phase I, the injection wells, do you know if any

1 of those have previously been permitted as
2 injection wells?

3 A. Oh, yes. Nine of them, I believe, are
4 current injection wells.

5 Q. How many?

6 A. I believe it's nine.

7 MR. STOVALL: Are they included in the
8 tabulation in your current C-108?

9 THE WITNESS: Yes.

10 MR. STOVALL: You're asking that the
11 prior approvals be withdrawn and the new
12 approvals be issued with this order?

13 THE WITNESS: Simultaneously, yes.

14 Q. Mr. Williams, your C-108 shows a
15 typical injection well.

16 A. That's correct. The first page in
17 Exhibit B shows the proposed physical set-up for
18 our injection well, typical injection well.

19 Q. Okay. But you do provide all the
20 information necessary for each injection well you
21 want to utilize?

22 A. Yes. Following that, then, is the
23 physical data on the physical condition of each
24 injection well, with the schematic of that well
25 on the reverse side of that tabular data.

1 Q. How many injection wells are we
2 permitting in Phase I?

3 A. 21. And, as we pointed out, nine of
4 them are current injection wells, and they're
5 diagrammed as they exist.

6 Q. Okay. Have you examined the area of
7 review wells and are satisfied that they're cased
8 and cemented properly to confine that water to
9 the Grayburg and San Andres?

10 A. From the review we made, they all
11 appear to be in reasonable condition to contain
12 the water. One of the safeguards that we have in
13 this particular recommended program is that the
14 injection wells are going to be all our existing
15 wells, so all of the existing wells will be
16 worked on, converted to injection over a period
17 of three phases, and then monitored.

18 So the older wells, in effect, will be
19 worked on, to satisfy the Commission, as the
20 C-108s are approved on each of those, and then
21 monitored. And the producing wells will be the
22 newly drilled wells, and our set-up there is to
23 cement those strings to the surface.

24 So you won't have old wells there in
25 the area that aren't monitored and aren't really

1 put in condition like we have to for the
2 injection wells. Probably our only risk wells
3 are the P & A'd wells in the area.

4 MR. STOVALL: You've examined each of
5 those wells?

6 THE WITNESS: I've examined those.
7 They look like they're adequately cemented. That
8 information is all provided there in what is
9 Exhibit D.

10 Q. I thought I saw something somewhere
11 that would show a typical new producing well, and
12 I made a mental note that that was not circulated
13 to surface. Are you now saying it is your
14 intent?

15 A. We didn't submit any diagram of a
16 typical infill well or anything. But, yes, the
17 infill wells, our plan is to use 1,300 feet of
18 8-5/8, cement it to the surface, and 5-1/2 to TD,
19 and cement it to surface.

20 Q. Okay. I was looking at something
21 else.

22 EXAMINATION

23 BY MR. STOVALL:

24 Q. Okay. Let's take a look at your EOR
25 tax credit and some of the things that are going

1 to affect that, because you kind of have an
2 existing flood that really isn't. I guess that's
3 what it really is, right?

4 A. It still has existing orders, but as a
5 waterflood, I think we recognize that you have to
6 put in more water than the fluids that you're
7 removing, to have an ongoing flood. You're not
8 flooding if you're taking out more of the
9 reservoir which are greater than the injection.
10 And all they're injecting now is the produced
11 water.

12 Q. "They" being Wiser?

13 A. Well these leases, when we acquired
14 them, we just continued their operation since we
15 acquired them while we've been putting this
16 project together.

17 Q. You are satisfied, in your professional
18 opinion, that you really are starting from
19 scratch, you may have a little bit of fill up,
20 but you don't have a waterflood going on? Well,
21 you don't even have that if you're taking out
22 more than you're putting in, right?

23 A. We're taking out more than we're
24 putting in, and have been for some time.

25 Q. Okay. That's fine.

1 A. As far as the oil volume and the gas
2 volume. And it's an entirely new project in the
3 fact that we're going to be going to a 40-acre
4 pattern, which is significant in increasing your
5 recovery. Going back to an 80-acre pattern, we
6 don't think, surely, would be economic, and would
7 recover very little additional secondary oil.

8 Q. Let me stop you right there, then, and
9 ask you the next question which you've kind of
10 lead to, how much of the 6.8 million that you
11 expect to recover is simply as a result of infill
12 drilling? If you didn't put water in at all, how
13 much oil would you get out of those wells?

14 A. We consider the entire 6.8 million
15 barrels as a result of the waterflood program.
16 The reason for the infill wells, that's the
17 facility of the waterflood program. If we
18 convert all the existing wells to injection, to
19 get 40-acre patterns, then we have to have
20 producing wells in the center of those patterns,
21 and we have to drill the infill well.

22 This is a facility, just like your
23 distribution system for your water injection and
24 your pumps and battery facility, is part of the
25 waterflood operation, the infill wells.

1 EXAMINER CATANACH: There's not going
2 to be any delay in implementing injection
3 operations? They're going to be commenced--

4 THE WITNESS: No, sir. We think the
5 example we've seen from the Avon project and the
6 Cross-Timbers project, when you support the
7 producing well, the infill well with injection
8 immediately, your recoveries are much better.

9 Q. (BY MR. STOVALL) Okay. Let me kind of
10 lead you through the process of the qualification
11 process, so that you dot the right I's and cross
12 the right T's, and, of course, there will be a
13 couple of questions.

14 Now, as far as an EOR project from your
15 plans, and what you're asking for today, the EOR
16 project which, if this is approved to be
17 certified, could only be, at this point, Phase I,
18 and that is actually to your advantage. You are
19 familiar with the EOR rules?

20 A. You have to have the response within
21 five years.

22 Q. Within five years we issue-- And that
23 is five years from the date we issue the
24 certificate, not necessarily from the date we
25 start the order. What we have done, particularly

1 where there's development and construction work
2 to be done, is issue an order authorizing you to
3 do that work. Then, when you are ready to
4 actually commence injection, you come back to us
5 and request a certificate. Are you following me?

6 A. Okay.

7 Q. How long do you think it would be
8 before you would be prepared to begin injection
9 in Phase I?

10 A. I would say within a month or two after
11 we receive the authority.

12 Q. So, you don't have any wells to drill?

13 A. Yes, we'll have the wells to drill, and
14 we'll begin--

15 Q. Even before you get all the wells
16 drilled?

17 A. --drilling the wells and begin the
18 injection immediately.

19 Q. Okay. So, in effect, when we issue
20 this order, we can issue the certificate at that
21 same time, and we're not cutting you out any
22 construction time?

23 A. That's right. That would be fine with
24 us. And, as I understand it, this will just
25 cover the area that Phase I encompasses?

1 Q. That is correct. That certificate will
2 encompass the area that Phase I encompasses.
3 Now, what I would anticipate, again, assuming
4 approval, is that there may be incorporated in
5 that approval the administrative authority to
6 file C-108s on Phase II and III.

7 At the time those C-108s are approved,
8 you could then, when you're ready to begin
9 injection, you could come back in and say, "Give
10 us the certificate for Phase II," and then the
11 certificate for Phase III. That would start the
12 clock running on those phases, so your five years
13 wouldn't begin on those five years until you were
14 actually ready to begin injection on those
15 phases.

16 I guess what that means, at this point,
17 any authority to inject in Phase II and III is
18 going to have to be terminated. You couldn't put
19 any water in, even for just disposal purposes.
20 Obviously, you wouldn't just dispose there. I
21 assume you don't want to, right? All the water
22 would go into Phase I?

23 A. It would probably be to our advantage
24 to be able to inject in the wells down on the
25 Section 28 lease. That's the Phillips State "B"

1 lease in Section 28. The injection well down
2 there, that's a separate battery and a separate
3 injection system.

4 As we're developing this thing, if we
5 could continue to dispose the water into those
6 wells down there, it would facilitate the
7 conversion and not have to lay the line to the
8 north.

9 Q. What my concern would be is that your
10 injection is under an authority that was issued
11 back in the 60s or 70s, right?

12 A. Right.

13 Q. Which would mean that that is not a
14 project approved after the effective date of the
15 Act, which would mean it could not qualify for
16 the recovery tax credit. You get into some fancy
17 footwork here, with dates and approvals and
18 things.

19 A. We can't do anything down there and
20 then come back in Phase II and want to include it
21 in the tax treatment.

22 Q. Let's put it this way. What you could
23 do, conceivably, to deal with Section 28 on a
24 short-term basis, we would rescind the previous
25 authorities, approve that, and you could come

1 back in with a C-108 and get an approval to
2 inject in there, current, within the next couple
3 of months, say.

4 A. What would that do to our future
5 qualification for EOR designation?

6 Q. What I'm suggesting is that you would
7 rescind any prior authority you had. You're
8 treating that as a disposal operation at this
9 time, is that correct?

10 A. That's right.

11 Q. My concern is, if you treat it as a
12 disposal operation under an authority given to
13 you--prior to 1992, is it? I've forgotten the
14 year--and you use that as your authority to
15 inject, then you have, in fact, gotten a project
16 approved prior to the effective date of the Act,
17 and that project doesn't qualify.

18 So the cleanest way on this one, for
19 that, would be to cease injection in that area at
20 this time, get it approved under this order, and
21 then file your expansion C-108, since you haven't
22 submitted it in this C-108 today, file an
23 expansion C-108 and get approval to inject under
24 the terms of this order, which is after the
25 qualifying date.

1 A. Okay. And let us, in the meantime,
2 look whether we want to handle it in that manner
3 or whether we would want to make facilities to
4 transfer that water to our north station and put
5 it in Phase I wells.

6 Q. Correct, because an expansion project
7 has to be more than just simply taking disposal
8 and adding more water to it and turning it into
9 secondary.

10 A. Yes, we realize that. And, for the
11 short term, we don't want to jeopardize that
12 position. So we'll make arrangements to do it as
13 a new C-108.

14 Q. The next step, once you get that
15 approval and the project area is certified, you
16 begin your work and you do your flooding, at some
17 point, hopefully within five years, you'll get a
18 positive production response.

19 The key is, you have to apply to the
20 Commission for approval or certification of that
21 positive production response within five years.
22 If you get it next year and wait four years to do
23 it, you could still be out of luck, because the
24 date is when you apply for it to the Commission,
25 not when you actually get it.

1 Once we certify it, it's retroactive to
2 the date we certify as the beginning date. What
3 we're recommending is that you make sure you have
4 a true positive response over time. And, when
5 I'm saying "time," we're talking months, not
6 years, before you come in for your application,
7 so you don't have a blurb, just because you've
8 taken care of the wells and done a little
9 maintenance work out there, as a true response.

10 Now, the problem I see with this one,
11 and it's something you need to be prepared to
12 address is, what is your baseline production,
13 say, in each of the phases, over which a positive
14 production response will be determined? And that
15 is something, you know, you had some curves in
16 here I believe, didn't you?

17 A. Yes. There are production curves by
18 lease there.

19 Q. What you're going to have to do is
20 establish the baseline decline for each of the
21 phase areas.

22 A. What is the shortest term that would be
23 acceptable for establishing that? because we're
24 talking about drilling infill wells for the
25 producers.

1 Q. That was my concern, because you're
2 going to get a bubble of response because you'll
3 hit a little oil that has not been tapped before,
4 right?

5 A. Yes, there's some untapped reservoir
6 energy.

7 Q. And, from the standpoint of the
8 secondary recovery--I mean, I understand what
9 you're saying from the management standpoint, but
10 from the regulatory standpoint, the question
11 whether that's primary or secondary, is that, in
12 fact, response to secondary recovery operations
13 or is that response to drilling operations?

14 As a lawyer, I'm asking you an
15 engineering question. You have to come up with
16 an engineering response to, what is the
17 baseline--.

18 A. Establishing a baseline for those
19 wells? We'll just have to take a look at that.
20 We'll take a look at some of the experience, say,
21 that Cross-Timbers had on their project. And
22 we're doing a similar project in the Maljamar
23 Unit right now. And we've drilled the infill
24 wells and started the injection program.

25 Q. I guess that's really the key to it, is

1 establishing, you know, how do we know it's a
2 positive production response and not just a
3 taking-care-of-the-property response.

4 A. We'll take a look and see what can be
5 done on that to justify.

6 Q. And, just for your information, we can
7 give you lots of guidance on that because we've
8 had absolutely none of them come before us as of
9 this point in time.

10 A. Really?

11 Q. We've gotten no production response
12 cases yet, so there's no guidance whatever to
13 assist you in making that determination.

14 A. We'll get you one, and we'll work it
15 out.

16 MR. STOVALL: I guess that's pretty
17 much it, from a procedural standpoint. Your
18 biggest problem here is getting that baseline so
19 you know when you've got the response.

20 Did I leave out anything?

21 EXAMINER CATANACH: I want to bring up
22 the infill drilling issue and discuss it a little
23 bit with these gentlemen.

24 I've had a couple of these cases
25 before, and I made the determination that in

1 areas that had been infill drilled on 40-acre
2 spacing, that that really didn't qualify as a
3 change in technology or a change in the process,
4 and I subsequently left those areas out of the
5 EOR.

6 One of those orders has been appealed
7 to the Commission, and I expect the Commission is
8 going to make a determination on whether or not
9 we're going to allow those areas to be considered
10 for the EOR tax credit. We don't have a decision
11 yet from the Commission, but I expect that pretty
12 soon.

13 MR. STOVALL: Well, this gets different
14 from that one, however. It is different in the
15 in the sense that you're not applying for an
16 expansion, you're calling this a new project. We
17 have to look at it and say, "Is this, in fact, a
18 new project?"

19 That was an active flood and the infill
20 drilling was part of an expansion. Factually
21 it's similar; the way it's structured in the
22 regulatory sense it's different, but it is a
23 problem. You're right. It depends on how you
24 approve it, if you approve it.

25 EXAMINER CATANACH: You have a

1 one-to-one recovery on old waterflood operations
2 already. Obviously there was some benefit to
3 waterflooding operations in the first place.

4 THE WITNESS: Oh, yes.

5 EXAMINER CATANACH: You recovered a lot
6 of oil from waterflood operations. I don't know
7 that I'm going to consider this a new project. I
8 have to look at the information.

9 But if I don't consider this a new
10 operation, that's going to become critical, and
11 what I think I need from you guys is a map
12 showing us which areas have been infill drilled.
13 I think that would really benefit us when we go
14 to write the order.

15 MR. STOVALL: Let me throw a wrinkle at
16 the Examiner, because he did not sit in on the
17 Commission case, and we are breeding new ground.
18 I mean, you guys get to be part of the ongoing
19 process of progressive government, I guess.

20 The issue that was raised at the
21 Commission case is that David said, at the time
22 what he did was look at each well,
23 piece-by-piece, and included certain wells in
24 what he called the expansion and left out the
25 infill tracts, and said they were not part of the

1 expansion, they were new wells.

2 One of the questions that the
3 Commission considered in that case on appeal was
4 whether or not you simply look at a project area
5 and that whole area qualifies, and you don't
6 piecemeal it. And he had to do that in his case
7 to get it to the Commission to get guidance
8 from.

9 What is your timing on wanting to get
10 going on this? Probably yesterday, right?

11 THE WITNESS: As soon as we can, after
12 we obtain the approvals.

13 MR. STOVALL: I am going to recommend
14 to you that, if you have a little patience, and
15 I'm talking a month or two in terms of getting an
16 order, if we can let the Commission act, you have
17 the sense of what he has done historically, and
18 the Commission has looked at it and said, how do
19 you qualify a project area and a whole bunch of
20 questions came up. They may give him some
21 guidance that would affect the way he would rule
22 on this case.

23 As I say, he didn't sit in on the
24 Commission case, so he doesn't know what I know
25 about what they considered and what they asked

1 about. At this point, I would recommend that you
2 would simply ask the Examiner to wait until the
3 Commission acted.

4 That case was heard on February 10th,
5 so presumably there should be an order coming out
6 in the relatively near future on that. We're not
7 talking six months or a year wait.

8 THE WITNESS: You're talking a month or
9 two?

10 MR. STOVALL: A month or two. And what
11 it means, if he goes the way he did the first
12 time, you're going to come back before the
13 Commission, anyway, and ask them to clarify it.
14 It will cost you two or three months there, so
15 why not wait until they clarify it in the
16 existing case?

17 My thinking is, if they go with the
18 Applicant in the existing case, you're probably
19 in better shape, because his was an active flood
20 that was infilled and their expansion was in
21 terms of infill and a closer injection pattern.
22 Yours is an inactive flood.

23 THE WITNESS: In effect, yes.

24 MR. STOVALL: Which is in the same
25 boat. So, if that's--I guess it's the Examiner's

1 discretion, but it would certainly be in his best
2 interest to, I assume, wait.

3 EXAMINER CATANACH: Does it affect
4 Phase I at all?

5 MR. STOVALL: Yes, because Phase I is
6 mostly infill, if you look at the map. How many
7 new wells in Phase I?

8 THE WITNESS: 10 new wells to be
9 drilled.

10 MR. STOVALL: Do you remember which
11 page?

12 MR. COOTER: Page 17.

13 MR. STOVALL: Each of those would be a
14 new tract, in effect. You really only have one
15 tract that would not be affected that would
16 benefit. If you take the infill approach--

17 THE WITNESS: I don't know what you
18 mean by "the infill approach."

19 MR. STOVALL: What David is talking
20 about, you have to get your infill wells and the
21 infill wells don't qualify as an expansion.

22 EXAMINER CATANACH: I'm saying that
23 those areas that have already been infill
24 drilled, in the past I've had two orders that
25 I've said those don't really qualify for the EOR

1 tax credit because they've been infill drilled,
2 as part of a continuing process to waterflood,
3 and a pattern of reduction.

4 So it was that I didn't qualify those
5 areas. I said, "We've got to leave those out."
6 That's what I did in those two previous orders.

7 THE WITNESS: Oh, I see.

8 EXAMINER CATANACH: What I'm telling
9 you guys, they appealed that to the Commission to
10 try to get my decision reversed, and we're going
11 to have a decision on that from the Commission
12 any day as to whether those areas that have been
13 infill drilled should qualify for the EOR tax
14 credit. It doesn't affect your Phase I except
15 for that one tract.

16 MR. STOVALL: Yes, it does, because
17 they're going to infill all these locations.

18 EXAMINER CATANACH: Yeah, but they have
19 not been infilled yet. What I'm saying--

20 MR. STOVALL: Yeah, but would you
21 qualify those?

22 EXAMINER CATANACH: Yes. Those have--

23 MR. STOVALL: Oh, I see what you're
24 saying.

25 THE WITNESS: I see what you're saying,

1 David. The only thing in jeopardy would be the
2 patterns where the infill well has already been
3 drilled?

4 EXAMINER CATANACH: That's correct.
5 So, really, in Phase I, you're not really that
6 badly affected.

7 MR. STOVALL: I was misinterpreting
8 your last order. Sorry about that.

9 EXAMINER CATANACH: That's why I wanted
10 a map to show where the infill drilling has taken
11 place. And it doesn't look like there's been a
12 whole lot.

13 MR. STOVALL: Well 17, how long has
14 that well been there?

15 MR. HUGHES: It was drilled in 1972.

16 MR. STOVALL: Let's get a feel for when
17 that Commission order is coming out, because that
18 would clarify the issue. Virtually, all of your
19 production wells, new production wells, are going
20 to be infill wells that have yet to be drilled,
21 is that right?

22 THE WITNESS: That's correct.

23 EXAMINER CATANACH: I would say, just
24 on the basis of a pattern of reduction, you have
25 a real good chance of getting it approved for the

1 EOR tax credit based on that. Not based on the
2 fact that it's a new project; but the infill
3 drill pattern of reduction is what's going to
4 carry you over on this one.

5 Maybe the Commission--it will probably
6 be at least three or four weeks before I get an
7 order out on this, so maybe by then we'll know
8 how the Commission is going to decide.

9 MR. STOVALL: I stand corrected on some
10 of the things I said, because I was thinking they
11 were infills to be done, and these are--in other
12 words, the money had been spent. The incentive
13 value of the credit was gone because the money
14 was already spent.

15 THE WITNESS: Let us check back with
16 you, maybe, in two or three weeks to see what the
17 status of that is and so forth, and then we'll
18 see where we are then.

19 EXAMINER CATANACH: It's not going to
20 be a major effect on the thing anyway.

21 THE WITNESS: No, and you'll be
22 considering ours in the meantime, the other
23 features of it, is that correct?

24 EXAMINER CATANACH: What I could also
25 put in the order was a provision that if the

1 Commission decides that previous infill drilling
2 should qualify, I could always reverse it somehow
3 in the order. I don't know. We can talk about.

4 MR. STOVALL: Yes, I see what you're
5 saying. I don't think there will be mutual delay
6 for what you're going to do.

7 You have two approvals. One is, the
8 approval to do what you want to do; and the
9 second part of that is saying, yes, it
10 qualifies. On a totally new project, those are
11 the same thing. The approval to do what you want
12 to do automatically qualifies you for the tax
13 credit.

14 On a project such as this, that is not
15 the case. You have to determine, is it an
16 expansion, is it a legitimate expansion, does it
17 do the things that the Act intended for you to
18 do. So, that's where there's some confusion on
19 this one.

20 THE WITNESS: Let's go ahead and take
21 ours into consideration and, before you write the
22 order, we'll contact you and see where we are on
23 the Commission decision, if that influences it in
24 any way. Can we proceed that way?

25 EXAMINER CATANACH: Yes. And if the

1 Commission does decide against my original
2 thought, you can always come in and very simply,
3 I would think, amend your order to get those
4 tracts included in the EOR.

5 MR. STOVALL: In Phase I, there would
6 only be one tract affected.

7 EXAMINER CATANACH: Okay. Let's move
8 on.

9 MR. STOVALL: I don't have any more
10 questions. Are you done? You swore a second
11 witness, Paul.

12 MR. COOTER: I think we've covered it
13 all.

14 MR. STOVALL: I couldn't think of
15 anything to ask him.

16 EXAMINER CATANACH: And who is that?
17 Are you a geologist?

18 MR. HUGHES: Yes.

19 EXAMINER CATANACH: I would like some
20 testimony in the record, and I think it's needed,
21 as to the benefit of going from an 80 acre to a
22 40 acre five-spot pattern.

23 I don't know, maybe Mr. Williams is
24 more appropriate to give some testimony for that.

25 [Discussion off the record.]

1 EXAMINER CATANACH: Let's take five
2 minutes and maybe discuss this off the record or
3 something.

4 [A recess was taken.]

5 MR. STOVALL: After a break, we've
6 discussed the necessity of putting additional
7 evidence in with respect to some geological
8 considerations in the reservoir, and I think
9 we've determined that such testimony is not
10 necessary at this time.

11 EXAMINER CATANACH: Do you have
12 anything further in these cases, Mr. Cooter?

13 MR. COOTER: No, sir.

14 EXAMINER CATANACH: There being nothing
15 further, Case Nos. 10930, 10931 and 10932 will be
16 taken under advisement.

17 (And the proceedings concluded.)
18
19

20 I do hereby certify that the foregoing is
21 a complete record of the proceedings in
22 the Examiner hearing of Case No. 10930, 10931, 10932
23 heard by me on March 3 1987.

24 David R. Catanach, Examiner
25 Oil Conservation Division

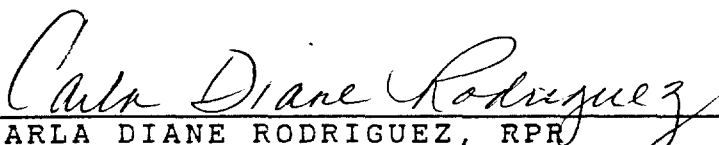
1 CERTIFICATE OF REPORTER

2
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4) ss.
COUNTY OF SANTA FE)

5
6 I, Carla Diane Rodriguez, Certified
7 Shorthand Reporter and Notary Public, HEREBY
8 CERTIFY that the foregoing transcript of
9 proceedings before the Oil Conservation Division
10 was reported by me; that I caused my notes to be
11 transcribed under my personal supervision; and
12 that the foregoing is a true and accurate record
13 of the proceedings.

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

19 WITNESS MY HAND AND SEAL April 5, 1994.
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23 CARLA DIANE RODRIGUEZ, RPR
24 CSR No. 4
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