

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO

12 April 1989

EXAMINER HEARING

IN THE MATTER OF:

In the matter of cases called on this
date and continued or dismissed with-
out testimony presented.

CASES
9643
9645
9636
9637
9648
9649
9572
9573

*Transcript in
Case 9643*

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division:

Robert G. Stovall
Attorney at Law
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico

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~~15~~ March 1989

29

EXAMINER HEARING

IN THE MATTER OF:

In the matter of cases called on this
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out testimony presented.

CASES
9200
9633
9634
9636
9637
9597
9638
9639
9640
9641

BEFORE: David R. Catanach, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division:

1 STATE OF NEW MEXICO
2 ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
3 OIL CONSERVATION DIVISION
4 STATE LAND OFFICE BUILDING
5 SANTA FE, NEW MEXICO

6
7 26 April 1989

8 EXAMINER HEARING

9 IN THE MATTER OF:

10 Application of Grand Resources, Inc. for CASE
11 a waterflood project, San Juan County, 9637
12 New Mexico.

13 BEFORE: David R. Catanach, Examiner

14 TRANSCRIPT OF HEARING

15 A P P E A R A N C E S

16
17 For the Division: Robert G. Stovall
18 Attorney at Law
19 Legal Counsel to the Division
State Land Office Building
Santa Fe, New Mexico

20 For Grand Resources, Inc.: William F. Carr
21 Attorney at Law
22 CAMPBELL and BLACK, P. A.
P. O. Box 2208
Santa Fe, New Mexico 87501

23 For Dugan Production W. Thomas Kellahin
24 Company: Attorney at Law
KELLAHIN, KELLAHIN & AUBREY
25 P. O. Box 2265
Santa Fe, New Mexico 87504

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1 MR. CATANACH: We'll call next
2 Case 9637.

3 MR. STOVALL: Application of
4 Grand Resources, Inc., for a waterflood project, San Juan
5 County, New Mexico.

6 MR. CARR: May it please the
7 Examiner, my name is William F. Carr with the law firm
8 Campbell & Black, P. A. of Santa Fe.

9 We represent Grand Resources,
10 Inc., and I have two witnesses.

11 MR. CATANACH: Any other ap-
12 pearances in this case?

13 MR. KELLAHIN: Yes, same ap-
14 pearance.

15 MR. CATANACH: Okay, Mr. Kel-
16 lahin.

17 Any other appearances? Okay,
18 will the witnesses please stand and be sworn in at this
19 time?

20

21 (Witnesses sworn.)

22

23 MR. CARR: At this time we
24 would call Jack Schrenkel. S-C-H-R-E-N-K-E-L.

25

1 JACK SCHRENKEL,
2 being called as a witness and being duly sworn upon his
3 oath, testified as follows, to-wit:
4

5 DIRECT EXAMINATION

6 BY MR. CARR:

7 Q Will you state your full name for the
8 record, please?

9 A My name is Jack Schrenkel.

10 Q Mr. Schrenkel, where do you reside?

11 A I live in Tulsa, Oklahoma.

12 Q By whom are you employed and in what
13 capacity?

14 A I'm self employed and for the purpose of
15 this case employed by Grand Resources.

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

18 A Yes, sir, many years ago.

19 Q Would you briefly summarize for Mr. Cat-
20 anach your work experience and also provide your education-
21 al background?

22 A Well, I was graduated from the Univer-
23 sity of Texas in 1950 with a degree in petroleum engineer-
24 ing.

25 After that time I was employed in the

1 industry for a predecessor of Amoco, Stanolind Oil & Gas,
2 and Union Oil Company of California for a period of about
3 13 to 14 years, and since that time I've been self-employ-
4 ed as a consulting petroleum engineer in Tulsa.

5 I'm a registered engineer in the State
6 of Texas and State of Oklahoma. I'm a member of the In-
7 terstate Oil Company Commission and belong to a number of
8 different professional societies.

9 Q What is your relationship to Jack
10 Schrenkel and Associates, Inc.?

11 A That's a corporation that I own. It's a
12 consulting engineering company.

13 Q Are you familiar with the Mesa Gallup
14 Field?

15 A Yes, sir.

16 Q How did you become initially involved
17 with this field?

18 A I had an opportunity to purchase an
19 interest that the First National Bank and Trust Bank in
20 Tulsa had foreclosed on.

21 Q And when was this?

22 A Oh, golly, it's about approximately
23 2-1/2 years ago.

24 Q Since that time have you made a study of
25 the field for the purpose of determining the feasibility of

1 instituting a waterflood project?

2 A Yes, sir, I have.

3 MR. CARR: At this time we
4 tender Mr. Schrenkel as an expert witness in petroleum
5 engineering.

6 MR. CATANACH: He is so qual-
7 ified.

8 Q Would you initially state what Grand
9 Resources seeks with this application?

10 A Grand Resources seeks to obtain permis-
11 sion to waterflood this Mesa Gallup Reservoir.

12 Q And will Grand Resources also be seeking
13 approval to form a voluntary unit for the surface?

14 A Yes, sir.

15 Q What is the current status of this
16 field?

17 A The current status is that the field is
18 at the end of its primary life. It's uneconomic to produce
19 the field, and that's the current situation.

20 Q Would you identify what has been marked
21 for identification as Grand Exhibit Number One and I'd ask
22 you to as you do that, identify the basic conclusions that
23 you've reached in preparing this exhibit.

24 A Well, the Exhibit One is a waterflood
25 study that we prepared for Grand Resources of the Mesa

1 Gallup Field in San Juan County, New Mexico.

2 Q And what was the general conclusion you
3 reached in preparing this study?

4 A The general conclusion was that the
5 field can be successfully waterflooded at a profit to both
6 the State and the owners and Navajo Tribe.

7 Q Could you generally describe the nature
8 of the reservoir?

9 A The --

10 Q And you may want to refer to Table No.
11 1.

12 A Table 1. Well, the reservoir is the --
13 consists of the Gallup Sandstone which is at approximate
14 depths of 1100 to 1500 feet deep, depending whether the
15 wells are on top of the Mesa or not.

16 The field has recovered out of about 20
17 wells 574,500 barrels at the first of this year. The pro-
18 duction is very marginal. It is approximately 360 barrels
19 per month out of the 20 producing, or the 19 producing oil
20 wells.

21 We feel like that our -- or the en-
22 gineering evidence shows that the recovery has been only a
23 small part of the oil in place and we feel like that the
24 field can be very successfully flooded like the adjacent
25 Horseshoe Gallup Fields and Many Rocks Fields.

1 Q Would you refer to the plat contained in
2 Exhibit One which identifies the acreage that is involved
3 in the waterflood project?

4 A Yes, sir.

5 Q And would you review now the information
6 contained on that plat for the examiner?

7 A This map shows the -- the acreage of the
8 two participating groups in this waterflood, Ari-Mex, who's
9 outlined in green on the lefthand side of the map, and the
10 acreage outlined in yellow is controlled by the Grand Re-
11 sources group.

12 Q Does this show the wells in the area?

13 A Yes, sir.

14 Q What is the character of the land? Is
15 this all Navajo land?

16 A Yes, sir.

17 Q Will Grand Resources obtain the neces-
18 sary approvals from EPA prior to the injection of fluids
19 into this reservoir?

20 A Yes, sir.

21 Q Could you identify the unitized inter-
22 val, please?

23 A The unitized interval is shown by Figure
24 2 where we have a typical log and the -- we are proposing
25 to unitize the interval between the radioactive marker and

1 the Juanita Lopez formation immediately underneath the
2 Gallup Sand.

3 Q And the unitized interval is just the
4 Gallup Sand?

5 A Yes, sir.

6 Q Has the reservoir that you plan to uti-
7 lize for this waterflood project been reasonably defined by
8 development?

9 A Yes, sir.

10 Q And in the unit as is now proposed, are
11 there any windows?

12 A No, sir.

13 Q Have similar waterflood projects been
14 conducted in other pools in this immediate area?

15 A Yes, sir.

16 Q And what are those?

17 A Those are Horseshow Gallup and the Many
18 Rocks Field.

19 Q Have you made a comparison of the reser-
20 voir characteristics of the Mesa Gallup Field as compared
21 to the Many Rocks and the Horseshoe Gallup Field?

22 A Yes, sir.

23 Q Is that information contained in Table 2
24 in Exhibit One?

25 A Yes, it is.

1 Q Would you briefly summarize that infor-
2 mation for Mr. Catanach?

3 A Well, briefly, the -- the -- well,
4 should I read the whole table?

5 Q Well, I think you might compare the
6 porosity and the general character that would suggest to
7 you that --

8 A All right.

9 Q -- this field could perform like the
10 other.

11 A Based on -- I might clarify one thing,
12 but based on the Horseshoe Gallup Field, I have specific
13 information, or detailed information on the Navajo FG&M
14 leases, which were not -- did not include the whole field,
15 but I had an engineering study on that performed by some
16 other people, and that particular area covered 54 wells.

17 The Many Rocks Field we had 18 wells and
18 in the Mesa Gallup, 21 wells. The average porosities of
19 the -- of that portion of the Horseshoe Gallup Field were
20 16.2 percent porosity.

21 The Many Rocks Field was 14.2 percent
22 porosity and the average porosity in the Mesa Gallup was
23 13.1 percent porosity.

24 The permeability in the Horseshow Gallup
25 Field was 90 millidarcies in my study area. In Many Rocks

1 it was 145 millidarcies and the Mesa Gallup had an aver-
2 age of 70 millidarcies.

3 If you go on down the Table 2 you'll
4 notice that the net pay thickness in the -- in the Horse-
5 shoe Gallup study area, was 11.3 feet and in our area it's
6 11.2, so we have a very good similarity there.

7 Probably more important to just sort of
8 summarize, down in the -- the oil in place we have -- we
9 have in the Horseshoe Gallup 810 barrels of oil in place
10 originally per acre foot compared to 751 barrels per acre
11 foot in the Many Rocks Field, and 678 barrels per acre
12 foot in the Mesa Gallup Field.

13 Q Now if you, as you look at these basic
14 parameters, does it suggest to you that this is a likely
15 prospect for the institution of a waterflood project?

16 A Yes, sir, it certainly does.

17 Q Could you just generally summarize how
18 Grand Resources proposes to go about instituting a water-
19 flood project?

20 A Well, Grand Resources intends initially
21 to inject water into (unclear) and those wells are the
22 Navajo -- starting at the upper lefthand part of the map,
23 you have a well in the southeast quarter of the northeast
24 quarter of Section 15 designated as 1-H. We intend to con-
25 vert that to an injection well.

1 The next injection well coming down from
2 the southeasterly direction would be the well in Section
3 14, which is -- and by the way, I've got a much bigger map
4 if it would help the Examiner.

5 Q On the -- I think if we'll go to the --
6 these are the maps that have the arrow drawn through them,
7 is that correct?

8 A Right, the wells with the arrow drawn
9 through them, yes, sir, so you can see --

10 Q The second well is in the northwest of
11 the southeast of 14?

12 A Right.

13 Q Okay. The third well is --

14 A In the northwest of the northeast of --
15 of Section 23 --

16 Q 3.

17 A 3, yes, sir.

18 Q And then the fourth well?

19 A Is in the southwest -- southeast of the
20 southwest of Section 24.

21 Q What are the projections that you have
22 made for this unit? I'm talking about investment and anti-
23 cipated future profit? You may want to refer to page 3 of
24 this exhibit to review that.

25 A Okay. All right. Table -- Table 4 is

1 the projected economics of the Mesa Gallup Unit based on a
2 constant oil price of \$15.00 per barrel. From that we feel
3 like that the 7/8ths working interest will recover a net
4 income of 2,179,000 barrels over a period of approximately
5 11 years.

6 This is based on a postulated recovery
7 of 440,000 barrels.

8 Q Now, Mr. Schrenkel, in your opinion will
9 unitized management and operation of this pool result in
10 the recovery of oil that otherwise would not be recovered?

11 A Yes, sir, it would.

12 Q And otherwise reserves will be left in
13 the ground absent the institution of a waterflood project.

14 A That's true.

15 Q Do you believe that granting this appli-
16 cation would be in the best interest of conservation, the
17 prevention of waste, and the protection of correlative
18 rights?

19 A It would.

20 Q Was Exhibit Number One prepared by you?

21 A Yes, sir.

22 MR. CARR: At this time, Mr.
23 Catanach, we would move the admission of Grand Resources
24 Exhibit Number One.

25 MR. CATANACH: Exhibit Number

1 One will be admitted as evidence in this case.

2 MR. CARR; That concludes my
3 direct examination of Mr. Schrenkel.

4
5 CROSS EXAMINATION

6 BY MR. CATANACH:

7 Q Mr. Schrenkel, does the map that you
8 have adequately show the proposed site with the extent of
9 the unit?

10 A Yes, sir.

11 MR. CARR: The unit it encom-
12 passes the acreage, I believe, shaded in yellow and in
13 green. The Dugan tract was Section 30, Mr. Catanach, off
14 to the south and the east of that area.

15 MR. CATANACH: So that whole
16 section is being --

17 MR. CARR; That whole section
18 is being dropped. It might be worthwhile to have Mr.
19 Schrenkel compare that to the isopach map of the reservoir,
20 which is contained behind that. We hadn't planned to go
21 into that unless we were doing a statutory unitization,
22 but he could make that comparison for you, if you desire.

23 MR. CATANACH: Let's go into
24 that.

25

REDIRECT EXAMINATION

BY MR. CARR:

Q Do you want to go ahead then, Mr. Schrenkel, and go to the next couple of exhibits behind the plat of the unit and review those for Mr. Catanach and show how they compare to the area which is proposed to be included in the unit?

A All right. The Map 2 is the isopach map which was, of course, generated from core analyses and well logs and this is our interpretation of the reservoir. The -- and you'll notice the dashed line is the unitized area.

So we have all of the area that is considered to be productive of oil in this particular accumulation within the confines of the proposed unit area. I might say that -- that the -- that the -- well, I don't suppose that's relevant.

Q Go ahead.

A Go ahead? I was going to say that the -- on the extreme southeast end of the reservoir there's one interpretation of the -- of the area that there's a fault in that particular area, which is recorded in the Four Corner Geologic Society report on the Mesa Gallup Field. They place a fault at the position I have shown at that area. You know, that's somewhat interpretive and it's said to be that the fault is expressed at the surface, so

1 that's the reason that that fault was put there.

2 Q And the existence of that fault would
3 segregate this project from the Dugan acreage --

4 A From the Dugan acreage.

5 Q -- is that correct?

6 A Right.

7

8 RECROSS EXAMINATION

9 BY MR. CATANACH:

10 Q Can you give me a more specific de-
11 scription of the -- of the unitized interval as far as that
12 log is concerned, it's the Navajo Tribal C No. 1? Can you
13 get some specific depths on that log?

14 A Yes.

15 MR. CARR: Just a second.

16 A Yes, just a second. Uh-huh.

17 MR. CARR: Just a second, Mr.
18 Catanach. I think that was set forth in the application
19 itself and so that we don't have a discrepancy between
20 footages selected here by the witness and the application
21 --

22 A Well, the -- the specific sand that ap-
23 pears in the Texas Pacific Coal and Oil Tribal C No. 1,
24 shown on Figure 2, occurs from an interval of 1,217 feet to
25 1,280 feet. Let's see, pardon me just a minute. No,

1 that's not right. From 17 feet to 40, from 1,217 feet to
2 1,240 feet. The basic geologic interval is the one that's
3 shown by the radioactive marker in the underlying Juanita
4 Lopez. So is -- is that adequate?

5 Q Do you know what the average, current
6 coal oil production is at this point

7 A Yes, sir, it's about -- it's about half
8 a barrel, let's see, it's in the text of Exhibit One. It's
9 approximately half a barrel per day.

10 Q And you've estimated additional reserves
11 of 440,000 barrels of oil?

12 A From waterflood.

13 Q Right.

14 A Right.

15 Q And a life of about 11 years?

16 A Yes, sir.

17 Q Does your unitized area just about have
18 all the producing wells inside it in the field?

19 A Yes, sir. Yes, sir.

20 Q So you've got pretty much the whole
21 field.

22 A We have the whole field. the two parties
23 that are agreeable to the unit.

24 Q And you're initially going to have four
25 injection wells, is that correct?

1 A Yes, sir.

2 Q And are you going to add more injection
3 wells later on?

4 A Well, that's possible but we haven't --
5 we'll need to see the response of the field before we --
6 because we want to do it in the most efficient manner.

7 Q Do you have a set pattern in mind at
8 this point?

9 A Well, the pattern is not a geometric
10 pattern as such like a 5-spot or a 9-spot pattern, but are
11 the wells that are shown on the Map Number 1, which we
12 believe will make -- result in the maximum sweep.

13 The future performance of the flood may
14 -- may -- we may decide that we want to change some of the
15 requirements based on the engineering considerations.

16 MR. CATANACH: I believe
17 that's all I have for now.

18 Are there any other questions
19 of the witness?

20 If not, he may be excused.

21 MR. CARR: Mr. Examiner, at
22 this time we'd call Mr. Marvin Robinowitz.

23

24

25

MARVIN J. ROBINOWITZ,

BY MR. CARR:

Q Will you state your full name and place

A Marvin J. Robinowitz. I live in Tulsa,

Q Mr. Robinowitz, by whom are you employ-

A I'm employed by Grand Resources, Incor-

Q Have you previously testified before

A No.

Q Would you summarize your educational

A Bachelor of Science in petroleum en-

3 years, Amoco Production Company in

Robinowitz Oil Company for 7 years

1 taking care of all assets of operating the oil company.

2 Grand Resources since 1981. I am the
3 only stockholder of Grand Resources.

4 Q Has work involved development of unit
5 areas and operations -- the operation of waterflood pro-
6 jects?

7 A In at least five occasions.

8 Q Are you familiar with the application
9 filed in Case 9637 by Grand for approval of a waterflood
10 project?

11 A Yes, sir.

12 Q When did you first become involved with
13 this project?

14 A I became involved approximately Decem-
15 ber, 1987. No, December, 1986, January, 1987.

16 Q And since that time have you been at-
17 tempting to obtain development of this particular
18 reservoir?

19 A Yes.

20 Q Have you prepared certain exhibits for
21 presentation in this hearing today?

22 A Yes, I have.

23 MR. CARR: We tender Mr.
24 Robinowitz as an expert witness in petroleum engineering.

25 MR. CATANACH: He is so qual-

1 ified.

2 Q Mr. Robinowitz, would you refer to what
3 has been marked as Grand Resources Exhibit Number Two and
4 identify this, please?

5 A These are the C-108 applications that
6 we filled out for authority to inject water.

7 Q Could you refer to page 13 of that exhi-
8 bit and review the information contained thereon for Mr.
9 Catanach?

10 A Page 3 is a summary of the wells, the
11 legal description, total depth, completion interval, casing
12 string, whether they're producing or plugged, as per scout
13 ticket information gathered in Tulsa.

14 Q All right, and does this include the
15 tabular data on wells are required by Oil Conservation
16 Division rule and Form C-108?

17 A Yes, sir.

18 Q Would you now go behind that to the plat
19 which is attached and has been marked as Exhibit Number
20 Five and review that for Mr. Catanach?

21 A This is the unit area, which shows all
22 producing wells within the unit area and holes within a one
23 mile circumference of the injection wells.

24 Q And in -- so you've got a circle -- the
25 circles indicate a half mile radius around --

1 A Yes, half mile radius.

2 Q So those are the areas of review?

3 A Correct.

4 Q Does this plat indicate the ownership in
5 the area?

6 A Yes, it does. It's not -- it's not
7 color coded like it is in the engineering report.

8 Q The engineering report contains basic-
9 ally the same map with the ownership indicated?

10 A Yes.

11 Q Who are the owners of the leases off to
12 the -- to the west and north of the pool boundary?

13 A The acreage to the west is unleased and
14 nonproductive. The acreage to the north is in Colorado,
15 the State of Colorado, and is nonproductive. The acreage
16 to the east is Woosley Production Company and they have
17 been notified. Dugan, to the south, and that is everybody
18 that is in proximity to the unit.

19 Q If you could now refer to the schematic
20 drawings which are contained in this exhibit for each of
21 the abandoned wells within the area of review.

22 A What we did, we did a schematic of the
23 holes to be converted, which is page 10, 11, 12, 13,
24 and then 14 through 23 show the plugged wells within proxi-
25 mity to the unit and how they were plugged, how they, you

1 know, surface pipe, cement plug, size of the hole.

2 Q And this indicates the plugging detail
3 on each of those wells.

4 A Yes, sir.

5 Q Could you review the schematic draw-
6 ings contained in this exhibit of each of the proposed in-
7 jection wells?

8 A Okay. The injection wells, which are
9 four, to be converted, show the surface pipe, sacks of
10 cement used, the production casing string, setting depth,
11 total depth, sacks of cement used, the perforations, the
12 plugged back depths, the top of cement calculations were
13 made by using a 1.1 cubic foot per sack volume multiplied
14 times .6 to give me a fill-up factor, to give me these
15 calculations which is a standard method used to estimate
16 top of cement in producing wells.

17 Q Are you going to be injecting through
18 tubing?

19 A Yes. We'll be injecting through tubing
20 which will be plastic coated internally and the packers
21 will be Baker Model R's. They will be plastic coated in-
22 ternally and then treated packer fluid will be put on the
23 annular side between the tubing and the production casing.

24 Q And will you provide for pressure
25 testing of the fluid in the annular space as required by

1 the Federal Underground Injection Control Program?

2 A Yes. All -- all injection wells will be
3 hydrostatically tested on the annular side above the pack-
4 er.

5 Q Now what is the source of the water you
6 propose to inject in the subject well?

7 A We plan to use Morrison water, which is
8 a commonly used fluid in that area in these two other
9 fields, the Many Rocks and the --

10 Q And the Horseshoe Gallup?

11 A -- Horseshoe Gallup.

12 Q What volumes do you propose to inject?

13 A We are hoping to inject 500 barrels per
14 day per injection well but the reservoir will tell us how
15 much to inject by running step rate tests on the injection
16 well to stay below parting pressure of the reservoir.

17 Q The maximum you're proposing is 500
18 barrels a day?

19 A Per well, yes.

20 Q And you'll be utilizing a closed or an
21 open system for injection?

22 A It will be a closed system. Everything
23 will be under a gas blanket.

24 Q Now, to take this volume of water do you
25 anticipate injecting under pressure?

1 A Yes.

2 Q And would a pressure limitation of .2
3 pound per foot to the -- of depth to the top of the injec-
4 tion interval be sufficient for your purposes?

5 A Possibly, that's why we're going to run
6 our own step rate test and whatever the step rate test is,
7 if it's 300 pounds, if it's 500 pounds, we will inject
8 below parting pressure of the reservoir.

9 Q And would it be your proposal that those
10 tests be witnesses by Commission personnel?

11 A Correct.

12 Q And that way you can assure that if you
13 increase the pressure over that limit you won't be causing
14 the formation to part.

15 A Fracture, correct.

16 Q Now, do you anticipate any problems with
17 the compatibility -- any compatibility problems by inject-
18 ing Morrison water into this?

19 A According to the information I've gath-
20 ered on these offset floods, that they have had real suc-
21 cess at using that quality of water. They've had no com-
22 patibility problems within the reservoir.

23 Q And so in both Many Rocks and in Horse-
24 shoe Gallup they're injecting Morrison water into the
25 Gallup.

1 A I believe so, yes, from the informa-
2 tion I've read that's what it appears.

3 Q Are there any fresh water zones in the
4 area?

5 A I spent time with BLM and I've been on
6 the property and according to all information I've gather-
7 ed, there are no fresh water wells. Matter of fact, there
8 are some cattle being raised and there are some sheep being
9 raised, they have to haul water in for the animals.

10 Q Are there any fresh water wells in --
11 within a mile of any of the --

12 A To my knowledge there are none.

13 Q Are logs of each of the injection wells
14 on file with the Division?

15 A Yes.

16 Q Do you have those with you?

17 A Yes, I do.

18 MR. CARR: Mr. Examiner, would
19 you prefer we mark those and offer those at this time?
20 They are on file with the Division.

21 MR. CATANACH: If we already
22 have them, we don't need them again.

23 Q Mr. Robinowitz, have you examined the
24 geologic and engineering data on this area?

25 A Yes, I have.

1 Q As a result of this examination have
2 you found any evidence of faults or any other hydrologic
3 connection between an injection zone and any possible
4 source of drinking water?

5 A None.

6 Q Have you reviewed this application for
7 unit operation of a waterflood project with the Bureau of
8 Land Management?

9 A Yes, I have.

10 Q And with the Navajo Tribe?

11 A Yes, I have.

12 Q And what response have you received?

13 A The response that upon initial observa-
14 tion that they have no objection to our putting on a secon-
15 dary recovery project.

16 Q Could you identify for Mr. Catanach what
17 has been marked as Grand Resources Exhibit Number Three?

18 A This is the unit agreement which we pre-
19 pared to govern the unitization of the acreage in question.

20 Q Is this basically a standard form?

21 A I guess it is. It was provided to me by
22 counsel which was -- had been used in this area.

23 Q Does this authorize the unit operator to
24 go forward with waterflood operations in the area?

25 A Yes, it does.

1 Q And the basis for participation is set
2 out in the exhibits to the unit agreement?

3 A Correct.

4 Q In recent negotiations this agreement
5 has been amended, is that correct?

6 A Correct.

7 Q Could you just briefly summarize the
8 nature of those amendments for Mr. Catanach?

9 A Yes. We went through and we amended the
10 acreage which we originally had proposed. We reduced it by
11 640 acres by eliminating the Dugan Section 30, which brings
12 the unit area now to 2680 acres, and in the --

13 Q Was the voting procedure adjusted?

14 A Yeah, the voting procedure was adjusted
15 as per the approved working interest participants to modify
16 the number of participants to vote to make decisions.

17 Q Originally in this agreement how many
18 working interest owners were required to approve an action
19 by the operator?

20 A What was required was four, a number of
21 four, and an 80 percent working interest.

22 Q After the boundaries were contracted,
23 how many working interest owners were left?

24 A We reduced it to two, primarily because
25 there's only four partners in the project, which would have

1 required everybody's.

2 Q Have you included or agreed to include a
3 nonconsent provision?

4 A Yes, we've added a nonconsent penalty
5 for nonparticipation with a 200 percent penalty.

6 Q That would be 200 percent over cost.

7 A Over cost, which would be a 300 percent
8 penalty.

9 Q And in that regard you're using the AAPL
10 Model Form?

11 A Correct.

12 Q Have you adjusted in any way the esca-
13 lation provisions for operating cost?

14 A Yes. We -- we identified the Ernst and
15 Whinney report to be included in the unit agreement and the
16 unit operating agreement as another guideline for setting
17 of overhead charges and drilling charges.

18 Q With these amendments have you been able
19 to obtain a verbal commitment for voluntary joinder of all
20 interest owners in this pool?

21 A Yes, all the working interest partici-
22 pants agreed to these modifications.

23 Q And by the matter comes on for hearing
24 four weeks from now, final documents will be available for
25 presentation, will they not?

1 A Correct.

2 Q Would you now identify what has been
3 marked as Grand Resources Exhibit Number Four?

4 A All right. There's one other thing that
5 we did not and that is in Exhibit B, the original applica-
6 tion had a Tract 13, which was the Dugan acreage. It has
7 been modified to 12 tracts.

8 Q And so that's Exhibit B to --

9 A To the unit.

10 Q -- our Exhibit Number Three.

11 A Right, to Exhibit Number Three.

12 Q All right, would you identify Exhibit
13 Number Four, please?

14 A Exhibit Number Four is the unit oper-
15 ating agreement.

16 Q And this has also been amended to con-
17 form with the voting provisions as set out in the unit
18 agreement, is that correct?

19 A Correct. Correct.

20 Q At this point in time you believe you
21 have 100 percent of the working interest and royalty in-
22 terest owners prepared to commit to this unit agreement, is
23 that correct?

24 A Yes, we do.

25 Q Would you simply identify for Mr. Cata-

1 nach Exhibit Number Five?

2 A Well, this is where we notified the --
3 the outside acreage, outside the unit and within the unit,
4 as far as Grand Resources intentions to apply for statu-
5 tory unitization.

6 Q And also the waterflood?

7 A And also to put on the waterflood, yes.

8 Q And is there attached to Exhibit Number
9 Five an affidavit stating that the notice requirements of
10 Oil Conservation Division rules have been complied with?

11 A Yes.

12 Q In your opinion will granting this ap-
13 plication be in the best interest of conservation, the
14 prevention of waste and the protection of correlative
15 rights?

16 A I believe it will.

17 Q Were Exhibits Two through Five either
18 prepared by you or compiled at your direction?

19 A They were compiled by me.

20 MR. CARR: At this time, Mr.
21 Catanach, we would move the admission of Grand Resources
22 Exhibits Two through Five.

23 MR. CATANACH: Exhibits Two
24 through Five will be admitted as evidence.

25 MR. CARR: That concludes my

1 direct examination of Mr. Robinowitz.

2
3 CROSS EXAMINATION

4 BY MR. CATANACH:

5 Q Mr. Robinowitz, you said the source of
6 your injected fluid would be the Morrison. Where do you
7 intend to get that from?

8 A Approximately 2500 to 3000 feet from the
9 surface.

10 Q So you're going to have a source water
11 well?

12 A We will drill a water supply well, yes.
13 And that will be a brand new hole.

14 Q Have you talked to the BLM concerning
15 fresh water in the area?

16 A Yes, I did. I was in Farmington last
17 week and specifically asked them the question, did they
18 have knowledge of fresh water wells being in the immediate
19 area and their response was they had no information that
20 showed that there was.

21 Q Did you by any chance talk to the State
22 Engineer?

23 A According to counsel, he had an indivi-
24 dual in his office converse with the State Engineer to also
25 check to see if there was fresh water.

1 Q No water wells in that immediate area?

2 MR. STOVALL: Another ques-
3 tion along that line, if I might, Mr. Examiner.

4 Did you talk to the Navajo
5 Tribe or the BIA (unclear)?

6 A No, not on this last trip. I have --

7 MR. STOVALL: With -- with
8 respect to identifying any possible water wells?

9 A No, I did not.

10 MR. STOVALL: I'm not sure
11 they've got jurisdiction but, you know, I was curious
12 whether you had.

13 Q How long have these wells been out
14 there?

15 A Most of the wells were drilled in the
16 early sixties, I believe, '61. That's when the development
17 of the field occurred.

18 MR. CATANACH: I have no fur-
19 ther questions.

20 Any other questions of this
21 witness?

22 If not, he may be excused.

23 Anything further in Case 9637?

24 MR. CARR: Nothing further.

25 MR. CATANACH: It will be taken

1 under advisement.

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(Hearing concluded.)

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C E R T I F I C A T E

I, SALLY W. BOYD, C. S. R. DO HEREBY
CERTIFY that the foregoing Transcript of Hearing before the
Oil Conservation Division (Commission) was reported by me;
that the said transcript is a full, true and correct record
of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 9637,
heard by me on April 26 1988.

David R. Catant, Examiner
Oil Conservation Division