NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

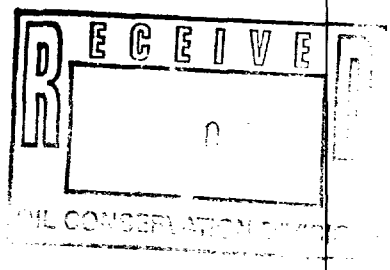
Hearing Date JULY 27, 1995 Time: 8:15 A.M.

NAME	REPRESENTING	LOCATION
Pinson McWhorter	Yates Petroleum	Artesia, NM
William F. Carr	Campbell, Carr and Berge	Santa Fe
[illegible]	[illegible]	Santa Fe
Jerry Hoover	Conoco	Midland TX
Pamela Staley	[illegible]	Denver
Brent May	Yates Pet.	[illegible]
Ernest L. Carroll	Losee, Carson, Haas & Carroll	Artesia
Kathy H. Porter	Yates Petroleum	Artesia
[illegible]	[illegible]	[illegible]
Tim W. Gum	NMOCD	ARTESIA

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. 11,347

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

ORIGINAL

BEFORE: DAVID R. CATANACH, Hearing Examiner

July 27th, 1995

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner, on Thursday, July 27th, 1995, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

July 27th, 1995
Examiner Hearing
CASE NO. 11,347

* * *

E X H I B I T S

Applicant's	Identified	Admitted
Exhibit 1	7	18
Exhibit 2	8	18
Exhibit 3	15	18
Exhibit 4	15	18
Exhibit 5	16	18

* * *

A P P E A R A N C E S

FOR THE DIVISION:

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FOR THE APPLICANT:

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Santa Fe, New Mexico 87504-2208
By: WILLIAM F. CARR

* * *

WHEREUPON, the following proceedings were had at 8:22 a.m.:

EXAMINER CATANACH: At this time we'll call Case 11,347.

MR. CARROLL: Application of Yates Petroleum Corporation for amendment of Division Order No. R-10,349 for expansion of the Quincy "AMQ" San Andres pressure maintenance project, for qualification of this project for the recovered oil tax credit pursuant to the New Mexico Oil Recovery Act, and for pressure maintenance expansion, Chaves County, New Mexico.

EXAMINER CATANACH: Are there appearances in this case?

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

We represent Yates Petroleum Corporation in this matter, and I have one witness.

EXAMINER CATANACH: Any other appearances?

Will the witness please stand to be sworn in?

(Thereupon, the witness was sworn.)

PINSON McWHORTER,

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

DIRECT EXAMINATION

BY MR. CARR:

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

A. Pinson McWhorter.

Q. By whom are you employed?

A. Yates Petroleum Corporation.

Q. And what is your current position with Yates?

A. Reservoir engineering supervisor.

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

A. Yes, I have.

Q. Does the geographic area of your responsibility with Yates include the portion of southeastern New Mexico involved in this case?

A. Yes, it does.

Q. And are you familiar with the Application filed in this matter on behalf of Yates?

A. Yes, I am.

Q. Mr. McWhorter, have you made a study of the Southwest Acme-San Andres Pool?

A. Yes, I have.

Q. And have you prepared certain exhibits for presentation in this matter here today?

A. Yes.

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

EXAMINER CATANACH: Yes, they are.

Q. (By Mr. Carr) Mr. McWhorter, would you briefly state what Yates is seeking with this Application?

A. Yates is seeking an order to expand its Quincy "AMQ" San Andres pressure maintenance project.

We would like to expand it to include the west half of the northeast quarter, the north half of the northwest quarter, the southwest quarter of the northwest quarter, the east half of the southwest quarter and the west half of the southeast quarter of Section 12, Township 8 South, Range 27 East, in that portion of the Southeast Acme-San Andres Pool.

Additionally, we're seeking expansion of the project to include the Quincy "AMQ" State Number 9, which is located 2310 from the north and east lines in Unit G of Section 12 -- to include that as an injection well, through perforations that are approximately 2184 to 2229.

Additionally, we're seeking qualification of this project for the recovered oil tax rate, pursuant to the New Mexico Enhanced Oil Recovery Act.

Q. Now, Mr. McWhorter, a pressure maintenance project by water injection was previously approved in this immediate area, was it not?

A. That is correct.

Q. And that was earlier this year by Order Number R-10,349?

A. Yes, that's correct.

Q. And Yates is coming back here today seeking authority to not only expand the project area but change the injection well?

A. Change the injection well, that's correct.

Q. And again, is Yates proposing secondary recovery by -- pressure maintenance by water injection?

A. That's correct.

Q. Let's go to what has been marked as Yates Exhibit Number 1.

A. Okay.

Q. Will you identify this and review it for Mr. Catanach?

A. Okay, Exhibit Number 1 is the OCD Form C-108, which is a response to all of the data requests and item requests as pursuant to the Form C-108 for this particular project, the Quincy "AMQ" State pressure maintenance project.

Q. Before we review this Exhibit 1 in detail, let's

go to Exhibit Number 2. Would you identify that?

A. Exhibit Number 2 is an informational plat that shows the area of this Quincy "AMQ" San Andres pressure maintenance project in Chaves County, and I've had it highlighted in green to show you the project area that we are seeking.

I read out all of those calls a while ago, those legal calls, but this just shows a visual look at the project boundaries that we're seeking now to expand to, and the inclusion of the Quincy 9. It's identified with a triangle to show our new proposed injection well.

Q. Could you identify the previously approved injection well?

A. If you will look immediately to -- In the drilling unit immediately west of the Quincy 9 is the Quincy 8.

Formerly we had approval under the order to create an injection well there, convert that well to injection status to make an injection well out of that.

The project area includes 400 acres now, as opposed to the original approval of the southeast quarter of the northwest quarter.

Q. And Yates is proposing to now use the Quincy 8 as a producing well in the project?

A. That is correct. The Quincy 8 is producing oil

at sufficient rates that we would prefer to not convert that to injection well, but to convert the Quincy 9, which is a recently drilled well that is making nothing but water. It's making no oil or gas right now. And we prefer to -- It's a little bit downdip. We prefer to now make that well into our first injection well.

Q. Mr. McWhorter, are the wells indicated on Exhibit 2 all San Andres wells?

A. Yes, they are. They all produce from the Southeast San Andres Pool, from the San Andres -- what is termed the P1 porosity zone in the San Andres.

Q. What is the status of the lands in the project area?

A. These are state lands, and they're under State Lease V-2982.

Q. What was the original project area previously approved for the Quincy Number 8?

A. The original injection well was the Quincy Number 8, the one that we had originally proposed, and the project area given in the order originally was the southeast quarter of the northwest quarter of Section 12.

Q. Generally, why is Yates proposing to expand the project area in this fashion?

A. Our analysis of subsequent drilling after the issuance of this order has shown that there is substantial

potential for oil recovery by injection along the eastern flank, or the downdip flank, of this pool.

And additionally, the drilling of the Number 9, which was subsequent to that order, indicated that the water -- oil-water contact is between the 8 and the 9, and we would start injecting at a downdip location, and possibly in the future we would want to expand to convert other wells as we move from east to west with a hypothetical line of injectors.

Q. Let's go to Exhibit Number 1, and I'd direct your attention to page 5 in that exhibit. Would you review this for Mr. Catanach, please?

A. Page 5 of Exhibit Number 1 is the area of review. It indicates the area of review for the Quincy Number 9. It shows a half-mile area of review, and then a one-mile radius with a two-mile radius around the injection well here, and it shows all the wells and the lease ownership within that area, the location of the injection well, and the area-of-review circle.

Q. All right, let's go to the next two pages, pages 6 and 7 in Exhibit 1. Would you identify and explain what those are?

A. Yes, pages 6 and 7 are a tabulation of the data on wells within the area of review, within that half-mile circle, within a half mile of the Quincy Number 9, and it

shows all the areas within there, and the well locations, and it shows the operator -- and Yates Petroleum Corporation and Collins are the two operators -- and the well types, spud dates, completion dates, total depths, producing zone, perforations, all of the well-construction information, as required and requested on the Form C-108.

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

A. No, there are not.

Q. Let's go to page 4 in Exhibit 1, and I'd ask you to refer to the schematic of the Quincy State Number 9 well and review how you propose to complete this well.

A. Okay. Page 4 does show a proposed completion for the Quincy Number 9, completion as an injection well. We would be injecting through perforations from 2184 to 2249. Currently there are 46 holes there. We do not propose to add any more perforations or any more section. This is the section of the San Andres P1 porosity zone that we want to inject into.

We would run a string of 2-7/8-inch tubing that would be internally coated plastic tubing and would have a 5-1/2-inch nickel packer. We would set that tubing and packer at 2100 feet, to inject in those perforations from 2184 to 2229.

Q. Are there any other oil-productive zones in the

immediate vicinity?

A. No, there are not.

Q. And what is the source of the water you're proposing to inject in this well?

A. The source of the water that we will be injecting into this well is the produced water from the Southeast Acme-San Andres Pool, from the wells on the Quincy lease here that produce San Andres P1-zone water.

Q. And what volumes are you proposing initially to inject?

A. Proposed initially to inject an average of 400 barrels of water per day.

Q. And do you have an estimate of the maximum volume you may need to inject?

A. Probably -- It will be in the area of 500 to 600 barrels of water per day.

Q. Is the system going to be a closed system?

A. Yes, it will be.

Q. And are you proposing to inject under pressure or by gravity?

A. Initially, this well will take the water on gravity, initially.

But we know that fairly quickly we will be going to a pressure regime, and we estimate that the average initial operating pressure, surface operating pressure, be

around 400 pounds. The .2-p.s.i.-per-foot rule would give us 440 pounds. That's what we would be asking for.

I've calculated from stimulation treatments, taken the ISDP, and calculating what the real bottomhole frac pressure and correlating that to a surface operating pressure, that in the life of the project we may get up as high as 1700 pounds.

But of course, we would justify any increases over the .2 p.s.i. per foot by performing an actual step-rate test to justify any increases, and that was just an engineering estimate of what the project really might eventually lead to, as far as an operating pressure.

Q. Now, you're proposing just to re-inject water back into the formation from which it was produced?

A. That's correct.

Q. So there would be no compatibility problem?

A. No.

Q. Are there any freshwater zones in the area?

A. No, we have not found any record of any freshwater wells in the area. However, there are freshwater zones that go down to approximately 300 feet, and I base that estimate mainly upon water well driller logs that I obtained from the State Engineer's Office for this area.

This area, as I had stated previously on the

hearing on the Quincy 8, has just recently become under the State Engineer's Office. It's in the Lea Basin Aquifer, and they've just recently, within recent history, taken over the monitoring of that. And they don't have -- They really don't have a lot of data about the freshwater aquifers in there, and what we have are a few drillers' logs and a few logs to look at.

I worked with the State Engineer's Office in Roswell, trying to determine the depth of fresh water. And we could not find within one mile any records of any -- or even -- of any freshwater wells within one mile of this well, and even a visual inspection by our field people could not find a freshwater well within one mile of this well.

Q. Mr. McWhorter, will approval of this Application, in your opinion, result in the increased ultimate recovery of oil from the project area?

A. Yes.

Q. Is it --

A. Is it prudent, in your opinion, at this time to implement this waterflood project to maximize recovery from the area?

A. Yes, it is.

Q. Has this Application been provided to all leasehold operators within the area of review?

A. Yes, it has.

Q. And is Exhibit Number 3 an affidavit with copies of those letters attached confirming that notice has been provided in accordance with OCD rules?

A. It is.

Q. How soon does Yates propose to commence water injection in the Quincy Number 9?

A. As soon as we receive approval from the OCD via order, we will implement the work to expand this project and begin water injection in the Quincy Number 9.

Q. Let's go to what's been marked Yates Petroleum Corporation Exhibit Number 4. Would you identify that, please?

A. Yes, Exhibit Number 4 is the application for qualification of this project for the recovered oil tax credit.

Q. Was this prepared by you?

A. Yes, it was.

Q. Let's go to the second page of this exhibit, and I would direct you to subpart e (3) --

A. Yes.

Q. -- where you've set out the costs. Is there an error in that information?

A. Right, there is a typo in this. If you will look at e (3) it says, Capital cost of additional facilities,

and it says, Facilities, $10,000; Well Work, $25,000; and Total project cost, $25,000. Well, no matter how many times you add that up, $10,000 plus $25,000 doesn't come up to $25,000.

The well work is $15,000, and you come up with a total of $25,000.

Q. So the total project costs are $25,000?

A. That's correct.

Q. Have you been able to estimate the total value of the additional production that will be recovered as a result of the project?

A. Yes, we're estimating that for the initial phase of this project, the approval of the Quincy 9, that the additional production from that injection well will be 26,000 barrels, spread out over a five-year period.

And that relates to somewhere in the neighborhood of $416,000 of gross revenue, based on an oil price of $16 per barrel.

Q. Let's go to Yates Exhibit Number 5. Will you identify and review that, please?

A. Yes. This is a plot of the actual production history in the Quincy lease, all the Quincy "AMQ" wells, and it shows the actual history.

And then it shows a projection from the first part of 1995, and it shows the response period towards the

end of 1995. We're projecting a response to the proposed injection at the end of 1995, and it shows the decline of oil production as a result of the injection in the Quincy Number 9 only.

This plot does not reflect if in the future we were to expand this project even more and have more injection wells. It does not reflect the incremental production that we would have then also.

Q. And you do request authority to add additional wells by an administrative procedure if that is necessary?

A. Yes, we do.

Q. In your opinion, should the application of pressure maintenance by waterflooding to the project area result in an increase in the amount of the crude oil ultimately recovered therefrom?

A. Yes, I do.

Q. In your opinion is this proposed pressure-maintenance project both economically and technically feasible?

A. Yes, it is.

Q. Has this Application been prematurely filed?

A. No, the ultimate recovery would be reduced by delaying the implementation of this project due to the solution gas nature of the reservoir.

Q. In your opinion, will approval of this

Application be in the best interests of conservation, the prevention of waste and the protection of correlative rights?

A. Yes.

Q. Were Exhibits 1 through 5 prepared by you?

A. Yes, they were.

MR. CARR: At this time, Mr. Catanach, we move the admission into evidence of Yates Petroleum Corporation Exhibits 1 through 5.

EXAMINER CATANACH: Exhibits 1 through 5 will be admitted as evidence.

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

EXAMINATION

BY EXAMINER CATANACH:

Q. Mr. McWhorter, your project area is all one common state lease; is that correct?

A. That's correct.

Q. Is Yates the only interest owner in that lease?

A. In that lease, that's correct, they are the lessor in that lease.

Q. Okay. So all that --

A. Now, let me -- That's sort of the Yates companies, are the working interest in there. Yates Petroleum Corporation as an entity has a percentage of

that. The other Yates companies have the balance of the interest.

You see what I'm saying? This is a Yates Petroleum Corporation application, but we really technically -- We are the lessor of record for this lease. We have a 70-percent expense interest in this. Other Yates companies make up the balance of the interest in this lease.

Q. All the Yates entities are participating in this --

A. That's correct --

Q. -- project?

A. -- yes.

Q. Do you know what the current average production is from the producing wells in this pool, on this lease?

A. Yes. Yes, sir. Total production, on the average, on a daily basis, is a little over 200 barrels of oil a day.

Q. 200 barrels per well, is that?

A. No, no, total for all of the wells.

Q. From the lease?

A. Yes, from the lease, that's correct.

That comes out, if you look at all the wells on the lease, and if you want an average daily well number, it's around 17 barrels of oil per day per well.

Q. How many producing wells are there?

A. There are 11 -- 12 producing wells, 12 producing wells right now on the lease.

The Quincy 9 is not producing right now. There are 13 wells on the lease, the Quincy 9 is not producing right now because it makes all water. The other 12 are producing.

Q. Was the Number 8 ever used as an injection well?

A. No, it was not, never was.

Q. It was drilled as an injection well?

A. No, sir, it was drilled as a producing well. When we first perforated, we were making almost no oil cut and some water. And so we decided to use it as an injection well, and we received an order to that effect.

Subsequent to that time frame and all that coming about, receiving the order, we fracture-stimulated the well in an effort to make oil, and we got a good oil production out of it, somewhere in the neighborhood of 15 barrels of oil a day, and some water.

So at that time we decided not to immediately convert the well to injection.

We subsequently drilled the Quincy Number 9, and after stimulating that well, we still made nothing but water and zero oil, and that's when we decided that we would -- to expand this project area and begin -- after we

received the order, to begin injection in the Quincy Number 9.

So no, we have never injected water in the Quincy Number 8.

Q. Mr. McWhorter, realistically, which wells, which producing wells, do you anticipate will have a response to this injection?

A. Well, realistically, I think that the wells 8, 6, 7 and 10 will see some effects of the injection from the 9. So that would be 10, 6, 7 -- they form a north-south line there -- and the Number 8. So four wells that I see offsetting, that I think will see immediate benefit from this injection.

Q. Yates has no plans at this time to convert any additional wells to injection?

A. Well, if you use the word "plans" in sort of a more nebulous sense, then yes, we're going to do this, we do have plans that perhaps we would convert eventually, eventually, the 7 and the 3.

You see, you sort of form a northwest-to-southeast-trending line of injectors that would sweep oil from the east over to the west.

So I guess my answer to that question is, we do not have a hard, firm commitment within Yates Petroleum to convert those wells right now, but we can foresee that

maybe in the future we would convert those wells to injection to get better areal conformance.

Q. You've estimated an additional recovery of 26,000 barrels; is that correct?

A. Okay, now, that's correct, but I would like to add a little bit of a proviso in there, that that 26,000 barrels represents the incremental or what we would call the secondary oil, the incremental recovery oil, from injection in the Quincy Number 9 alone.

In other words, remember a while ago we talked about perhaps seeing a response in the 8, the 7, the 6 and the 10. That would be the -- what I estimate to be the incremental oil that we would receive or see in those wells, just from injection in the Quincy 9.

Now, if we were to project by including the 7 and the 3 and other possible conversions, then the incremental oil recovery would be of a greater magnitude than just 26,000 barrels.

Q. The volume of injection, is that 400 barrels a day? Is that what's currently being produced from the field?

A. Currently, right now, we're producing around 270 barrels of water per day. And so if we -- We also have plans for more drilling, is what I'm saying, and so -- and that drilling will occur fairly soon, within this calendar

year.

And so I foresee that we will have more water production, and so that's why my estimate that we would start around an average of 400 barrels of water per day, because I foresee that by the time that we receive our order and implement this process, we could well be at that point where we would have somewhere around 400 barrels of water per day.

Q. You're not bringing in water from any other source?

A. No, no, we're not.

Q. Does Yates have any problem with us canceling the injection authority for the Number 8?

A. No, we do not.

EXAMINER CATANACH: I have nothing further of this witness.

MR. CARR: Mr. Catanach, that concludes our presentation in this case.

EXAMINER CATANACH: There being nothing further in this case, this case, 11,347, will be taken under advisement.

(Thereupon, these proceedings were concluded at 8:48.m.)

* * *

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 July 28th, 1995.

STEVEN T. BRENNER
CCR No. 7

My commission expires: October 14, 1998

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 11347, heard by me on July 27 1995.

David R. Catanach, Examiner
Oil Conservation Division