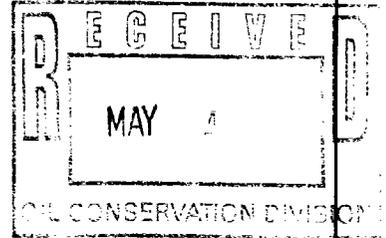


STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION



IN THE MATTER OF THE HEARING)
CALLED BY THE OIL CONSERVATION)
DIVISION FOR THE PURPOSE OF)
CONSIDERING:)
APPLICATION OF YATES PETROLEUM)
CORPORATION)

CASE NO. 11,236

ORIGINAL

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

April 6th, 1995

Santa Fe, New Mexico

This matter came on for hearing before the Oil Conservation Division on Thursday, April 6th, 1995, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, before Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

* * *

STEVEN T. BRENNER, CCR
(505) 989-9317

I N D E X

April 6th, 1995
 Examiner Hearing
 CASE NO. 11,236

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* * *

A P P E A R A N C E S

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By: W. THOMAS KELLAHIN

* * *

1 WHEREUPON, the following proceedings were had at
2 9:14 a.m.:

3
4
5 EXAMINER CATANACH: At this time we'll call Case
6 11,236.

7 MR. CARROLL: Application of Yates Petroleum
8 Corporation for a pressure maintenance project, Chaves
9 County, New Mexico.

10 EXAMINER CATANACH: Are there appearances in this
11 case?

12 MR. CARR: May it please the Examiner, my name is
13 William F. Carr with the Santa Fe law firm Campbell, Carr
14 and Berge.

15 We represent Yates Petroleum Corporation in this
16 matter, and I have two witnesses.

17 EXAMINER CATANACH: Additional appearances?

18 MR. KELLAHIN: Mr. Examiner, I'm Tom Kellahin of
19 the Santa Fe law firm of Kellahin and Kellahin, appearing
20 today on behalf of Jim K. Miller. Mr. Miller is the
21 surface owner of the project area.

22 We have no witnesses, Mr. Examiner.

23 EXAMINER CATANACH: Will the two witnesses please
24 stand to be sworn in?

25 (Thereupon, the witnesses were sworn.)

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ROBERT BULLOCK,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. My name is Robert Bullock.

Q. And where do you reside?

A. I reside in Hope, New Mexico.

Q. Mr. Bullock, by whom are you employed?

A. I'm employed by Yates Petroleum Corporation.

Q. And what is your current position with Yates?

A. I'm a landman.

Q. Have you previously testified before this Division and had your credentials as a landman accepted and made a matter of record?

A. Yes, sir.

Q. Are you familiar with the Application filed in this case on behalf of Yates Petroleum Corporation?

A. Yes, sir.

Q. Are you familiar with the status of the lands in the area which are the subject of this Application?

A. Yes, sir.

MR. CARR: Are the witness's qualifications acceptable?

1 EXAMINER CATANACH: They are.

2 Q. (By Mr. Carr) Mr. Bullock, could you initially
3 just review what Yates seeks with the Application?

4 A. We'd like to seek authority to institute a
5 pressure maintenance program under the Quincy lease,
6 specifically the portion of it being the northwest quarter
7 of Section 12, Township 8 South, Range 27 East, and inject
8 water into our Quincy Number 8 well. The location of that
9 Quincy 8 is 2310 from the north and west lines of that
10 section.

11 Q. Now, the project area will be the northwest
12 quarter of Section 12?

13 A. That's correct.

14 Q. Let's go to what has been marked as Yates Exhibit
15 Number 1. Could you identify that and review it, please?

16 A. In Exhibit Number 1 we have attempted to outline
17 our leases in the area immediate to the Quincy Number 8, to
18 the project area. We have highlighted those leases in
19 yellow. They're all State of New Mexico leases. We've
20 colored those in yellow.

21 We've hatched two 80-acre standup proration
22 units. That acreage was farmed out to Collins Oil and Gas
23 Corporation to drill San Andres wells in 1993.

24 We also have indicated on that map in red, in the
25 center there, of Section 12, our Quincy Number 8 well.

1 Q. Mr. Bullock, what is the current status of the
2 Quincy Number 8 well?

3 A. The Quincy Number 8 is a noncommercial San Andres
4 Oil well.

5 Q. And when was this well actually drilled?

6 A. I don't have that date in front of me.

7 Q. Has it been drilled within the -- during the
8 first quarter of this year?

9 A. I believe that's correct, yes.

10 Q. By converting this well from a noncommercial
11 producing well to injection, will there be additional
12 demands or additional surface use required?

13 A. No, sir, we plan to use the existing pad and use
14 the existing water lines, so there will be no additional
15 lands for this maintenance project.

16 Q. In fact, are you going to just reverse the flow
17 in the existing lines and that removed water from the site
18 will be used to bring it to the site for injection?

19 A. That's correct.

20 Q. Will Yates be calling an engineering witness who
21 can review the technical details of this proposal?

22 A. Yes, sir.

23 Q. Is Yates Exhibit Number 2 an affidavit with
24 attached letters confirming that notice of the Application
25 has in fact been provided to Jim K. Miller, the surface

1 owner, and Collins Oil and Gas Corporation and leasehold
2 operator in the area?

3 A. Yes, sir.

4 Q. Is Collins the only leasehold operator within a
5 half mile of the proposed injection well, other than Yates?

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

7 Q. Were Exhibits 1 and 2 prepared by you or at your
8 direction?

9 A. Yes, sir.

10 MR. CARR: At this time, Mr. Catanach, we move
11 the admission of Yates Petroleum Corporation Exhibits 1 and
12 2.

13 EXAMINER CATANACH: Exhibits 1 and 2 will be
14 admitted as evidence.

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

17 EXAMINER CATANACH: Mr. Kellahin?

18 MR. KELLAHIN: Thank you, Mr. Examiner. I have
19 no questions of Mr. Bullock.

20 EXAMINER CATANACH: Thank you.

21 EXAMINATION

22 BY EXAMINER CATANACH:

23 Q. Mr. Bullock, the northwest quarter of Section 12,
24 that's the Quincy State lease. Is that V-2982?

25 A. Yes, sir.

1 Q. That is -- All of that is under the Quincy lease;
2 is that correct?

3 A. The entire section --

4 Q. Okay.

5 A. -- is under the Quincy lease.

6 Q. Is the ownership of that lease Yates Petroleum?

7 A. It's the Yates Companies: Yates Pet, Yates
8 Drilling, Abo and Myco.

9 Q. So the interest is common within the northwest
10 quarter of Section 12?

11 A. Yes, sir.

12 Q. Okay. Mr. Bullock, have you spoken to the
13 Commissioner of Public Lands about this proposal at all?

14 A. No, sir.

15 EXAMINER CATANACH: Okay, I have no further
16 questions, Mr. Carr.

17 MR. CARR: We have nothing further of Mr.
18 Bullock.

19 At this time we call Pinson McWhorter.

20 PINSON MCWHORTER,

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

23 DIRECT EXAMINATION

24 BY MR. CARR:

25 Q. Will you state your full name and place of

1 residence?

2 A. Yes, my name is Louis Pinson McWhorter. I live
3 in Artesia, New Mexico.

4 Q. By whom are you employed?

5 A. I'm employed by Yates Petroleum Corporation.

6 Q. What is your current position with Yates?

7 A. Reservoir engineering supervisor.

8 Q. Mr. McWhorter, have you previously testified
9 before the Oil Conservation Division?

10 A. Yes, I have.

11 Q. At the time of that testimony, were your
12 credentials as a petroleum engineer accepted and made a
13 matter of record?

14 A. Yes, they were.

15 Q. Are you familiar with the Application filed in
16 this case?

17 A. Yes, I am.

18 Q. Are you familiar with the status of the subject
19 well and the other wells in the project area?

20 A. Yes, I am.

21 MR. CARR: Are the witness's qualifications
22 acceptable?

23 EXAMINER CATANACH: They are.

24 Q. (By Mr. Carr) Mr. McWhorter, let's go first to
25 what has been marked Yates Petroleum Corporation Exhibit

1 Number 3.

2 Would you identify that Exhibit for Mr. Catanach
3 and then review the information contained thereon?

4 A. Yes, this Exhibit is a structure map created on
5 top of the P-1 anhydrite, which lays conformably on the top
6 of the P-1 San Andres porosity zone, the zone that we'll be
7 injecting into.

8 As you can see, Mr. Examiner, the structure is
9 not a significant factor. In fact, it's almost no factor
10 whatsoever, as regards to pressure maintenance water
11 injection. In fact, what this shows is that the --
12 areally, the San Andres P-1 zone is distributed over the
13 whole project area.

14 Additionally on this map is an indication of a
15 cross-section which we have built to demonstrate the
16 vertical conformity of the San Andres P-1 zone.

17 Q. Let's go to that cross-section, Yates Exhibit
18 Number 4, and I'd ask you to review that, please.

19 A. Exhibit Number 4 is a cross-section. It's a
20 cross-section that's hung on a structural datum of plus
21 1950, 1950 feet above sea level.

22 It runs west to east, from A to A', A being the
23 Yates Petroleum Corporation Trail Blazer "ANL" State Number
24 2, A' location being the Quincy "AMQ" State Number 8, which
25 is the well which we propose to inject water into this San

1 Andres P-1 porosity zone.

2 If you look at the base of the logs on this
3 cross-section, we have highlighted the top of the P-1
4 porosity zone, which will be the injection zone. It's also
5 the producing zone in this ACME San Andres Southeast Pool.

6 The structure map, as I mentioned earlier, is
7 actually drawn on the top of the P-1 anhydrite zone, which
8 is a better, more consistent, identifiable marker around
9 the pool. But you can see it lies conformably on the top.

10 And then just for your reference, Mr. Examiner,
11 we did mark what's called the π marker, which is a sort of
12 an industry-accepted structural marker within the San
13 Andres in this area.

14 What I want you to note on this, though, Mr.
15 Examiner, is that not only do we have areal distribution of
16 the San Andres P-1 zone, but additionally in a vertical
17 sense we also have good conformity from east to west in the
18 San Andres P-1 porosity zone.

19 Additionally on this cross-section, you'll note
20 that we have included the perforations for the current
21 wells to show that all except the Trail Blazer Number 2 are
22 perforated in this San Andres P-1 porosity zone.

23 Q. Mr. McWhorter, Let's now go to Yates Exhibit
24 Number 5. Would you identify that, please?

25 A. Yates Exhibit Number 5 is the OCD form C-108.

1 Q. And this form identifies the injection zone as
2 the San Andres P-1 porosity zone?

3 A. That's correct.

4 Q. This is not a new well?

5 A. No, this is not a -- this -- The well that we're
6 talking about injecting into, the Quincy Number 8, was
7 drilled in March of 1995, so it is a fairly new well.
8 However, the producing rates are such that it's really not
9 a commercial well, and we see the advantage of being able
10 to institute early on some pressure maintenance in this
11 pool.

12 Q. At approximately what rates is this well
13 producing?

14 A. Currently it makes approximately a barrel of oil
15 a day and about 30 to 40 water a day.

16 Q. Let's go to the plat contained in Exhibit 5, and
17 I would ask you -- it's on page 6 --

18 A. Yes.

19 Q. -- and I would ask you first to identify and then
20 review the information on this exhibit.

21 A. Yes, this plat is a plat that shows the area of
22 the pressure -- the proposed pressure-maintenance project,
23 and it shows the two-mile radius around the injection well,
24 which shows lease ownership in the area, it shows the
25 location of the subject wells.

1 It also shows a one-half-mile area of review, and
2 shows the wells that are contained within this one-half-
3 mile radius around the proposed injection well.

4 Q. Is Collins Oil and Gas the only leasehold
5 operator, other than Yates, within the area of review?

6 A. Yes, they are the only one.

7 Q. Let's go to the portion of Exhibit Number 5 that
8 contains the tabular data, pages 7 and 8. Would you review
9 this information for Mr. Catanach?

10 A. Yes. As I said, the one-half-mile circle is the,
11 quote, area of review, as per instructions on the OCD form
12 C-108, and this tabular data speaks to the specific wells
13 and their locations, the operator of each well, the type of
14 well that is within that area, all of the construction
15 information, the date the well was drilled, the depth of
16 the well, the record of completion, casing and cementing
17 and perforating.

18 Q. Basically, this sets forth all the information
19 required by form C-108?

20 A. That's correct.

21 Q. Could you identify what has been marked Yates
22 Exhibit Number 6?

23 A. Yes, Yates Exhibit Number 6 is another tabulation
24 of another well within the area of review.

25 This well, the Quincy "AMQ" State Number 7, which

1 is in Unit F and is 1650 from the north, 1650 from the west
2 line of Section 12, was drilled by Yates Petroleum in March
3 of this year. It was drilled and completed subsequent to
4 the filing of the form C-108.

5 Q. And so the inclusion of the information on
6 Exhibit Number 6 is simply to supplement and keep current
7 the information previously filed?

8 A. Yes, it's to make full the Application.

9 Q. Are there plugged and abandoned wells within the
10 area of review?

11 A. There are none.

12 Q. Let's go to page 5 of Exhibit 5, a schematic
13 drawing of the proposed injection well, and I'd ask you to
14 review that for Mr. Catanach.

15 A. Yes. This drawing shows that currently we have
16 5-1/2-inch casing in the hole and perforations from 2162 to
17 2182, the top of the San Andres P-1 zone.

18 What we're proposing to do is run 2100 feet of
19 2-7/8-inch internally plastic-coated tubing.

20 We will set -- At the end of that string at 2100
21 feet, we will set a 5-1/2-inch nickel-plated packer, and we
22 will inject down that tubing string.

23 Q. Will the annular space be filled with a fluid?

24 A. Yes, it will be filled with an inert fluid, and
25 we will agree to pressure-test that well in regard to the

1 federal underground injection control program.

2 Q. Now, you're proposing to inject into the P-1
3 interval of the San Andres, correct?

4 A. That's right, we're going to inject into the San
5 Andres what's referred to in the local area geology as the
6 P-1 porosity zone.

7 Q. And approximately how thick is that zone?

8 A. It's approximately 55 feet thick, 50 to 55 feet
9 thick.

10 Q. And the perforations will be at the top of that
11 interval?

12 A. Yes, currently we have perforations at the top of
13 the interval, from 2162 to 2182.

14 Q. What is the source of the water you propose to
15 inject in the subject well?

16 A. The source of the water that we're proposing to
17 inject is the produced water from the San Andres P-1
18 porosity zone, the ACME San Andres Southeast Pool.

19 Q. You will not be injecting fresh water?

20 A. No, we will not.

21 Q. And what is presently being done with this water?

22 A. Well, currently we're trucking the water and
23 injecting into a saltwater disposal well.

24 Q. What volumes do you initially propose to inject?

25 A. Initial, we'll be injecting approximately 200

1 barrels of water per day.

2 Q. And the maximum injection rate will be what?

3 A. Probably somewhere around 400 to 500 barrels a
4 day, somewhere in that area.

5 Q. Is this a closed system?

6 A. Yes, it is.

7 Q. And are you intending to inject under pressure or
8 by gravity?

9 A. It will be pressure.

10 Q. What do you recommend be the initial injection
11 pressure?

12 A. Well, I recommend that the initial injection
13 pressure be 430 p.s.i. surface operating pressure, and
14 that's based upon the .2 p.s.i. per foot.

15 Q. Now, may you later in the project need to
16 increase that injection pressure?

17 A. Yes, we probably will. And as we see need for
18 increasing that, we will of course coordinate our efforts
19 with the OCD and perform step-rate tests to determine the
20 proper operating pressures.

21 Q. Now, since you're injecting fluids produced from
22 the San Andres P-1 interval into that same interval, there
23 will be no compatibility problems; is that right?

24 A. No, there will not be.

25 Q. Are there freshwater zones in the area?

1 A. Yes, there are freshwater zones in this area.

2 Q. And about what depth are they encountered?

3 A. The depth of the known freshwater zones there is
4 approximately 300 feet deep. We know of no freshwater
5 zones below the proposed injection interval.

6 Q. Has any defined formation or reservoir been
7 declared for the water in this particular area?

8 A. No, this particular area has been in sort of a --
9 historically been in sort of a hiatus area between
10 identified water basins within southeastern New Mexico, and
11 only recently has it been included in the Lea Water Basin.

12 The State Engineers, communicating with them to
13 determine the depth of the -- and identification of the
14 freshwater zones -- have only recently acquired this under
15 their agency, and they sent me the information that they
16 had on freshwater wells, the drillers' logs from freshwater
17 wells in this area, and that's how I determined what the
18 depth of the freshwater is.

19 Q. Are there any freshwater wells within a mile of
20 the proposed injection well?

21 A. No, we could find none.

22 Q. Did the State Engineer records reflect any water
23 wells within a mile of this injector?

24 A. No, they did not.

25 Q. Is a log of the proposed injection well included

1 in Exhibit Number 5?

2 A. Yes, it is.

3 Q. That would be on pages 9 and 10?

4 A. That's correct. It's a cased-hole neutron log,
5 and it shows the -- You can very clearly, distinctly see
6 the top of the P-1 anhydrite zone around 2110, and then you
7 see the marked increase in porosity as you pick up the P-1
8 porosity zone.

9 Q. Now, Mr. McWhorter, you've examined the available
10 geologic and engineering data on this area, have you not?

11 A. Yes, I have.

12 Q. As a result of that examination, have you seen
13 any evidence of faults or other hydrologic connections
14 between the injection interval and any underground source
15 of drinking water?

16 A. No, I have not.

17 Q. In your opinion, will the granting of this
18 Application result in the increased recovery of
19 hydrocarbons and otherwise be in the best interests of
20 conservation, the prevention of waste and the protection of
21 correlative rights?

22 A. Yes.

23 Q. And were Exhibits 3 through 6 either prepared by
24 you or compiled under your direction?

25 A. Yes, they were.

1 MR. CARR: At this time, Mr. Catanach, we move
2 the admission of Yates Petroleum Corporation Exhibits 3
3 through 6.

4 EXAMINER CATANACH: Exhibits 3 through 6 will be
5 admitted as evidence.

6 MR. CARR: And that concludes my examination of
7 Mr. McWhorter.

8 EXAMINATION

9 BY EXAMINER CATANACH:

10 Q. Mr. McWhorter, what benefit do you think you'll
11 see from utilizing this as an injection well?

12 A. Well, Mr. Examiner, the benefit that I propose
13 that we will see on this is an increase in oil production,
14 especially in the Quincy State Number 6.

15 Additionally, you will note that the Quincy State
16 Number 7 is also well within the path for migration of oil
17 as we displace oil with water in the Quincy Number 8. So I
18 see two wells that will be direct recipients of any benefit
19 of water injection in the zone.

20 Q. Does Yates propose to expand this project at a
21 later date?

22 A. Currently we're not envisioning an expansion of
23 this particular project.

24 Q. Your initial rate is going to be about 200
25 barrels a day, you said, injected water?

1 A. That's correct.

2 Q. Is that basically what you're producing in
3 these --

4 A. It's about -- It's about what we're producing, as
5 far as water is produced in the pool. And additionally
6 it's equal to the withdrawals of -- the oil withdrawal, not
7 the oil-and-water withdrawal but the oil withdrawal. So
8 it's about a .5-to-1 injection-to-voidage ratio.

9 If we had more water to inject, we certainly
10 would. We'd like to get our injectivity higher than that.

11 But given the nature of the San Andres rock and
12 the fact that we're limited on the amount of water that we
13 have to inject, our injectivity ratios initially will be
14 lower than what we would optimally like.

15 Q. Mr. McWhorter --

16 A. Yes.

17 Q. -- are you seeking with this Application
18 certification as an EOR project?

19 A. As of this date we're not seeking that
20 application, but we definitely -- we'll probably submit an
21 application for that certification before we start
22 injection.

23 Q. Mr. McWhorter, I'm not sure if the Commissioner
24 of Public Lands has any requirements for a situation or a
25 project like this --

1 A. Right.

2 Q. -- but do you propose to consult with the
3 Commissioner, Mr. Carr?

4 MR. CARR: We'll review this with the
5 Commissioner and advise you that that has been done.

6 EXAMINER CATANACH: All right, okay. I have
7 nothing further of the witness.

8 MR. CARR: That concludes our presentation in
9 this case.

10 EXAMINER CATANACH: Okay, there being nothing
11 further, Case 11,236 will be taken under advisement.

12 (Thereupon, these proceedings were concluded at
13 9:38 a.m.)

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I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 11236,
heard by me on April 6 1995.

David F. Catnach, Examiner
Oil Conservation Division

CERTIFICATE OF REPORTER

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

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

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

WITNESS MY HAND AND SEAL April 14th, 1995.


 STEVEN T. BRENNER
 CCR No. 7

My commission expires: October 14, 1998