BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
April 30, 1975

EXAMINER HEARING

IN THE MATTER OF:	
Case 5459. Application of McClellan Oil Corporation for a unit agreement, Eddy County, New Mexico,	CASE 5459
and	
Case 5460. Application of McClellan Oil Corporation for a waterflood project, Eddy County, New Mexico.	CASE 5460

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:	Sim B. Christy, Esq. JENNINGS, CHRISTY & COPPLE 600 Hinkle Building Roswell, New Mexico

I N D E X

E X H I B I T S

MR. STAMETS: Case 5459.

MR. CARR: Case 5459. Application of McClellan Oil Corporation for a unit agreement, Eddy County, New Mexico.

MR. CHRISTY: Sim Christy, Jennings, Christy and Copple, Roswell, New Mexico, for the Applicant.

May I suggest to the Examiner that it might be more expeditious if we combine this hearing with 5460, which is the next one on the docket.

MR. STAMETS: We will call Case 5460, and they will be combined for purposes of testimony and it looks like two separate Orders would be issued.

MR. CHRISTY: Yes, sir.

MR. CARR: Case 5460. Application of McClellan Oil Corporation for a waterflood project, Eddy County, New Mexico.

MR. CHRISTY: We have two witnesses, Mr. Examiner.

(Witnesses sworn.)

MR. CHRISTY: I will call Mr. McClellan, please.

JACK L. McCLELLAN

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

DIRECT EXAMINATION

BY MR. CHRISTY:

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

A Jack L. McClellan, 612 North Kansas, Roswell, New Mexico, geologist and oil producer.

Q Have you previously testified before this regulatory body and had your qualifications as a petroleum geologist accepted?

A Yes.

Q Your Company, McClellan Oil Corporation, is the proposed operator of the unit we are speaking of, is that correct?

A Yes.

Q Do I understand that this is a secondary recovery type of unit to recover hydrocarbons from the Grayburg formation?

A True.

Q Let me hand you Exhibit 1 and ask you if that is a copy of the unit agreement itself, the proposed unit agreement?

A Yes, sir.

Q I note that the proposal is, by definition, the unitized formation in that that is correlated to 2906 to

3025 feet in the Lane Wells focused log and Humble Oil and Refining State BC No. 5 Well, is that correct?

A Yes.

Q Let me hand you Exhibit 2 and ask you if this is a true copy of that log in the Humble well, the one you referred to in the unit?

A Yes, sir. I prepared that.

Q I believe that the area involved is some 1282.22 acres in Township 16 South, Range 30 East, Eddy County, New Mexico, is that correct?

A Yes.

MR. CHRISTY: Mr. Examiner, I mentioned to you that the Application contains a typographical error in that it refers to Chaves County, whereas the publication is correct, it is Eddy County, and I would like to amend the Application to show Eddy County.

BY MR. CHRISTY:

Q I believe, further, that there is one Federal tract composed of 882.22 acres or about 68.8-percent of the unit and three State tracts of 400 acres, comprising about 31.2-percent of the unit area, is that correct?

A Yes, sir.

Q Have you obtained preliminary approval from U.S.G.S.

as to the form of the unit?

A Yes. This was obtained on 4/11/75.

Q April 11 of '75?

A Yes.

MR. CHRISTY: I will state to the Examiner that this morning I talked to Mr. Ray Graham with the Commissioner's office and he advised me that it had been approved by the State and they were having trouble downstairs getting the letter out, but it is coming out in the next day or two and he would send you a copy.

BY MR. CHRISTY:

Q Let's refer now to Joinder of Working Interest. Do you have substantial approval of the working-interest owners?

A Yes.

Q There is one tract, the Getty 40-acre tract, I believe; are they going to join or farm out, do you know yet?

A They are going to farm this out to Mr. Hal Stierwalt. This notification was by phone yesterday morning.

MR. STAMETS: Which tract is that?

MR. CHRISTY: The Getty 40-acre tract is Tract 4.

BY MR. CHRISTY:

Q Now, I believe allocation is on a formula basis, is it not, Mr. McClellan?

A Yes.

Q Would you refer me to the article and the page number where that formula is set forth in the unit agreement?

A This is in the Unit Agreement at Page 12.

Q The article number?

A Article No. 13.

Q Summarize for us, please, the participation factors?

A Well, it is 60 times the tract productive acre-feet divided by the unit area productive acre-feet plus 40 times the total, or rather the tract cumulative oil recovery divided by the unit area cumulative oil recovery. This is referred to in Exhibit C, I believe, in the unit agreement.

Q In other words, Exhibit C gives us the final percentages based upon the formula in Article 13?

A Yes.

Q Do you have a plat of the general area? Let me refer you to Exhibit 3. Is that a plat of the general area showing the leases and wells surrounding?

A Yes.

Q What proposed work do you plan to do on the wells themselves, and let me refer you to Exhibit 4?

A Well, it is a customary-type waterflood. The wells, of course, would have to be worked over first and then these indicate where the perforations are and where the packers will be set, size of casing and tubing. These are, I think, self-explanatory in the balance of the wells. There are some -- well, of course, the packer depths are different due to the different places of perforations. As I understand these, these are the injection wells.

Q There are eight of them?

A Yes.

Q So, Exhibit 4 is your proposed method of water injection, as to how you are going to handle the water injection wells?

A Yes, based on a five-spot pattern.

Q This is pretty much standard in the area?

A Yes.

Q Now, you previously furnished the Commission the logs on those wells to the extent available, have you not?

A Correct.

MR. CHRISTY: We only have one copy, Mr. Examiner, and we would like to have that marked as Exhibit 5.

BY MR. CHRISTY:

Q Would you, briefly, relate to the Examiner the cost factor and recovery factors that you anticipate in this waterflood exploration, how much it is going to cost to do it and what you expect to recover?

A The figures that we had at the offset of this were roughly $100,000 investment for additional equipment and services. We expect to net about -- recover roughly 92,000 barrels of secondary oil. Of course, these figures, you know, change from time to time due to fluctuating market price of equipment.

Q That would be 92,000 barrels that would not otherwise be recovered?

A This is true. I am sorry. It is 192,000.

Q Generally, what is the geology in this area in the Grayburg?

A This zone is roughly -- runs east and west. It is a premier zone of the San Andres. It is a very basal zone. I mean, of the Grayburg. It lies immediately on top of the San Andres dolomite. It covers a great deal of area in Eddy County. That's primarily it. It is

Permean Age, of course, and it is being flooded in the area at the present time.

Q Do you think, geologically speaking, that this is an area that is susceptible to waterflood recovery?

A Very definitely.

Q Are there any other waterflood units in the area in the Grayburg?

A Yes, there is one adjoining it to the east.

Q Refer to Exhibit 3 on that.

A All right. To the east, it is operated by Mobil, and there is a flood-operated to the west by, I believe, Texaco -- Shell.

MR. CHRISTY: That's all.

MR. STAMETS: Are there any questions of the witness? He may be excused.

(Witness dismissed.)

MR. CHRISTY: I call Mr. Johnson, please.

JOE L. JOHNSON, JR.

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

DIRECT EXAMINATION

BY MR. CHRISTY:

Q Would you please state your name, your address

and occupation?

A Joe L. Johnson, Jr., 2409 Brentwood, Wichita Falls, Texas, and I am a consultant petroleum engineer with Stevens Engineering, Wichita Falls.

Q How long have you been a petroleum engineer, Mr. Johnson.

A 24 years.

Q Where did you attend college?

A Texas A and M.

Q Did you receive a degree in petroleum engineering?

A A degree in petroleum engineering and a degree in chemical engineering.

Q What year was that?

A I graduated in 1952.

Q Since then have you been actively engaged as a petroleum engineer?

A Yes.

Q Have you previously testified before other regulatory bodies and had your qualifications accepted as a petroleum engineer?

A I have testified in New Mexico, Oklahoma and Texas.

Q You have testified in New Mexico?

A Yes.

Q Now, let me refer you to what has been marked as Applicant's Exhibit 6 which purports to be a geological report. Would you please briefly summarize that report in connection with this Application?

A The first exhibit indicates the unit area and the wells contained therein. The remaining portion following the first map indicates the discussion of the waterflood survey, prepared by Mr. Stillwell. It also indicates the proposed structure map. It indicates an area of the proposed unit outline and the past performance history, indicated in a graphical manner. It also indicates the porosity and permeability of various cores taken in the zone. It indicates a net-pay isopach map and proposed injection map, or injection-plan map which would identify the proposed injection wells and the line layout and the producing wells. There is Enclosure 9 which indicates the permeability range of the cores previously mentioned and other basic calculations concerning the waterflood area itself.

Q Does it give the cumulative production to date?

A Yes. As of 1/1/75, it gives the cumulative production and that cumulative production is 286,564, shown on Enclosure 15.

Q Is the primary production substantially exhausted?

A Yes.

MR. CHRISTY: I advise the Examiner that is the reason we do not have a Phase 1 and Phase 2, there is no Phase 1 left, so the unit is just going to be strictly a Phase 2 unit.

BY MR. CHRISTY:

Q What quantities of water do you propose to inject in these wells?

A We anticipate a total or maximum injection rate of 1920 barrels and a maximum dailyrate per injection well of 240 barrels per well per day in the eight wells proposed for injection purposes.

Q Have you located a source of supply of this water?

A Yes.

Q Is it fresh water or salt water?

A It would be coming from Double Eagle.

Q Is is fresh water?

A It would be basically fresh.

Q Basically fresh water. Do you have an opinion as to whether or not those proposed injection rates will be sufficient to conduct an economical and sound engineering flood?

A Yes, they definitely will. We have the history of the two offset-projects previously discussed by Mr. McClellan and these fall right in line with the other two projects.

Q This type of waterflood that you are proposing here, will the pilot be the full flood? In other words, will you start out with a full flood, or will you start out with one or two wells and work up?

A We will start out, probably, with a majority of the wells. These wells will have to be cleaned and work done. It may be that there would be a slight period in which there would not be full injection; however, the final-- it is really mandatory that we go to the eight-well injection plan as soon as possible due to the fact that it is going to take so long to get the water into ground with this type of system.

Q Do you have a well record on the wells within the unit, and let me refer you to Exhibit 6-B, there being no 6-A?

A Yes.

Q Is that the well record on Exhibit 6-B?

A Yes, it is. I prepared this.

Q Do you have an opinion as to whether or not the

granting of this application and the institution of the waterflood project in conformity with the application would result in the prevention of waste?

A Yes, it would result in the prevention of waste.

Q Will it permit the maximum recovery of hydrocarbons within the economic limits at this time?

A Yes.

Q Do you see where it will violate the correlative rights of any interested party?

A No.

MR. CHRISTY: That's all.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Johnson, I was looking through Exhibit No. 4 and it would appear that at least some of these wells are slim-hole completions, is that correct?

A Yes, sir, they are.

Q Do you anticipate this type of completion would cause any problems with migration of water up behind the tubing?

A No, sir.

Q Would it be proposed to load the annulus in each of these injection wells and guage it at the surface or

leave it open so that leaks could be detected?

A Yes. It will have a measuring device there.

Q Would the operator be willing to instruct his field people to report any leaks from any producing wells or injection wells or plugged and abandoned wells in the area immediately to the Commission?

A Yes, sir.

Q How about the plugged and abandoned wells in there? Do you know if these wells have been plugged and abandoned in such a nature that it would confine any of this injection water in the premier sand?

A To my knowledge, they have been plugged correctly and would confine them; however, I do not have that information with me at this time.

Q Would that be done subsequent to the hearing, and in your opinion, that this will not be a hazard to other producing zones? Can you send that in subsequent to the hearing?

A Yes, sir.

Q Referring to Enclosure No. 4 in Exhibit 6, I go back to 1967 and I see a large peak in oil production. Is this representative of what actually happened out there?

A No, sir. What this is, in the duplication of it,

what actually occurred is, this is the anticipated performance that the committee that worked this report up had anticipated, putting the flood in prior to 1967 and were unable to do so, and what you are seeing there is a peak of what they anticipated the performance of the flood to do.

Q So that didn't happen?

A No, sir.

Q I believe you said that the Enclosure 15 represented what has actually happened out there?

A Yes, sir, that is the cumulative production. It indicates the cumulative production among other factors.

Q I see. Is there any importance to the fact that this was not instituted back in 1967?

A The price of oil, basically, was the reason for it. With the price of oil today, it becomes feasible to install the project, whereas before it was a very close economic situation.

Q Will the tubing in the injection wells be cement-lined or plastic coated?

A We do not anticipate doing this initially. The performance of the Sulimar-Queen Unit located immediately north, and also operated by McClellan Oil Corporation, has indicated satisfactory performance with very little corrosive

nature, utilizing the same type of water. We maintain a high-water quality and a continual corrosion control; therefore, we do not anticipate utilizing a coated system in the injection wells to start with. The system will be coated on all surface lines.

Q What type of corrosion-monitoring equipment are you using?

A We are using corrosion coupons.

Q Would you use corrosion coupons in this project as well?

A Yes.

Q Would the test be forwarded to the Commission?

A Yes. The water quality control here is even more critical than it is in the Sulimar because of the tight nature of the formation.

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

(Witness dismissed.)

MR. CHRISTY: I advise the Examiner that Article 23-A of the unit agreement requires 95-percent working interest joinder. When we drew the unit agreement, we thought that the Getty tract was going to come out about 4-percent, but it really came out about 6 percent. Due

to the time limit I will mention in a minute, we may reduce that 95 to 93-percent, and Getty, of course will join, or the farm-out will join subsequently. The reason for it is, there is a time limitation under a contract that the flood must be in operation by June 1. We, therefore, would appreciate the Commission's earliest consideration to the Application.

We offer in evidence Applicant's Exhibits Nos. 1 through 6 inclusive, including Exhibit B, and that is all we have for the Applicant.

MR. STAMETS: The exhibits will be admitted into evidence.

(Whereupon, Applicant's Exhibits Nos. 1 through 6 were marked for identification, and were offered and admitted into evidence.)

MR. CARR: Mr. Examiner, we have received a letter from Hal M. Stierwalt, opposing the waterflood project, and the letter should be made part of the record.

MR. STAMETS: The letter will become part of the record in this case.

Is there anything further in this case? We will take the case under advisement.

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

I, RICHARD L. NYE, Court 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.

COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 5460, heard by me on 4-30, 1975.

Richard L. Stamets, Examiner
New Mexico Oil Conservation Commission

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