STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
18 January 1984

EXAMINER HEARING

IN THE MATTER OF:

Application of Getty Oil Company for downhole commingling, Eddy County, New Mexico. CASE 8043

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: W. Perry Pearce, Esq.
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: William F. Carr, Esq.
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I N D E X

DENNIS B. WEHMEYER

E X H I B I T S

MR. STOGNER: We'll call next Case Number 8043.

MR. PEARCE: That case is on the application of Getty Oil Company for downhole commingling, Eddy County, New Mexico.

MR. CARR: May it please the Examiner, my name is William F. Carr, with the law firm Campbell, Byrd, & Black, P. A., of Santa Fe, appearing on behalf Getty.

I have one witness who needs to be sworn.

MR. PEARCE: Are there other appearances in this matter?

(Witness sworn.)

DENNIS B. WEHMEYER,

being called as a witness and being duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. CARR:

Q Will you state your full name and place of residence?

A Dennis B. Wehmeyer. I reside in Hobbs, New Mexico.

Q Mr. Wehmeyer, by whom are you employed

and in what capacity?

A I'm employed by Getty Oil Company as an Advanced Production Engineer.

Q Have you previously testified before this Commission or one of its examiners?

A No, I have not.

Q Would you review for Mr. Stogner your educational background and your work experience?

A I graduated from the University of Missouri at Rolla in May, 1975.

Was employed by Getty Oil Company in June, 1975, in Drumright, Oklahoma. I worked there for approximately three years. Transferred to Crane, Texas. I worked there for approximately three years. In April of 1981 I was transferred to Hobbs, New Mexico, where I presently work.

Q Are you familiar with the application filed in this case on behalf of Getty?

A Yes, I am.

Q Are you familiar with the subject well?

A Yes, I am.

MR. CARR: Are the witness' qualifications acceptable?

MR. STOGNER: They are.

Q Would you briefly state what Getty seeks to accomplish with this application?

A We propose to downhole commingle the

Grayburg Jackson and the Fren Seven Rivers zones on Getty's Skelly Unit Well No. 11.

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

A Yes.

Q Would you please refer to what has been marked for identification as Exhibit Number One and explain what this is?

A Exhibit Number One is a letter to the Bureau of Land Management requesting downhole commingling on our Skelly Unit Well No. 11. This was submitted on September 9th, 1983, and was approved by the BLM on September 19th, 1983.

Q Would you now refer to Exhibit Number Two, identify this, and explain what it shows?

A Exhibit Number Two is the location plat of the Skelly Unit. The arrow indicates Well No. 11 in the unit.

Q And this well is offset in all directions by other unit wells?

A Yes, we are offset at least three locations from the unit -- any lease line.

Q And this is on a Federal lease.

A Yes, it is.

Q Is the ownership common in each of the zones which you propose to downhole commingle?

A Yes, it is.

Q Would you now refer to Exhibit Number Three and review this?

A Exhibit Number Three is the well history of Well No. 11.

This well was originally completed in 1954 to a TD of 11,963 in the Pennsylvanian.

The well was then produced until 1958 when we treated the Pennsylvanian with 1000 gallons of mud acid. Production before was 17 Mcf a day and after. 339 Mcf per day. The zone was shut in due to a greater deliverability in the Pennsylvanian from an offset well.

In 1960, June of 1960 we plugged back in the Pennsylvanian and perforated the Upper Penn at 11,810 to 822. This zone was treated with 500 gallons of mud acid with no shows; was retreated with 1000 gallons of 15 percent NE acid, with a slight show of gas. This zone was then plugged back with a CIBP at 7330.

The Abo was perforated at 7234 to 7252. This zone was treated with 500 gallons of 7-1/2 percent acid, swabbed dry, retreated again with 500 gallons of 15 percent acid with a slight show of gas. Some more Abo was perforated at 7277 to 7293. These zones were acidized with 2000 gallons of 15 percent acid, had no shows, and the well was shut-in then.

In November of 1962 the 5-1/2 inch casing was cut off at 4825 and pulled. CIBP was set at 7200.

Cement plugs were set. The Grayburg-San Andres was then perforated at 3358 to 3493, selectively. This zone was then treated with 40,000 gallons of oil, 40,000 pounds 20/40 sand. It flowed 118 barrels of oil and 510 Mcf.

The Seven Rivers was then perforated at 2217 to 2330, selectively. It was treated with 20,000 gallons of oil, 40,000 pounds of 20/40 sand, and 500 gallons of 15 percent acid. Installed pumping equipment in this zone and pumped 120 barrels of oil, 15 barrels of water, and 106 Mcf a day.

In May, 1980, the Fren Seven Rivers was acidized with 5000 gallons 15 percent acid. It then pumped 23 oil, 9 water, 9 Mcf per day.

And in December, 1982, the Fren Seven Rivers was again acidized with 6000 gallons of 15 percent NEFE acid. The well then pumped 78 barrels of oil and 158 barrels of water.

Q Attached to this well history are a couple of diagrammatic sketches. Would you review those for the Examiner?

A The first one is the present completion of Well No. 11. This indicates we have a dual string of 2-3/8ths tubing with a Model D packer separating the two zones. The Model D is set at 3050 feet.

Q And the next page?

A The next page is the proposed completion on the well. We propose to pull out the Model D packer and

downhole commingle and run one string of 2-3/8ths tubing down to 3250.

Q Would you now refer to Exhibit Number Four and identify this and explain what it shows?

A Exhibit Number Four is the New Mexico Oil Conservation Division gas/oil ratio test. The first one is the test on the Grayburg Jackson. This was conducted on January 12th, 1984. The test on it was 8 barrels of oil, 30 barrels of water, and 7 Mcf per day, with a gas/oil ratio of 875.

The second one is the gas/oil ratio Commission test, C-116, on the Fren Seven Rivers. This test was conducted on January 13th, 1984. The well tested 30 barrels of oil, 16 barrels of water, 5 Mcf, for a gas/oil ratio of 167.

Q Will you now review Exhibit Five?

A Exhibit Five is the production decline curves on both zones.

The first one is the Grayburg Jackson. The black line indicates oil production in barrels per day. The blue line indicates water production in barrels per day, and the red line indicates the gas production in Mcf per day.

The upper curves indicate the gas/oil ratio and the water/oil ratio.

Q Are the zones being artificially lifted or are they flowing?

A Both zones are being artificially lifted with rod pump.

Q Do you have anything else on Exhibit Number Five?

A No, I don't.

Q Will you now refer to Exhibit Number Six and review this for Mr. Stogner?

A Exhibit Number Six is the bottom hole pressure test conducted on both zones.

The first one is the Grayburg Jackson, which indicates an extrapolated bottom hole pressure to the mid-point of the perfs of 1,271 psig.

The second one is the bottom hole pressure test on the Fren Seven Rivers zone, the mid-point, to the mid-point of the perfs. This indicates a bottom hole pressure of 814 psig.

Also attached are the New Mexico Reservoir Pressure Reports, the C-124's for both zones.

Q Will these pressure differentials result in the migration of hydrocarbons between the commingled zones?

A No, they will not.

Q Have you taken the production data and calculated an average rate of production from each of the zones?

A No, we have not. We have proposed, or submitted an intent to acidize the Seven Rivers zone, and we

propose to perform our work before we commingle, test the well, and then get with Mr. Clements in the Artesia office to set an allowable for each zone, or the percentages.

Q And so you would work the allocation to the various zones out after you've completed your testing?

A That's correct.

Q Have -- are the liquids that will be produced, or the fluids that would be produced from each of the zones compatible?

A Yes, they are.

Q And how do you know that?

A We are presently commingling both zones on surface, water and oil, for the past nine or ten years, and we have not had any problems with commingling.

Q Are the reservoir characteristics of these pools such that underground waste will not be caused by the proposed downhole commingling?

A That is correct.

Q In your opinion will granting the application result in the increased recovery of hydrocarbons?

A Yes, it will.

Q Will economic savings result from this proposed downhole commingling?

A Yes, it will. Referring to our Exhibit Number Seven, this is our estimated yearly operating expenses.

First we have before down -- before com-

mingling.

The Fren Seven Rivers is estimated to cost $10,730 per year.

The Grayburg Jackson, $9,970 per year.

Total operating expense of $19,700 per year.

After commingling the estimated operating cost is $16,090, which represents a savings of $3610 per year.

Q And will this savings result in a longer economic life for the Skelly Unit Well No. 11?

A Yes, it will.

Q And will that in turn result in greater ultimate recovery from the well?

A Yes, it will.

Q In your opinion will granting this application be in the best interest of conservation, the prevention of waste, and the protection of correlative rights?

A Yes, it will.

Q Were Exhibits One through Seven prepared by you or under your direction?

A Yes, they were.

MR. CARR: At this time, Mr. Stogner, we would offer into evidence Getty Exhibits One through Seven.

MR. STOGNER: Exhibits One through Seven will be admitted into evidence.

MR. CARR: That concludes our direct examination.

CROSS EXAMINATION

BY MR. STOGNER:

Q Mr. Wehmeyer, on your map, I believe that's Exhibit Two, are there any other downhole commingled producing wells in this area?

A No, there is not.

Q Are there any dually completed wells of this type in this area?

A This is the only well in the area.

Q Are there several injection wells that are dually --

A Yes, there are several injection wells that are dually completed. They are segregated with packers.

Q Do you know what the Oil Conservation Division order approving the dual completion in this well was, by chance?

A I do not have it with me.

MR. CARR: We can provide that after the hearing.

MR. STOGNER: Would you please? Thank you.

Q Looking here I notice that for the depth

bracket that the two zones commingled exceed the limit of 20 barrels of oil per day specified in the general rules and regulations, Rule 303, of our -- of our rules. I just wanted to put that on record.

Now both zones are presently being artificially lifted.

A That is correct, yes.

Q When were they put on artificial lift?

A Shortly after completion.

Q So they've been on pump for a long time.

A Quite awhile.

MR. STOGNER: I have no further questions of Mr. Wehmeyer.

Are there any other further questions of this witness? If not, he may be excused.

Does anybody have -- does anybody else have anything in Case Number 8043 this morning?

If not, this case will be taken under advisement.

(Hearing concluded.)

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 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. 8043 heard by me on January 18 1984

Michael E. Stogner, Examiner
Oil Conservation Division