

- CASE 5758: Application of Global Survey, Inc. for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Global Survey Unit Area comprising 4,781 acres, more or less, of State and Federal lands in Township 25 South, Ranges 26 and 27 East, Eddy County, New Mexico.
- CASE 5759: Application of Universal Resources Corporation for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the S/2 of Section 36, Township 17 South, Range 26 East, Eddy County, New Mexico, to be dedicated to a well to be drilled 660 feet from the South line and 1980 feet from the West line of said Section 36. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.
- CASE 5760: Application of Morris R. Antweil for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the S/2 of Section 33, Township 21 South, Range 26 East, Avalon Field Extension, Eddy County, New Mexico. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.
- CASE 5761: Application of Atlantic Richfield Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the State Vacuum Unit Area comprising 800 acres, more or less, of State lands in Sections 29, 31, and 32, Township 17 South, Range 34 East, Lea County, New Mexico.
- CASE 5762: Application of Atlantic Richfield Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project on its State Vacuum Unit Area, Vacuum Pool, Lea County, New Mexico, by the injection of water into the Grayburg-San Andres formation through 11 injection wells located in Unit M of Section 29, Units A and I of Section 31, and Units C, E, G, I, K, M, N, and O of Section 32, all in Township 17 South, Range 34 East.
- CASE 5763: Application of Roger C. Hanks for the amendment of Order No. R-4691-A, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-4691-A, which order promulgated special pool rules for the North Dagger Draw-Upper Pennsylvanian Pool, Eddy County, New Mexico. Applicant seeks the establishment of a special depth bracket allowable for said pool of 350 barrels per day.
- CASE 5767: Application of American Quasar Petroleum Co. of New Mexico for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Brinninstool Unit Area comprising 5,743 acres, more or less, of State and Federal lands in Township 23 South, Range 33 East, Lea County, New Mexico.
- CASE 5746: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Conley and Associates, Inc., the Travelers Indemnity Company, and all other interested parties to appear and show cause why the following wells in Harding County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program:
- Township 15 North, Range 33 East:
Arthur Cain Well No. 3 located in Unit N of Section 4; Arthur Cain Well No. 2 located in Unit K of Section 10; and State Well No. 1 located in Unit D of Section 21;
- Township 16 North, Range 33 East:
State Well No. 1-X located in Unit M of Section 27.

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 15, 1976

EXAMINER HEARING

IN THE MATTER OF:)

Application of Atlantic Richfield Co.)
for a unit agreement, Lea County,)
New Mexico.)

CASE
5761

Application of Atlantic Richfield Co.)
for a waterflood project, Lea County,)
New Mexico.)

CASE
5762

BEFORE: Richard L. Stamets, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Commission: William F. Carr, Esq.
Legal Counsel for the Commission
State Land Office Building
Santa Fe, New Mexico

For the Applicant: Clarence E. Hinkle, Esq.
HINKLE, BONDURANT, COX & EATON
Attorneys at Law
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THOMAS R. BARR

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1 MR. STAMETS: We will call next Case 5761.

2 MR. CARR: Case 5761, application of Atlantic Richfield
3 Company for a unit agreement, Lea County, New Mexico.

4 MR. HINKLE: Mr. Examiner, Clarence Hinkle, Hinkle,
5 Bondurant, Cox and Eaton, appearing on behalf of Atlantic
6 Richfield Company. We have two witnesses we would like to have
7 sworn.

8 (THEREUPON, the witnesses were duly sworn.)

9 MR. HINKLE: Mr. Examiner, we have a lot of exhibits,
10 sixty-seven of them, in fact, but most of them are diagrammatic
11 sketches of the injection wells and producing wells so the
12 testimony will be in respect to those. They are all under these
13 folders.

14 MR. STAMETS: I presume what you would like to do
15 then is consolidate this case and the next case?

16 MR. HINKLE: Yes, sir, I would.

17 MR. STAMETS: Let me call that next case then. Case
18 5762 being the application of Atlantic Richfield Company for
19 a waterflood project, Lea County, New Mexico.

20 For purposes of the record, Cases 5761 and 5762 will
21 be consolidated.

22

23 JOHN KNEPLER

24 called as a witness, having been first duly sworn, was
25 examined and testified as follows:

DIRECT EXAMINATION

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BY MR. HINKLE:

Q State your name, residence and by whom you are employed?

A My name is John Knepler, I live in Midland, Texas and I'm employed by Atlantic Richfield Company.

Q What is your position with Atlantic Richfield?

A I'm an Operations Engineer.

Q Petroleum engineer?

A Yes, sir.

Q Have you previously testified before the Commission?

A No, I have not.

Q State briefly your educational background and your experience as a petroleum engineer?

A I graduated from the Missouri School of Mines with a B.S. in petroleum engineering in 1967 and I received a M.S. in petroleum engineering from Stanford University in 1968. I have worked for Atlantic Richfield as an Operations Engineer for eight years. I'm a Registered Professional Engineer in the State of Louisiana and I've worked in the Permian Basin for three-and-a-half years.

Q Are you familiar with Atlantic Richfield's operations in New Mexico and in particular in this Vacuum area?

A Yes, sir.

Q Have you made a study of the Vacuum Pool and all of

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1 the wells that have been drilled in the area?

2 A. Yes, sir.

3 MR. HINKLE: Are his qualifications sufficient?

4 MR. STAMETS: They are.

5 Q. (Mr. Hinkle continuing.) What is Atlantic Richfield
6 seeking to accomplish by this application?

7 A. Approval for --

8 Q. There are two applications.

9 A. Approval for unitization and to waterflood the State
10 Vacuum Unit.

11 Q. Have you prepared or has there been prepared under
12 your direction certain exhibits for introduction in this case?

13 A. Yes, sir.

14 Q. These are the exhibits that have been marked One
15 through Sixty-seven, I believe?

16 A. Yes, they are.

17 Q. Refer to Exhibit One and explain what this is and
18 what it shows?

19 A. This exhibit shows the outlines of the proposed unit
20 area and all wells that have been drilled on the unit area and
21 wells within two or more miles surrounding the same and the
22 formations which they are producing from.

23 This exhibit also shows the outlines of the West
24 Vacuum Unit which is contiguous to the proposed unit on the
25 east and southeast. Also it shows the outline of the EK Queen

1 Unit which lies to the southwest of the proposed unit.

2 Exhibit Number One also shows the ownership of all
3 of the leasehold interests within the unit area and in the
4 surrounding area.

5 The proposed injection wells within the unit are
6 shown by triangles and the additional injection well which is to
7 be drilled is shown near the south boundary of Section 32.

8 Q Refer to Exhibit Two and explain that?

9 A Exhibit Number Two is a plat showing the outlines of
10 the unit area which is the same as Exhibit A attached to the
11 unit agreement, copies of which have been filed with the
12 application for approval of the unit agreement.

13 Q Are all of the lands State lands?

14 A Yes, they are.

15 Q How many acres are involved?

16 A Eight hundred, approximately.

17 Q Now, refer to Exhibit Three and explain what this
18 is?

19 A Exhibit Three is a structural map contoured on top
20 of the Grayburg-San Andres formation with a twenty-foot
21 contour interval, which is to be unitized. The Grayburg-
22 San Andres formation as defined by the unit is the seven-
23 hundred-and-seventeen-foot interval, the top of which is
24 shown on the Lane Wells Radioactivity Log dated January 30th,
25 1948 at a subsurface depth of forty-one hundred and ninety-four

1 feet in the Cole and Darden Phillips State B No. 1-X Well
2 located six-hundred-and-sixty feet from the south line and
3 six-hundred-and-sixty feet from the west line of Section 29,
4 Township 17 South, Range 34 East, Lea County.

5 Q What does Exhibit Three show in effect?

6 A It shows that the proposed unitized formation has
7 continuity and is substantially uniform over the entire
8 unit area.

9 Q Refer to Exhibit Four and explain this?

10 A Exhibit Four is a north-south cross section across
11 the unit, utilizing logs of the unit wells and showing the
12 Grayburg-San Andres interval we propose to waterflood.

13 Q Is the waterflood interval rather uniform throughout
14 the area?

15 A Yes, sir, this exhibit and the next one indicate
16 that the unitized formation has continuity and is substantially
17 uniform over the entire area.

18 Q The next exhibit is Five and it is an east and west
19 cross section showing the same thing?

20 A That is correct.

21 Q Now, refer to Exhibits Six through Fifteen and
22 explain what these are and what they show?

23 A Exhibits Six through Fifteen are schematic drawings
24 of ten of the eleven injection wells which are to be utilized
25 in the unit. These ten wells, Six through Fifteen, are wells

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1 that are to be converted to injection. Each of these drawings
2 show all casing strings, including diameters and setting depths
3 quantities used and tops of cement, open-hole intervals as
4 well as tubing strings, including diameters and setting depths
5 and location of packers.

6 Logs of each well to be converted to injection were
7 filed with the hearing application.

8 Q In your opinion will the completion of these wells
9 in the manner shown by these exhibits confine injection water
10 to the unitized formation?

11 A Yes, sir, they will.

12 Q Do you intend to use plastic-coated tubing in
13 connection with each injection well?

14 A Yes, we do.

15 Q Refer to Sixteen and state what that is.

16 A This is a schematic drawing of the State Vacuum
17 Unit Well No. 21 which is to be drilled and completed as an
18 injection well on the south edge of the unit.

19 Q What would be the location of that well?

20 A Approximately three, thirty from the south line and
21 twenty-three, ten from the west line of Section 32, 17 South,
22 34 East.

23 Q In this connection have you given all of the offset
24 owners notice of the application?

25 A Yes, we have.

1 Q Have you had any objections?

2 A No, we haven't, all of our offset owners are also
3 partners in the proposed unit.

4 Q Now, refer to Exhibits Seventeen through Twenty-Six
5 and explain what these are.

6 A These are schematic drawings of the producing wells
7 in the unit. Each of these drawings show all casing strings,
8 including diameters and setting depths, quantities used and tops
9 of cement, open-hole intervals and tubing strings, including
10 diameters.

11 Q Did you find any particular problem in connection
12 with any of these wells as far as waterflood is concerned?

13 A No, sir, I did not.

14 Q Now, refer to Exhibits Twenty-seven and Twenty-eight.

15 A These are schematic drawings of two plugged and
16 abandoned wells within the unit area. Each of these drawings
17 shows all casing strings left in the well, including diameters
18 and setting depths, quantities and tops of cement, sizes and
19 locations of cement plugs placed in the wells and the plugging
20 date as completely as I was able to determine.

21 Q Why did you include these two wells?

22 A Atlantic Richfield is aware of the waterflow
23 problems that have developed in the Vacuum Field and we are
24 participating in the Vacuum Waterflow Committee.

25 Wellbore diagrams and Bradenhead surveys have been

1 submitted to the Commission on all wells within the proposed
2 unit and no waterflow problems were found in any of these wells.

3 We have submitted schematic diagrams on all wells
4 within the unit area. All of these diagrams on active wells
5 indicate open-hole completions in the Grayburg-San Andres
6 interval with at least six-hundred-and-seventy-five feet of
7 cement above the casing shoe.

8 The schematic drawing of the proposed injection well
9 to be drilled indicates that we will circulate cement to the
10 surface on the production casing.

11 The schematic diagram of the two plugged and abandoned
12 wells within the unit area indicate that these wells were
13 properly plugged and should not be a source of water migration
14 out of the waterflood zone.

15 We intend to run periodic injection surveys and step
16 rate tests on our injection wells to monitor waterflood
17 performance and maximize all producing rate and ultimate
18 recoveries. We will run the first set of the pressure parting
19 tests within sixty to a hundred-and-twenty days after injection
20 starts, if the injection wells have pressure on them. If these
21 wells are still taking water on a vacuum at that time we will
22 be unable to run these tests and it would be unnecessary to do
23 so. We plan to keep our injection pressures below the formation
24 parting pressure as indicated by these step rate tests. This
25 formation parting pressure will continue to increase as

1 reservoir pressure increases with the waterflood operation.
2 However, we do not at any time plan to exceed a formation base
3 injection pressure in excess of one psi per foot. In addition,
4 we will equip the wellhead of each well within the unit area
5 in such a manner so that periodic Bradenhead monitoring can
6 be done.

7 Q Now, refer to Exhibits Twenty-nine through Sixty-six
8 and explain what these are.

9 A Exhibits Twenty-nine through Sixty-six are schematic
10 drawings of all wells producing, injection or plugged and
11 abandoned within one-half-mile of the unit boundary. Each
12 of these drawings show all casing strings, including the
13 diameters and setting depths, quantities used and tops of
14 cement, open-hole intervals and tubing strings, including
15 diameters, as completely as I was able to determine from the
16 Commission records.

17 Q Why did you include these wells?

18 A We wanted to be as certain as possible that there
19 were no problems to be anticipated with waterflows around our
20 proposed unit. There were schematic drawings and Bradenhead
21 surveys made on all wells in the field in accordance with the
22 Waterflow Committee recommendations and there were no problems
23 appeared on any of these wells and we wanted the record to
24 reflect that they were, in our opinion, safe and should not
25 present any problem to our waterflood.

1 Q This was simply because they have had the waterflow
2 problem in the Vacuum area?

3 A In some parts of the field there have been problems.

4 MR. STAMETS: While we are right on this subject,
5 do you know of your own knowledge, if any of the wells offsetting
6 your proposed waterflood had pressure on the Bradenhead?

7 A Well, the criteria that was determined by the
8 Committee as a problem well would be a well that would flow
9 water under a certain -- had a certain pressure on it and would
10 flow water when the valve was open. Now, if a well actually
11 had pressure and it was just a puff of gas that would blow off
12 immediately this was not considered significant and I do not
13 know well-by-well if any of these had that problem but I do
14 know that none of them had a waterflow within the criteria
15 established by that Committee.

16 MR. STAMETS: Thank you.

17 Q (Mr. Hinkle continuing.) Have you made an estimate
18 of the additional oil you expect to recover by reason of the
19 waterflood?

20 A Yes, we expect to recover approximately one million,
21 seven hundred thousand barrels of secondary oil that would
22 otherwise be unrecoverable without waterflooding the unit area.

23 Q In your opinion, would it be helpful and advisable
24 if the order approving the waterflood project provides for
25 administrative approval of any changes which might prove

1 necessary as far as the location of the injection wells are
2 concerned?

3 A. Yes.

4 Q. Are you requesting a project allowable?

5 A. Yes, we would like to have the benefit of a project
6 allowable as provided in Rule 701 of the Commission so that
7 the allowable assigned for the wells may be equal to the
8 ability of the wells to produce and so that they would not be
9 subject to the depth bracket allowable for the pool nor the
10 market demand percentage factor.

11 Q. What quantity of water do you anticipate you will
12 inject initially?

13 A. Approximately fifty-five hundred barrels a day into
14 the eleven wells beginning about January 1st, 1977.

15 Q. What is going to be the source of your water?

16 A. The City of Carlsbad its water supply system which
17 obtains water from the Ogallala formation in Lea County.

18 Q. Do you also contemplate injecting produced water?

19 A. Yes, we do as it becomes available.

20 Q. Have all of the wells in the proposed unit reached
21 an advanced stage of production and are classed as stripper
22 wells?

23 A. Yes, Exhibit Sixty-seven is a plat of the unit area
24 and shows the proposed injection and producing wells and the
25 average daily oil and water production for each well during

1 May of 1976.

2 Q In your opinion will approval of this application
3 be in the interest of conservation, prevention of waste and
4 protect correlative rights?

5 A Yes, it will.

6 MR. HINKLE: We would like to offer Exhibits One
7 through Sixty-seven.

8 MR. STAMETS: Exhibits One through Sixty-seven will
9 be admitted.

10 (THEREUPON, Applicant's Exhibits One through
11 Sixty-seven were admitted into evidence.)

12 MR. HINKLE: That's all the direct we have.

13
14 CROSS EXAMINATION

15 BY MR. STAMETS:

16 Q Going back to Exhibit Number Twenty-seven.

17 A Yes, sir.

18 Q The well here, located six, sixty north and east of
19 Section 31 has been plugged with a series of five-sack plugs,
20 it appears. Do you think this is adequate by today's
21 standards?

22 A Well, certainly if we were going to plug this well
23 today we would probably put more than that amount of cement in
24 the well. However, this is the information which I was able
25 to find after diligent search of our records and the lease

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1 owner on whose lease this well is located and the only source
2 of any data from this old well was the Commission's records
3 and the five sacks might or could be sufficient in the proper
4 location. On the note here in the middle of the diagram there
5 is a plug at the base of the salt with no description as to
6 what size it was and also the five-and-a-half casing, the
7 records indicate that it was probably pulled but not definitely.
8 It could possibly be in the well. So certainly with this
9 cement with the casing in the well would be much better than
10 if this amount of cement was used in essentially an open-hole
11 interval of a dry hole that had been drilled with no casing
12 left in the well at all.

13 Q Nonetheless, this is not the type of plugging program
14 you would recommend today?

15 A No, sir.

16 Q Is there a possibility that Atlantic might have to
17 go in this well and re-plug it to assure that water is not
18 going to escape through it?

19 A Well, there is certainly a possibility. We do intend
20 to monitor all of the wells, including these plugged wells.

21 Q How would you propose to monitor this well?

22 A Since this well is cemented about the only thing we
23 could do would be to maybe, and I have not physically been on
24 the site to look at it, we could possibly get into the surface
25 casing and weld a valve on there to see if there was any pressure

1 on it and continue to monitor that but if a problem develops
2 and when the problem develops, it would just depend on what
3 the problem was and we would begin a search to try to determine
4 the source and correct the problem, yes, sir.

5 Q Now, did I understand you to say that you had checked
6 the Bradenhead on every well within the project area, every
7 well that has one?

8 A There has been submitted and it is in the Commission
9 files a sketch and a pressure survey on all wells in this
10 field and I have looked at the records on these wells. I have
11 not personally been out to the wells, especially if they weren'
12 on our lease but this Committee flagged all wells in which
13 there was any problem that exceeded their criteria and this
14 was with people with the Commission staff in the Committee and
15 with their guidance and none of the wells in this area,
16 including the wells that I have shown all of these sketches
17 on, had any problem that was considered significant.

18 Q Will the Bradenheads be periodically tested in this
19 area during the course of your flood?

20 A Yes, within the unit area. As I said we intend to
21 equip the wellheads so that we can periodically check the
22 pressure on them. Now, as far as those outside the unit area,
23 that would be dependent upon what Commission rules are
24 eventually issued for this field where a problem has been
25 found.

1 Q Right. I was concerned primarily with the unit area
2 in this case.

3 A Yes, indeed, we will monitor those.

4 Q And you have reviewed the well construction on all of
5 the wells in the unit area and you are fairly confident that
6 they are in good shape?

7 A Yes, very much so.

8 Q Now, you indicated that you planned to limit pressures
9 to one psi per foot. The recent Commission orders have limited
10 pressure generally to seven-tenths of a pound.

11 A Well, I said that first and foremost we will limit
12 the pressure to what the step rate tests indicate we should
13 limit it to but under no circumstances would we go over one
14 psi. We fully anticipate that we will limit it to much less
15 than that by those step rate tests and other monitoring
16 techniques which we intend to employ.

17 Q Now, these step rate tests would be commenced, what,
18 sixty to a hundred-and-twenty days after you get some pressure
19 built up?

20 A Well, I said within sixty to a hundred-and-twenty
21 days after injection starts, depending upon if the wells had
22 pressure on them and I think the way you have stated it would
23 probably be more concise that once the wells get enough pressure
24 on them to enable us to run the tests we will run them and we
25 anticipate that it would be something like sixty to a hundred-

1 and-twenty days.

2 Q If you were initially limited to seven-tenths of a
3 pound per foot formula you would not have any problems with
4 that lease as the flood began?

5 A I don't see that we would, we anticipate that the
6 wells will take water on a vacuum for awhile and then the
7 pressure would gradually increase as we increased the pressure
8 in the reservoir, now, at which time we ran step rate tests
9 which indicated we would not be parting the formation in a
10 pressure in excess of that seven-tenths, we would probably
11 come back to the Commission with that evidence and request
12 that we be allowed to go up to what the step rate test
13 indicated would be a safe operating pressure.

14 Q Do you plan to run a synergetic log on the well to
15 be drilled in here? This is a log which can be utilized to
16 calculate the parting pressure of the formations in the area.

17 A I'm not familiar with that log.

18 Q It might be something to look into when this well is
19 drilled and I know that Schlumberger out of the Hobbs office
20 has run them because I have seen a couple of them.

21 A It sounds like a new application of some existing
22 logging techniques.

23 Q It is.

24 A Which probably we will be running those logs anyway
25 and it wouldn't be any problem to incorporate that calculation

1 from the data.

2 Q I would encourage you to work with our District
3 Supervisor in Hobbs on this particular problem and if it is run,
4 the Commission would like to have a copy. Would you be agreeable
5 to submitting copies of parting pressure tests as they are run?

6 A Yes, sir.

7 Q And I presume the annulus on all of these wells would
8 be loaded, gauged or left open or some other method to test
9 those?

10 A It will be loaded with a treated water to prevent
11 corrosion and hooked up for pressure monitoring.

12 MR. HINKLE: One other question.

13
14 REDIRECT EXAMINATION

15 BY MR. HINKLE:

16 Q Does Atlantic Richfield own the leases upon which the
17 two dry holes are located, shown by Exhibits Twenty-seven and
18 Twenty-eight?

19 A We own the lease where one of them is located.

20 Q Which one is that?

21 A Well No. 28 is located on Atlantic Richfield's lease
22 in the south half of Section 32.

23 Q Were these wells plugged and abandoned by Atlantic
24 Richfield?

25 A No, sir, they were plugged and abandoned a long time

1 before we acquired the lease.

2 Q By other owners?

3 A By other owners, yes.

4 MR. HINKLE: That's all.

5 MR. STAMETS: Are there any other questions of this
6 witness? He may be excused.

7 (THEREUPON, the witness was excused.)

8 MR. HINKLE: We have one other witness.

9

10 THOMAS R. BARR

11 called as a witness, having been first duly sworn, was
12 examined and testified as follows:

13

14 DIRECT EXAMINATION

15 BY MR. HINKLE:

16 Q State your name, your residence and by whom you
17 are employed?

18 A Thomas R. Barr, I live in Midland, Texas and I'm
19 employed by Atlantic Richfield.

20 Q What is your position with Atlantic Richfield?

21 A Landman.

22 Q Have you had considerable experience as a Landman?

23 A Yes, sir, I have been employed here in the Permian
24 Basin and New Mexico area for about a year-and-a-half and I
25 have had another additional year in other parts of the country.

1 Q Are you familiar with the application which Atlantic
2 Richfield has made for the pool of the unit agreement in this
3 case?

4 A Yes, sir, I am.

5 Q Have you been handling the matter as far as obtaining
6 approval of the unit by the working interest owners?

7 A Yes, sir, I have.

8 Q Has there been filed with the application in this
9 case, three copies of the unit agreement?

10 A Yes, sir.

11 Q Has this form been approved by the Commissioner of
12 Public Lands?

13 A Yes, sir, it has.

14 Q Is this substantially the same form as has heretofore
15 been approved and used where State lands are involved or where
16 a waterflood project is contemplated?

17 A Yes, sir, it is.

18 Q Is Atlantic Richfield designated as operator in the
19 unit agreement?

20 A Yes, sir.

21 Q I believe that the previous witness testified as to
22 the formation which is being unitized, there is only the one
23 formation being unitized by the unit?

24 A Yes, sir.

25 Q Does the unit agreement specifically provide for the

1 primary purpose of the unit and what is that?

2 A. Secondary recovery, sir.

3 Q Does the unit agreement contain a participating
4 formula?

5 A. Yes, sir, Section 13 which begins on page twelve
6 provides that the respective tracts shown on Exhibit B attached
7 to the unit are to participate in accordance with the percent-
8 ages as set forth in Exhibits C-One, C-Two during Phase One
9 and Phase Two of the waterflood.

10 Q Have you contacted all of the working interest
11 owners and invited them to join the unit?

12 A. Yes, sir.

13 Q What is the present status?

14 A. We currently have signed joinders from all parties
15 with the exception of Texaco. Texaco has by phone stated that
16 they will join but it has not been formally approved through
17 their organization and shortly we expect their signed joinder
18 as well.

19 Q So you contemplate one hundred percent joinder?

20 A. Yes, sir.

21 Q And all of these parties have approved the partici-
22 pating formula?

23 A. Yes, sir.

24 MR. HINKLE: That's all we have of this witness.
25

CROSS EXAMINATION

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BY MR. STAMETS:

Q What percent do you have signed up on this unit at this time?

A It depends on the basis of Phase one or Phase Two. If it is on the basis of Phase One we have approximately fifty percent sign up. Texaco owns currently in Phase one fifty point six, eight percent.

Q Do you anticipate a hundred percent sign up?

A Hopefully within two weeks, yes, sir.

MR. STAMETS: Any other questions of the witness?

He may be excused.

(THEREUPON, the witness was excused.)

MR. STAMETS: Anything further in this case?

MR. HINKLE: That's all.

MR. STAMETS: The case will be taken under advisement.

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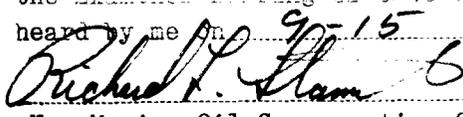
REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a Certified Shorthand Reporter,
do hereby certify that the foregoing and attached Transcript
of Hearing before the New Mexico Oil Conservation Commission
was reported by me, and the same is a true and correct record
of the said proceedings to the best of my knowledge, skill and
ability.



Sidney F. Morrish, C.S.R.

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825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501
Phone (505) 982-9212

I do hereby certify that the foregoing is
a complete and correct transcript of the proceedings in
the Examine hearing of case 5261-5762
heard by me on 9-15, 19 76

_____, Examiner
New Mexico Oil Conservation Commission

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