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BEFORE THE NEW MEXICO
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 7, 1966

EXAMINER HEARING

IN THE MATTER OF:

Application of Ray Smith Drilling
Company for a unit agreement, Eddy
County, New Mexico.

and

Application of Ray Smith Drilling
Company for a waterflood project,
Eddy County, New Mexico

CASE NUMBER

3449

CASE NUMBER

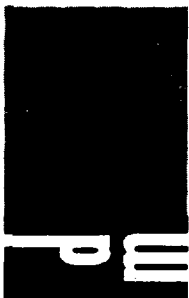
3450

(Consolidated)

BEFORE:

DANIEL S. NUTTER, Examiner

TRANSCRIPT OF HEARING



MR. NUTTER: The next case will be Case 3449.

MR. HATCH: Application of Ray Smith Drilling Company for a unit agreement, Eddy County, New Mexico.

MR. EATON: Paul E. Eaton, Junior, of the firm of Hinkle, Bondurant and Christie representing Ray Smith Drilling Company.

MR. NUTTER: Mr. Eaton, would it be feasible to consolidate the following case, also, with this case?

MR. EATON: Mr. Examiner, it sure would. I request that both cases be consolidated.

MR. NUTTER: We will now call Case 3450.

MR. HATCH: Application of Ray Smith Drilling Company for a waterflood project, Eddy County, New Mexico.

MR. NUTTER: Case 3449 and Case 3450 will be consolidated for the purposes of testimony. Will you proceed, Mr. Eaton?

MR. EATON: Yes, sir. At the outset, Mr. Examiner, we would request that the application be amended in one minor respect. The application refers to three injection wells by name. The second well being the Kenwood Federal Number 1.

That is a typographical error and should be Kenwood Federal Number 2 and we request that the Examiner permit us to amend the application in that respect.

MR. NUTTER: Mr. Eaton, we have already amended

your application.

MR. EATON: I knew you would catch it.

MR. NUTTER: Thank you.

MR. EATON: We have one witness to be sworn, Mr. Examiner, Mr. Curtis Mewbourne.

(Witness sworn.)

CURTIS W. MEWBOURNE

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

DIRECT EXAMINATION

BY MR. EATON:

Q Will you please state your name, address, and your occupation?

A Curtis W. Mewbourne; Fidelity Union Life Building, Dallas, Texas; consulting petroleum engineer.

Q What is your relationship, Mr. Mewbourne, to Ray Smith Drilling Company?

A I serve on a retainer basis as a consulting petroleum engineer for the Ray Smith Drilling Company.

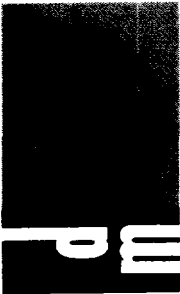
Q Do you manage the company's oil operations?

A I do.

Q On a consulting basis.

A Yes.

Q Have you previously testified before the New Mexico



Oil Conservation?

A I have not.

Q Mr. Mewbourne, will you please advise the Examiner of your education and professional experience in connection with the oil industry?

A I'm a 1957 petroleum engineering graduate of the University of Oklahoma. I was employed immediately thereafter by the Arkansas Fuel Oil Corporation, Shreveport, Louisiana; worked as a petroleum engineer in the Louisiana Gulf Coast area. Arkansas Fuel was merged into the Cities Service Oil Company, at which time I was transferred to Bartlesville, Oklahoma, worked as a supervisor of waterflood flood operations in the West Texas Panhandle and Western Kansas area.

I was then employed with the First National Bank in Dallas for four years in appraisals, evaluations and oil loans. I then entered the general practice of consulting engineer.

Q How long have you been in the private practice as a consulting petroleum engineer?

A One and a half years.

Q Are you a member of any professional associations in connection with your profession?

A The Society of Petroleum Engineers of AIMETAPI and several other industry groups.



MR. EATON: Mr. Examiner, are his qualifications acceptable?

MR. NUTTER: They are.

MR. EATON: Thank you.

MR. NUTTER: Proceed.

Q (By Mr. Eaton) Are you familiar with the matters contained in the application of Ray Smith Drilling Company in Cases 3449 and 3450?

A I am.

Q Did you prepare those applications yourself, Mr. Mewbourne?

A I did.

Q Attached to the application is a copy of the Shugart 18-Queen Unit Agreement, is that correct?

A Yes, sir.

Q Are you familiar with the area described in the Unit Agreement and with the Unit Agreement, itself?

A I am.

Q What area is covered by the Unit Agreement?

A Portions of Section 13, 18 South, 30 East, and portions of Section 18, 18 South, 31 East, Eddy County, New Mexico.

Q Approximately how many acres are in the Unit?

A Approximately 264 acres.

Q What is the purpose of this Unit Agreement?

A This Unit Agreement serves to consolidate various leases and operators into a united project for purposes of secondary recovery by waterflooding.

Q Are all of the lands in the Unit Area Federal lands?

A They are.

Q There are no State or fee land?

A There are not.

Q Has the Unit Agreement been submitted to the Director of the United States Geological Survey for his approval?

A It has.

Q Has he approved the Unit Agreement?

A The Unit Agreement was approved on July 21st, 1966 by the Acting Director of the United States Geological Survey.

Q That approval shows on the exhibit attached to the application?

A It does.

Q Are you familiar with the working interest ownership and the overriding royalty ownership under the leases embraced in the unit?

A I am.

Q Have all such owners either executed or ratified

the Unit Agreement?

A One hundred per cent of all working interests, royalty owners, lessees of record production payment holders have executed the Unit Agreement.

Q What is the effective date of the Unit Agreement?

A The effective date is 7:00 A.M. of the first day of the month following; first the execution or ratification of the Agreement by seventy-five per cent of the working interest owners; second, approval of this Agreement by the Director of the Geological Survey; and third, the filing for record in Eddy County, New Mexico of a certificate to the effect that Provisions 1 and 2 have been complied with.

Q You have testified already that the first two conditions have already occurred. Has the certificate which you testified to been filed in Eddy County, New Mexico?

A No.

Q If the Commission approves this subject Unit, do you intend to promptly file for record, in Eddy County, notification of existence of the Unit?

A Yes.

Q Under the terms of the Unit Agreement, itself, when must you commence your secondary recovery operations?

A Within six months.

Q When do you actually intend to commence the

operations, assuming you, first, obtain Commission approval?

A Immediately upon approval by the Commission.

(Whereupon, Applicant's Exhibits 1, 2, 3 and 4 were marked for identification.)

Q Mr. Mewbourne, I hand you what has been marked Exhibit 1, and ask you to state what it portrays?

A Exhibit 1 outlines the Unit Area in red, and the three wells circled in red are the proposed injection wells. Also included are the three producing wells and one dry hole within the Unit Area.

Q Is Exhibit 1 identical with the plat attached to the application of Ray Smith Drilling Company?

A It is.

Q Mr. Mewbourne, there are several other circles depicted within the Unit boundaries. What do those circles represent?

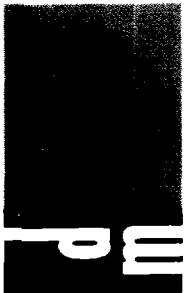
A Those represent producing wells and a dry hole, the circles, other than the proposed injection wells.

Q Are the proposed injection wells producing at this time?

A They are.

Q Are there any producing wells located adjacent to and outside the Unit Area?

A No.



Q Does the Unit Area include all productive leases in the field?

A It does.

Q Does Exhibit 1 reflect the location of other wells, including drilling wells and dry holes within two miles of the Unit Area?

A It does.

Q Are all -- you may have answered this question -- are all six wells within the Unit Area producing at this time?

A They are.

Q What formation are they producing from and from what depth?

A The six wells are producing from the Queen Sand at approximately 3,000 feet.

Q Do you have any information as to the thickness of the Queen Sand in the Unit Area?

A Approximately eight feet average.

Q Would you please state when these productive wells were drilled and give us their production history?

A The field was discovered in what is now the Abco-Ginsberg Federal Number 1, in March 1940. It was potentialled for forty-five barrels per day. There was no drilling in the area until 1962, when Ray Smith Drilling Company completed the remaining five wells in the Unit Area with potentials varying

between forty-three and sixty-four barrels per day after fracturing. Production then declined at a rapid rate to the current advanced stage of completion.

Q What is the current production from these wells?

A Approximately three barrels per day per well.

Q In your opinion, would you classify those wells as stripper or marginal wells?

A I would.

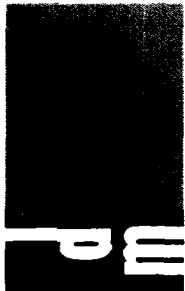
Q If the proposed secondary recovery project is not initiated very soon, what will be the effect on these six producing wells?

A These wells are very rapidly approaching an economic limit and would shortly thereafter have to be plugged and abandoned, should not secondary recovery operations be started.

Q How do you propose to institute and conduct the secondary recovery operation?

A The three proposed injection wells shown on Exhibit 1 will be converted from oil production to water injection and fresh water purchased from the Double Eagle Corporation of New Mexico will be injection under tubing and packer into the Queen Sand.

Q Have logs on the three injection wells been previously furnished to the Commission and to the State Engineer as attached to the application?



A They have.

Q What circumstances dictated your selection of the Canfield Federal Number 1, the Kenwood Federal Number 2 and the Kenwood Federal A Number 1 as the injection wells?

A They were selected to give the optimum sweep of water injection in an effort to maximize the oil recovery.

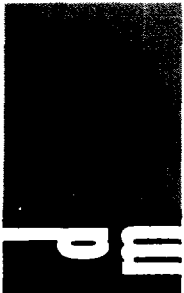
Q Directing your attention to the three proposed injection wells, have you caused to be prepared diagrammatic exhibits on each well designed to show casing and cement program?

A I have.

Q I hand you what has been marked as Exhibits 2, 3 and 4, and ask you to explain what they portray?

A Exhibit 2 is Canfield Number 1. It shows that four and a half inch casing was set to 3173 cemented with 150 sacks of cement. Not shown is the surface casing which was seven and five-eighths run to 1700 feet and circulated with 250 sacks of cement.

Exhibit Number 3 is the Kenwood A-1, which shows four and a half inch casing was run to 3113 and cemented with 150 sacks of cement. Not shown is surface casing which was eight and five-eighths inch casing run to 725 feet, circulated with 200 sacks of cement. The Kenwood Number 2 is Exhibit Number 4. It portrays four and a half inch casing to 3,158



feet, cemented with 150 sacks of cement. Not shown is surface casing which was seven and five-eighths inch run to 700 feet and circulated with cement.

Also shown on each exhibit is the perforated interval.

Q Mr. Mewbourne, is the tubing in these wells lined?

A It is not.

Q Do you anticipate any problems because it is not lined?

A We do not.

Q Why is that?

A We propose injecting fresh water purchased from Double Eagle Corporation and don't anticipate serious corrosion problems.

Q How much water do you propose to inject through the three wells?

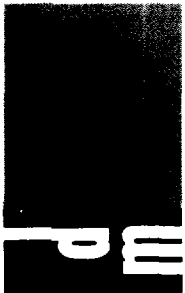
A Approximately 300 barrels per day for the total Unit.

Q I assume that there will be produced water obtained from this project?

A That's correct.

Q Will the produced water be recycled through the injection wells?

A It will.



Q How soon after you begin the flood do you expect a response?

A Approximately six months.

Q Can you estimate the amount of oil which you reasonably expect to recover from this proposed flood?

A Approximately 100,000 barrels.

Q Does the Unit Area comprise, in your opinion, all of the land necessary to carry out an efficient, effective flood of the Queen Sand in this area?

A Yes.

Q In your opinion, will the proposed waterflood project be in the interest of conservation and prevention of waste?

A It will.

Q In your opinion, will the correlative rights of all interested parties be protected under the proposed project?

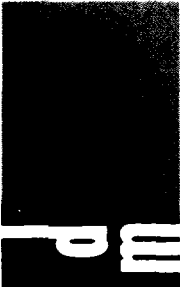
A Yes.

Q In your opinion, will the proposed project result in the maximum recovery of oil from this area?

A It will.

MR. EATON: Mr. Examiner, we move for admission of the applicant's Exhibits 1 through 4.

MR. NUTTER: Applicant's Exhibits 1 through 4 will be admitted in evidence.



(Whereupon, Applicant's Exhibits 1 through 4 were admitted into evidence.)

MR. EATON: That is all the questions we have of this witness.

MR. NUTTER: Does anyone have any questions of this witness?

MR. IRBY: I have one.

MR. NUTTER: Mr. Irby.

MR. IRBY: I would like to ask the witness if the Kenwood Federal Number 1 shown on the application should be Kenwood Federal Number 2.

A That's correct, it should.

MR. IRBY: Thank you.

MR. NUTTER: Was that all the questions you had?

MR. IRBY: Yes.

CROSS EXAMINATION

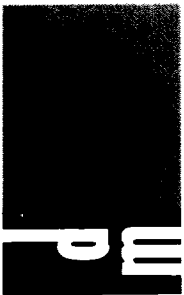
BY MR. NUTTER:

Q Your application stated that an average of 300 barrels will be injected?

A No. That's the total project, the average for the three wells.

Q That's the average, then, of 100 barrels a day for the three wells?

A Yes.



Q You anticipate 300 barrels and your injection pressure will be approximately 700 pounds PSI?

A Initially, yes, sir.

Q What is the cumulative preliminary production from these six wells, Mr. Mewbourne?

A As of the first of July, 114,552 barrels.

Q That's at 7-1-66?

A Yes, sir.

Q Have all of the wells produced approximately the same amount or did the one well have a one or two year head start?

A Yes, sir. With the exception of the initial well that was drilled in 1940, it has a higher cumulative production than the other five.

Q You anticipate your secondary will be approximately 100,000 barrels or in the range of one to one as far as the primary is concerned?

A Yes, sir.

Q And you realize that according to Rule 701, you would have six 40-acre tracts as far as allowable computation would be concerned?

A Yes, sir.

MR. NUTTER: Any other questions of Mr. Mewbourne?
He may be excused.

(Witness excused.)

Mr. NUTTER: Do you have anything further, Mr. Eaton?

Mr. EATON: No more testimony.

Mr. NUTTER: Does anyone have anything they wish to offer in Case 3449 or 3450? We'll take the cases under advisement.

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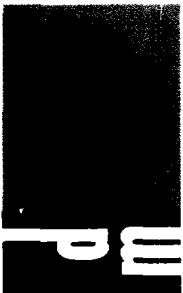
STATE OF NEW MEXICO)
) SS
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached transcript of hearing was reported by me in stenotype and that the same was reduced to typewritten transcript under my personal supervision and contains a true and correct record of said proceedings, to the best of my knowledge, skill and ability.

Ada Dearnley
NOTARY PUBLIC

My Commission Expires:

June 19, 1967



I do hereby certify that the foregoing is a complete record of the proceedings in the Deardner hearing of Case No. 3442-3150 heard by me on 9/7, 1966.

[Signature] Examiner
New Mexico Oil Conservation Commission