BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 1, 1964

EXAMINER HEARING

IN THE MATTER OF: (Reopened)
Application of Kennedy Oil Company for a waterflood project and for designation of a waterflood buffer zone, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Square Lake Pool by the injection of water into the Grayburg-San Andres formation through one well located in Unit L of Section 20, Township 16 South, Range 31 East, Eddy County, New Mexico. Applicant further seeks the designation of the N/2 SW/4 of said Section 20 as a buffer zone offsetting Newmont Oil Company's Waterflood Project immediately south.

Case No. 3038

BEFORE:
Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: Case 3038.

MR. DURRETT: Application of Kennedy Oil Company for a waterflood project and for designation of a waterflood buffer zone, Eddy County, New Mexico.

MR. UTZ: This case was also heard on June 10th, and testimony was given. However, again the State Engineer had not been advised as to the situation as to the injection of water in the area. Since that time he has been given the information he desired and has sent us a letter dated June 19, 1964 whereby he offers no objection to the injection of water in the subject area as long as certain conditions are met, and that is to inject through tubing under a packer with the packer set below the known top of the cement on the 5-½" casing.

Are there any further objections? The testimony in this case will be taken under advisement.

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 before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this 6th day of July, 1964.

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 Examiner hearing of Case No. 3078, heard by me on July 1, 1964.

Examiner
New Mexico Oil Conservation Commission

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 7, 1964

EXAMINER HEARING

IN THE MATTER OF:

Application of Kennedy Oil Company for a waterflood buffer zone and capacity allowables, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the designation of the N/2 SW/4 of Section 20, Township 16 South, Range 31 East, Square Lake Pool, Eddy County, New Mexico, as a buffer zone adjacent to a waterflood project operated in the S/2 SW/4 of said Section 20 by Newmont Oil Company.

Case No. 3038

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

TRANSCRIPT OF HEARING

MR. NUTTER: Call Case 3038.

MR. DURRETT: Application of Kennedy Oil Company for a waterflood buffer zone and capacity allowables, Eddy County, New Mexico.

If the Examiner please, I would like to state for the record that I have received a letter from A. J. Losee of the law firm of Losee and Stewart, requesting that this case be continued indefinitely.

MR. NUTTER: Case No. 3038 will be continued indefinitely.

* * *

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 before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record, to the best of my knowledge, skill, and ability.

WITNESS my Hand and Seal this 13th day of May, 1964.

NOTARY PUBLIC

My Commission Expires:
June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3038, heard by me on 5/7, 1964.

, Examiner
New Mexico Oil Conservation Commission

DOCKET: EXAMINER HEARING - WEDNESDAY - JULY 1, 1964

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM, STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Elvis A. Utz, Examiner, or Daniel S. Nutter, alternate examiner:

CASE 3063: (Continued from June 10th Examiner Hearing)
Application of R. C. Davoust Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Turkey Track Section 3 Unit Area comprising 480 acres of State land in Section 3, Township 19 South, Range 29 East, Eddy County, New Mexico.

CASE 3064: (Continued from June 10th Examiner Hearing)
Application of R. C. Davoust Company for a waterflood expansion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the expansion of the Turkey Track Queen Waterflood Project in Section 34, Township 18 South, Range 29 East and Section 3, Township 19 South, Range 29 East, Turkey Track Field, Eddy County, New Mexico, to include the Grayburg formation.

CASE 3070: Application of Nearburg & Ingram and Kincaid & Watson Drilling Company for a waterflood project, Eddy County, New Mexico. Applicants, in the above-styled cause, seek authority to institute a waterflood project in the Square Lake Pool by the injection of water into the Grayburg formation through three wells located in Section 6, Township 17 South, Range 30 East, Eddy County, New Mexico.

CASE 3071: Application of Texas Pacific Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its J. P. Collier Well No. 1 located in Unit F of Section 10, Township 11 South, Range 33 East, Lea County, New Mexico, to produce oil from the North Bagley-Upper Pennsylvanian Pool and an undesignated Middle Pennsylvanian Pool through 2 1/16 inch tubing.

CASE 3060: (Reopened)
Application of Frank Darden for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Artesia Pool in his Cowtown Unit Area by the injection of water into the Grayburg and San Andres formations through two injection wells in Sections 13 and 24, Township 18 South, Range 28 East, Eddy County, New Mexico.

CASE 3072: Application of Coastal States Gas Producing Company for the extension of a pool and for special temporary pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the extension of the Flying "M" San Andres Pool in Township 9 South, Range 33 East, Lea County, New Mexico, and temporary special rules therefor, including a provision for 80-acre well spacing and proration units.

CASE 3073: Application of Texaco Inc., for the creation of a new oil pool and for special temporary pool rules, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new oil pool for Pennsylvanian production for its Navajo Tribal AL Well No. 1 located in Unit H of Section 28, Township 26 North, Range 18 West, San Juan County, New Mexico, and for the establishment of temporary pool rules including a provision for 160-acre spacing and a GOR limitation of

4000 to 1. Applicant further seeks the establishment of an administrative procedure whereby interference tests could be conducted and allowables transferred.

CASE 3074: Application of Continental Oil Company for an amendment of Order No. R-2385, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-2385 to substitute for water injection purposes a well located in Unit H of Section 9, Township 17 South, Range 29 East, Eddy County, New Mexico, for the presently authorized well in Unit I of said Section 9.

CASE 3075: Application of Marathon Oil Company for a special gas well test, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to produce and flare approximately 1000 MCF per day for a period of not less than three nor more than 30 days from Tom Brown Drilling Company's Antelope Sink Unit Well No. 1, located in Unit G of Section 18, Township 19 South, Range 24 East, Eddy County, New Mexico, in an effort to evaluate the reservoir.

CASE 3076: Application of Marathon Oil Company for a non-standard oil proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an 80-acre non-standard proration unit comprising the SE/4 NW/4 and NE/4 SW/4 of Section 31, Township 17 South, Range 35 East, Vacuum-Upper Pennsylvanian Pool, Lea County, New Mexico, said unit to be dedicated to its State Warn A/1 Well No. 3, located in Unit F of said Section 31.

CASE 3038: (Reopened)
Application of Kennedy Oil Company for a waterflood project and for designation of a waterflood buffer zone, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the Square Lake Pool by the injection of water into the Grayburg-San Andres formation through one well located in Unit L of Section 20, Township 16 South, Range 31 East, Eddy County, New Mexico. Applicant further seeks the designation of the N/2 SW/4 of said Section 20 as a buffer zone offsetting Newmont Oil Company's Waterflood Project immediately south.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
June 10, 1964

EXAMINER HEARING

IN THE MATTER OF:

Application of Kennedy Oil Company for a waterflood buffer zone and capacity allowables, Eddy County, New Mexico, or a determination that an offset well is producing primary oil.

Case No. 3038

BEFORE:

DANIEL S. NUTTER, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: The Hearing will come to order.

MR. DURRETT: Application of Kennedy Oil Company for a waterflood buffer zone and capacity allowables, Eddy County, New Mexico, or a determination that an offset well is producing primary oil.

Would you like the witness sworn?

MR. LOSEE: Yes.

(Witness sworn.)

MR. LOSEE: Before we start our case I would like to make a statement with respect to it. Within what we interpret as the jurisdictional Call for the Case we propose to proceed only on the first portion of the Application. The Call said that we sought the designation of the north half southwest quarter of Section 20 as a buffer zone adjacent to a water-flood project operated by Newmont, and the assignment of capacity allowables to our two wells, Rowley One and Two therein. We would like to dismiss the second and alternative position of the Call and proceed on the first with a further limitation on the first; that is to say that capacity allowables will not be assigned to the wells until sufficient time as one of the two wells in the northwest of the southwest is converted into injection.

MR. NUTTER: Now, these wells are in the north half --

MR. LOSEE: Of the southwest.

MR. NUTTER: -- of the southwest.

MR. LOSEE: And we are saying there are two wells in the northwest quarter, one of them is a dry hole plugged in the -- I trust, not dry, but it was plugged and abandoned.

MR. NUTTER: In other words, what you are proposing now is this: It's for a buffer zone and a capacity allowable

or a determination in the alternative that an offset well is producing primary oil, the offset?

MR. LOSEE: You notice we are dropping the primary?

MR. NUTTER: That's right, and you are dropping the tentative determination of primary oil for the offset well?

MR. LOSEE: Yes.

MR. NUTTER: But you want to proceed with the designation of a waterflood buffer zone and capacity allowables, but you would restrict that to only after a well in the northwest quarter of Section 20 will be put on water injection?

MR. LOSEE: Yes.

MR. NUTTER: And would that be this Number One well?

MR. LOSEE: When I say northwest of the southwest --

MR. NUTTER: You mean this well right there?

MR. LOSEE: One of these two.

MR. NUTTER: Either the No. Two Rowley producer, or the Number One dry hole there?

MR. LOSEE: Yes, sir.

MR. NUTTER: I see; okay, with that in mind, will you proceed Mr. Losee?

MR. RUSSELL: Let me make a statement in respect to the State Engineer, so I won't forget it at the end of the Case. In view of the change in our Application this morning, we ooviously are not changed by reduction in it. We did not

furnish the State Engineer with copies of our Application. However, just a few minutes ago, we gave him copies of all of the Exhibits that we will introduce here, and in brief explained the testimony. He advised us that prior to the time the Commission could normally be expected to enter an order he would write a letter stating the State Engineer's position as to whether he objected to our injection program.

* * *

R O B E R T B. K E N N E D Y, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. LOSEE:

Q Would you state your name, please, sir?

A Robert B. Kennedy.

Q Where do you live and what is your occupation, Mr. Kennedy?

A Artesia, New Mexico, and I am with Kennedy Oil Company.

Q Have you previously testified before the Oil Commission?

A Yes, sir.

MR. LOSEE: Are Mr. Kennedy's qualifications acceptable Mr. Examiner?

MR. NUTTER: Yes, sir, they are.

(Exhibit Number One marked for identification.)

Q (By Mr. Losee) Please refer to what has been marked for identification Exhibit Number One, and state what that is?

A Exhibit One is a map of the Square Lake area showing the waterflood project as it has produced to date, production and injection wells and names of operators.

Q In the immediate area of your lease, does it show the wells that have been converted to injection?

A Yes, it does.

Q By a circle around the well?

A Right, sir.

Q Still referring to this map, did the Commission enter it's order of 11-10-C on July 7, 1962 authorizing an expansion of the Square Lake Waterflood injection for Newmont to include certain acreage offsetting yours, and if so, what was that acreage?

A That acreage was the south half of the southwest quarter of the said Section 20.

Q Did Newmont Oil Company subsequently convert it's Greer Number Three well to water injection?

A Yes, it was converted into water injection.

Q Do you know when that was, sir?

A It was in September, 1962.

Q September?

A September 28, 1962.

Q Have you prepared an Exhibit reflecting the completion data of the three wells that are located on your lease?

A Yes, I have, and that is Exhibit Two.

Q Now, the Rowley One-L well, that is shown on this Exhibit, is it producing at this time?

A That was a former producer that they had set pipe on and subsequently plugged and abandoned.

Q By former producer, did it actually produce any substantial quantities of oil?

A They did have some tests on it, five barrels a day.

Q Then the Rowley One-K and Two-L were recently drilled by you?

A Yes, this year, being February the 5th and March 26th, respectively of this year.

Q Now, your Exhibit also reflects the total depth of all three wells on your lease --

A That's right.

Q And the casing programs, cement programs?

A Right.

Q And the perforations?

A Perforations.

Q Can you give me the production history of your Rowley One-K and Two-L wells since the dates of their completion?

A The two wells have produced 4,659 barrels.

Q They are making approximately what production per well at this time?

A Daily production at this moment is approximately sixty to sixty-five barrels. In fact, we have one well loading up and we have the swab machine and it is ready to put on the pump.

MR. NUTTER: The two wells together are producing?

A Sixty to sixty-five.

MR. NUTTER: All right.

Q (By Mr. Losee) Which well is loading up at this time?

A The Number Two well.

Q And you are preparing to put it on the pump?

A Yes, sir.

Q Did you treat these two wells when you completed them?

A These two wells were given a treatment on separation zones, separating the Grayburg and the San Andres with packers, and treatment was down three inch tubing losing approximately twenty thousand gallons of lease crude, and twenty-five thousand pounds of twenty-forty sand was injected in both the Grayburg and San Andres on each well.

Q Please refer to what has been marked as Exhibit Three which is a movable oil plat of your Rowley Number One, and explain what you feel is pertinent about this Exhibit.

A Movable oil plat is a new log. Several companies have

this official log, and it gives us a little advanced information where we do not have core information we can look at an area and have a little something to go on over and above what we had on former logs. As far as color, the blue color denotes the water content of the formation we are looking at, the red is the residual oil, and the yellow is the removable oil within that formation, the more yellow the better, and it does give us a measure of permeability from that standpoint. Porosity can also be measured in red directly off of this log.

Q What does it show, this log show, what zones are open?

A We have the Premier zone and the Lovington.

MR. PORTER: The Premier zone in the Grayburg?

A Yes, sir.

MR. PORTER: All right.

Q (By Mr. Losee) Please refer to Exhibit Number Four which is a gamma ray log of your Number Two and explain what it portrays.

A This exhibit is a sonic log, it again portrays a direct reading of porosity, and again shows Premier section developed and the Lovington section developed, though not quite as good as the Number One well.

Q Now, the Lovington section is not as good in this well?

A That's right.

Q That's fine. Has there been any electric logs, were there any run on this plugged and abandoned well?

A No, just relative information, just lime and sand.

Q Please refer to what has been identified as Exhibit Five and which is an isopach map of the Premier sand in the area, and explain what it reflects with reference to your lease.

A I have taken sand thicknesses, effective sand thicknesses of adjacent wells to our Rowley Lease and have drawn in an isopach map of thickness, map of the Premier sand. It is on contour at a ten foot interval and does show some nice sand thicknesses that we do have in the southwest quarter of Section 20. The point for consideration, one of the strong points as we consider this, as a waterflood project, is the fact that we have the sand shale out or lime up to the north and to the east of us and we have a very nice little trap in there. If waterflooded right we will recover additional crude and prevent waste.

Q Turn to your Exhibit Five which is the Lovington sand isopach and --

A This is Six.

Q Six, excuse me, yes; and point out the important things it reflects.

A Here again, we have a map showing sand thickness of

the Lovington sand in this general area and once again we do have a pump out of the Lovington sand, and if flooded properly we will recover again additional oil which might otherwise have been lost.

Q Now, actually these two maps show that to the east of you the Premier was not present in the western oil fields Thirteen or Fourteen wells, or if so, very little presence in the Thirteenth?

A They were drilled with cable tools and no show.

Q What about the Lovington sand in the western oil fields, Fourteen?

A Lovington sand was very thin between zero and five feet, all but pumped out.

Q Now, as earlier stated you would propose to convert to injection under this reduced Application, either the plugged and abandoned Well One-L, or your Rowley Federal Number Two. When would you propose to convert either of these wells to injection?

A Timing again is very important on that. If production took a sudden drop and we again were dealing with what we call a semi-depleted field, I am talking about nine to ten barrels a day to be specific, time is right. Earlier conversion to the Number One-L well could be in order at the same time. After considering this very thoroughly we are wanting to get all of

the oil possible with a stratographic type trap we have. Timing alone and in conjunction with offset operators is very important and we would certainly fall right into line.

Q What if you received a response to your One and Two wells, what if the production started back up on any of those, would you convert?

A That's right. In other words, we would have definite field, and that has been the past practice, I mean, where you do field response, it is time.

Q With reference to the One Well, that was not produced or did not produce any substantial quantities of oil, why do you feel that you might reasonably use that as an injection well?

A There again we will have to refer to the isopach maps that are submitted on both the Lovington and Premier sand, and realizing we do have a pitchout in this area. The recovery of additional oil, if economically feasible, is certainly in the scope of operation. I feel that we can recover enough additional oil at this time by converting that well that it would be an economical feasability.

Q Do you think you can get back in that hole and properly convert the well to injection?

A That is one of the big questions, but talking to old drillers that have worked on this well, the pipe is supposed to

be knocked off of the collar buster, and where we have that favorable condition our chances are good.

Q If you are able to convert that well to water injection would you ever thereafter convert your Well Number Two to injection?

A That's right. When the time came, if this One-L was converted; that Number Two had reached the water production point where, in other words, if it is a stair step type of arrangement, if you convert the Number Two Well they -- You hold the pressure block, you should have a cross to produce maximum oil.

Q Now, Mr. Kennedy, the regular five spot, if the locations were regular in this area would call for the conversion of your Rowley Number One, why do you propose to convert either the old plugged Number One or your Well Number Two?

A The answer is two-fold on that: First off; referring again to our isopach maps of the Premier and sand and dealing with the Pennsylvanian, we need to push the oil from one side to the other towards the maximum sand thickness. The second reason is the spacing, is that in the area we are close to a Number Four Greer Well of Newmont oil, some 660 feet, and it in turn could give them a premature water breakthrough, and I feel we will recover more oil off of this tract by reversing the pattern at this point.

Q Have you prepared some diagrams of proposed injection well conversion for this plugged One-L Well?

A Yes, I have those prepared, being Exhibit Number Seven.

Q Explain how you would inject water through that well.

A The injection first off, of course, we have to re-enter the well and land five and a half -- make a suitable tie-in on it prior to that. Of course, and we will run tubing on a packer with a packer on it and we will inject water through tubing below the point of where we tied into the five and a half casing.

Q Injection will be in both of these producing intervals through the open hole?

A That's right, pipe having been set at 2,974 feet, and Premier and Lovington sand zones are open. This well was shot in both zones and we would be injecting into both zones.

Q Exhibit Eight is a schematic diagram of your Rowley Two converted into an injection well where you changed that?

A Our Rowley Number Two makes one of the converting wells. This being a duly completed well we have pipes set on bottom, five and a half new pipe; and on this well, it will be our desire to inject down the anulus, and through tubing down the anulus we would be injecting in the Premier sand, we will run tubing with a packer on it and have it placed below

the Premier sand and inject in the Lovington sand, and that way we would be -- have a most positive approach to floodout the Sections we have in this particular eighty acres.

Q Now, your diagram shows the cement, top of the cement behind your five and a half, which is twenty two hundred feet?

A That's calculated plus or minus.

Q All right. Where is the top of your Premier perforation?

A The top of the Premier perforation, I will refer to the log here; 3,291 feet.

Q So, there is approximately nine hundred feet of cement?

A Nine hundred feet or more.

Q Above the perforations?

A That's right.

Q At such time as you would convert these wells to injection, what would be the proposed source of your water supply?

A Yucca water company.

Q Is that a fresh water source?

A That is a fresh water source.

Q Have you made any estimates as to the amount of oil you would recover by this type of waterflood operation?

A I have two calculations on that. Converting the Number One-L Well, I have a figure calculated of 185,721 barrels of

water. Converting the Number Two well, 164,549 barrels.

Q How did you arrive at that calculation?

A Taking sand thickness and oil in place and from primary consideration of what we recovered and what is expected to be recovered from similar sand sections in adjacent areas.

Q In your opinion, would the conversion of either of these wells in the northwest of the southwest to injection at a future time, at which you have response or reduction, has declined on your wells; materially protect waste and protect correlative rights?

A Yes.

Q Were Exhibits One through Eight prepared by you?

A Yes, sir.

MR. LOSEE: We offer the introduction of Exhibits One through Eight.

(Whereupon, Applicant's Exhibits One through Eight were offered into evidence.)

MR. NUTTER: Applicant's Exhibits One through Eight will be admitted into evidence.

(Whereupon, Applicant's Exhibits One through Eight were admitted into evidence.)

MR. LOSEE: We have no further questions.

MR. NUTTER: Are there any questions of Mr. Kennedy?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Kennedy, are you proposing here with this amendment to your Application and the submission of these Exhibits of schematic drawings of injection wells that this order would authorize the injection of water in one or both of these wells?

A One at a time, only.

Q Well, it is not within the call of the Hearing to even set up a waterflood project here, is it?

A That was brought out requesting buffer zone treatment and qualifying by four buffer zone treatments for conversion at a later date.

MR. LOSEE: Mr. Examiner, I really ought to be the one to sit and answer that question rather than my client. I think the call of the application requests capacity allowable for this, it does not request the conversion of the wells to injection. We feel the Commission has the power to add the conversion of the well as a consideration of their order and --

MR. NUTTER: What notice was given of that?

MR. LOSEE: Well, actually, there is no notice as far as the injection well, but in as far as this is offset by an injection well, to wit, the Greer Number Three, I think we could obtain expansion of the project without asking for capacity solely by administrative approval, and we are in effect

duly asking for the Administration's approval as to the conversion of this well.

MR. NUTTER: In other words, it is your contention that either the Number One or Number Two could be authorized without another Hearing?

MR. LOSEE: Yes, sir, we would like that; that is our request to have it embodied in the order and we feel like it is within the Rules and Regulations of the Commission. If they have Administrative power to permit the conversion, and the only purpose of the publication --

MR. NUTTER: Of a well and a project?

MR. LOSEE: Well, of an expansion of a project, but --

MR. NUTTER: Presumably that would be within the same project? Normally, another project offsetting is considered to be another project and that comes under the portion of Rule 701 that says, "The only authority for injection in a project is only after notice of Hearing and subsequent expansion of that project", and this would, in my experience with these things, we normally regard a new project by a new operator as being a new project.

MR. LOSEE: Well, that is probably true, but I think your use of the word "normally" is indicative, there have been exceptions where I think I have been involved, there have been exceptions without arguing, that is solely --

MR. DURRETT: Mr. Losee, proceeding with this case, although you may be getting the same effect -- a new project offsetting the existing project with the capacity allowables, that might be the effect of it, what they are asking for is the buffer zones as advertised with capacities allowable, but they are stipulating as part of their request that they would have an additional requirement phrase, and before it would be granted, which would be conversion to injection which would give you the same result as, but he feels that that is in the scope of -- as a new, would give the same result as a new flood, but he will --

MR. NUTTER: I understand the designation of the buffer zone is within the scope of the Hearing, and the buffer zone is the buffer zone for production as far as this Hearing is concerned. That will be something we will have to think about, I imagine, before we decide whether this is broad enough to authorize one.

MR. LOSEE: Let me point one other thing out: We do not, at this time, want a designation, if possible, as to which of these wells. It might be economically impossible to get into the old hole.

MR. NUTTER: Mr. Kennedy, is this definite, however, that your Well Number One would not be this water injection well?

A I feel the most effective approach from the engineering standpoint would be the conversion of the Two-L or the One-L well in the northwest.

Q (By Mr. Nutter) Now, is there any proposal in your discussion with Newmont on this project in this area, has there been any proposal made to convert Newmont Greer Number Four to a water injection well?

A Well, on that 880 acre tract, Greer Three?

Q That's right, if you convert it now for example, you converted your Number Two Well to the water injection, you are pumping water off of the Rowley South onto the Greer lease?

A That's right, we will be pumping south.

Q You will be pumping some south; of course, the Number Three is an injection well, it is pumping oil north, but your water is coming from the north and is also going to -- the water from those two wells is going to converge, the benefit would undoubtedly be in the easterly direction?

A That's right.

Q Probably for the Number Four Well. Is there any counteracting injection project there, or is there any injection well to counteract the pushing of oil from your lease onto the Greer Lease and make up for the oil that is being pushed off of your lease?

A Well, now, there is going to be a little coming and

going across there on lines. Of course, in a waterflood pattern where well spacing isn't exactly the same on one 40 acre tract, we will afford a fluctuation from oil from one to the other. I feel we can recover more oil from this tract by converting of a well in this northwest of the southwest.

Q Now, you were talking about if the Number Two Well was converted into water injection, the 164,000 barrels of water would be recoverable; is that recoverable by Newmont and Kennedy, or recoverable by Kennedy?

A We hope that is recoverable by Kennedy. Now, that is before conversion. Now primary total production, when I refer to that figure --

Q What method was used to plug this Number One Well, do you have the plugging program handy on this one?

A Yes, it is from the Commission's files. I do have some information on that. Of course, these early well records are pretty skimpy sometimes. Now, there was 100 feet of 10" casing in that well that was poled, the 8 and 5/8" casing was set at 611 and cemented with fifty sacks and it was knocked off, there is no record on the forms that I can find of where it was knocked off at.

Q That is the 8 and 5/8"?

A And five and five and a half fourteen pound casing was set at 3,075 feet which one hundred six --

Q But some of the five and a half was pulled?

A Yes.

Q 100 sacks of cement behind it?

A And the 7" casing had been set a 2,593 which was the water string, and they recovered 2,400 feet of 7".

Q Now, there was a string of 7" in there, too?

A That was the water string through the Queen in the early days.

Q Where was the set, how much was piled?

A 2,593.

Q How much was pulled?

A 2,400.

Q Practically all of it is. So, if you were to convert that Number One-L Well to water injection it will take considerable work, and you wouldn't know at this time exactly what all you would have in there?

A That is it, you never know until you go into one of these wells. They do create a lot of problems.

Q Did that well produce any oil at all when it was drilled?

A There is no record of production other than a test made of it, it was making five barrels and they plugged it. I have talked to interested people around, they had a bunch of dry holes money up and that seems that that might have had

a bearing on that well being plugged.

Q At any rate, the Greer, the first production records show that it was probably a fairly tight sand?

A Fairly tight, there is a tight situation.

Q Now, you mentioned that 4,659 barrels had been produced from the two wells Number One and Two; do you have a figure on each of these wells, individually?

A No, I just have the total on that.

Q What is the Number One capable of producing on that today?

A The Number One Well will produce approximately forty barrels.

Q And the Number Two Well will produce what?

A It is flowing about twenty-five barrels.

Q No, the Number Two is the swab well, and when it kicks off, it will make about twenty five barrels?

A It will make twenty-five barrels a day. Now, we have a lot of oil there and we are not able to flow it, and we will have to put it on the pump.

Q Now, what was the original potential on each of these two wells when they were brought in; do you recall?

A The Number One well floods fifty barrels of oil every twenty-four hours, 1,464th choke; the Number Two well floods forty-four barrels of oil every twenty-four hours, 1,664th.

Q How about the Newmont Greer Four, what was it brought in for?

A It was completed for 292 barrels of oil per day, and I believe that was 3,264th choke, double choke; that was a 3,064th choke.

Q When was that well completed?

A I believe that was May the 5th of this year.

Q And you don't know what it's current capacity is, do you?

A I understand 172 barrels, 2,464ths.

Q Although you have dropped in portion of your Application, do you still entertain any thought that this area may be producing from a separate area other than the area that is being flooded?

A Well, all indications are: Sands are continuous, we do just have an area that hasn't been drilled up previously.

Q You have got this little "high" on your Exhibit Number Five and these wells are around on the back side of the hill?

A No, this sand thickness map, Mr. Nutter.

Q All right. Is the Newmont flood being conducted in both of these zones, the Premier and Lovington?

A Portions of their flood have been separated.

Q Do you know what injection wells the Number Three is using?

A Number Three, according to Commission records, shows that it is going down the casing and the open hole.

Q Through both zones?

A Right, unless something is changed and hasn't met the file.

Q Then, if you completed your Number Two Well as the injection well, you would selectively inject over and under a packer?

A We would separate our zones.

Q On your movable oil log, is the blue the residual water that would be left in there after the oil was produced or is that the water that is in place?

A That is the water that is in place at the present time on that, Mr. Nutter. I have a pamphlet on that that we could submit as evidence on interpretation.

Q If you would like to offer that as a part of the record, I would appreciate it. That would be fine, otherwise, I would just appreciate having it to read.

A Let's just give it to you to read. We feel it is about the finest thing that has come along to give us something to work with for a change.

Q Do they do the coloring for you?

A Well, that is worth it.

Q Is that Schlumberger?

A Other companies have it too, but this is run through a computer as shown at the top of the log and that is given to you an hour after it is run, right on the well site, coming through the computer.

Q They have a computer on the truck?

A Computer on the truck, so it really enables you to make decisions, where formerly you had to scratch your head just a little bit.

MR. NUTTER: Are there any other questions of Mr. Kennedy?

MR. DURRETT: I have a question.

CROSS EXAMINATION

BY MR. DURRETT:

Q Mr. Kennedy, is it your opinion that this Newmont Well Number Four, which is directly south of your Well Number One, has not received a response at this date from the Newmont flood; is that correct?

A Our feeling in this area is that we are producing partially primary oil and we have a partial pressure built up in this area, it is a combination of both.

Q Now, referring to this Newmont Vickers Number Five which is in the southeast of the southeast of 19 --

A Yes, sir.

Q That is in the flood area; is it not?

A Yes, sir.

Q Has it received a response?

A Yes, sir, it has received a response.

Q When did this response occur, approximately?

MR. LOSEE: Newmont has got an Exhibit.

A We have an Exhibit.

Q (By Mr. Durrett) You are going to put that in. Fine. Now, as I understand your amending Application, you are requesting capacity allowables as a buffer zone with the stipulation that this capacity allowable would not be signed until a well was put on injection?

A That's right, sir.

Q Now, assuming that you selected your Well Number One, the former dry hole as the injector, how long do you anticipate, if you can anticipate with any reasonable accuracy, it would take for the Well Number Two to receive a response?

A Well, that makes a very interesting question. Waterflooding, we always hope we can control water, and water should move out in a circle, and rates of injection are important there. For it to be an economical feasibility we would have to recover more than the cost of going into the well, and of course, our thought behind that is to prevent waste and recover the maximum off of this lease that we possibly can. As to time, waterflooding is funny. Sometimes something shoots

across real fast, and other times if you can regulate things, properly, and you have a good sand section, in this case we have a relatively good sand section and I feel we are dealing with a sufficient period of time, if we can get into the well without too much cost where it will be an economic feasibility.

Q Well, if your capacity allowables were not assigned until you received response, do you feel that that would in any way hamper the production of secondary oil? Not speaking of primary oil now, assuming that your Well Number Two is now producing primary oil?

A Right.

Q And if your capacity allowables that you propose are not assigned until that Well Number Two receives any response of the flood, that would not in any way hamper the recovery of present primary or secondary oil, would it?

A Well, now, we should feel response in the near future from the time this well, this Number Three Well of Newmont's was put on injection from the Number Three, or our Number Four Greer is approximately the same.

Q Then would it be your plan to set your well on injection about the time you started to get a response to the Number Three; is that what your --

A That was one of the conditions: Where we feel a response, it is time to put one of the wells on.

Q Now, I would assume under the normal waterflood operations that you were expecting it to be a considerable longer period of time than this one here?

A We would have to have a lot of time to reach payout and profit status.

MR. DURRETT: That you, that's all I have.

MR. NUTTER: Are there any other questions of Mr. Kennedy? You may be excused. Do you have anything further Mr. Losee?

MR. LOSEE: No, sir.

MR. RUSSELL: I am John F. Russell, Attorney, Roswell, New Mexico, representing Newmont Oil Company, and I have one witness.

MR. DURRETT: Would you stand and be sworn, please?

(Witness sworn.)

* * *

C H A R L I E S E E L Y, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. RUSSELL:

Q Will you please state your name, address, by whom you are employed and in what capacity?

A My name is Charlie Seely, I am a Chief Petroluem Engineer with Newmont Oil Company in Houston, Texas.

Q Have you previously testified, been qualified to testify before the Commission?

A No, I haven't.

Q Will you give a brief resume of your educational and practical background in this field?

A I graduated from Texas University in 1955 with a B. S. in Petroleum Engineering, I have worked in Petroleum Engineering since that time except for two years in the Service. I am a registered Petroleum Engineer in the State of Texas.

Q You have worked in this particular area, New Mexico, have you not?

A Yes, very definitely.

MR. RUSSELL: Are his qualifications acceptable?

MR. NUTTER: Yes, please proceed.

Q (By Mr. Russell) I direct your attention to Newmont's Exhibit Number One and ask you to identify that Exhibit as to what is portrayed.

A Well, all this Exhibit does is give an idea of the expansion of the east Square Lake Waterflood project, and to the point that it exists today; it also shows the tracts that Newmont either owns or operates, and it also shows the tracts that Mr. Kennedy has; and it also has some information on there as to when key wells responded, when they were converted to

injection, and the cumulative water injected into various key wells.

Q And what is the date, does it show the date of the cumulative injection? If not, what date is that?

A That is as of May the 1st, 1964.

Q Are you familiar with the Application of Kennedy Oil Company as modified by Mr. Losee's statement dropping the second portion of his Application and as agreeing to the condition of being granted capacity allowables that one of the wells in the northwest quarter of the southwest quarter would be put on injection?

A Yes, I am.

Q On the basis of that modification and condition, do you feel that the granting of the Application would prevent waste and protect correlative rights of both parties?

A Yes, I do.

MR. RUSSELL: I have no further questions of this witness.

CROSS EXAMINATION

BY MR. NUTTER:

Q How much water has been put in your Greer Number Three Well?

A 67,000 barrels. Also note that I have the date that it responded from offset injection, and also the date that it

was converted; and incidentally, the well is open to all zones.

Q Now, the Vickers Number Two to the southwest was on injection prior to the time that it responded, to evidence the response came from that well?

A That's right, this was the original pool in that area. Vickers Two, Vickers Three, Berg Unit One, Fidel Two, Texas Trading "A" Number One and Four, and you can see there is a substantial larger quantity of water injected in those wells.

Q Now, you say it responded November 1, 1961 and it was converted, set the first of 1962, what was the Number Three Greer's producing history in that interval, how much did it respond?

A Well, let me make this statement: All of the Greer Lease, this includes Greer Number Two and also Greer Number One, all received an indication of response; however, it was a very limited response, and Newmont did not own the property at that time, and I am not really certain that the operator was sure of what the indication was. So, the wells were not properly pumped. I would imagine that had the wells been operated as they should have been, they would have a capacity in the range of 25 to 40 barrels a day. However, they were only producing at the rate of probably four to five barrels.

Q That would include the Greer Number Three?

A Each well.

Q How about this Vickers Number Five, it says here it responded March of 1961?

A That's correct.

Q Now, what is it producing?

A It presently, on the latest test, produced twenty-five oil and fifty-eight water.

Q Now, you heard Mr. Kennedy testify that your Well Number Four made 292 barrels on the initial test; is that figure correct?

A That's correct.

Q What is that well capable of producing now, 172?

A The latest test that we have was yesterday, and it made 171 barrels.

Q That is it's maximum producing capacity?

A That's right. Well, now, I won't say the maximum producing capacity, because we had it on the choke and we could probably have opened it then.

Q It is a flowing well?

A Yes, it is a flowing well.

Q To what do you attribute the fact that in over a month that has declined over 100 barrels in the capacity?

A Well, first of all, the recoveries in this area, when you look at it for the entire field, have not been well, very

great, so that well could hold up at that rate for any length of time.

Q Injection?

A Any sustained length of time.

Q Injection is still going on in the Number Two and Three wells?

A That's correct. Very definitely. The casing pressure has remained the same, about four hundred pounds. I think part of the difference, for we did give this well a little bit bigger treatment than Mr. Kennedy gave his wells, I remember, it is something like 25,000 barrels. We treated ours with about double that, and a new technique also.

Q Is it your opinion that this producing capacity of 172 barrels to date and 292 barrels a month ago was due to the injection of water in the Number Two and Three Greer Wells?

A Well, let me make this statement: Had there not been injection into this field, all of this down in here, and also these two wells, you have to look at it from the overall standpoint, I think. I feel certain the well could not have made 292 barrels a day, and it would certainly have been a lot lower than it is right now.

Q In other words, even if it is not a direct response from that water injection, the fact you got the water injection program down there keeps the pressure built up in the north

area?

A That's right; and I feel we are getting maybe a limited response up here anyway. I don't have the date that this Vickers Number Six responded, but it responded in August of 1962.

Q The Number Six Vickers?

A Yes, that's right; and it is presently making twenty oil and twenty-five water; and you can see the distance that it is from the closest injection well, so if you move the front on over you can get an idea that the whole area down here was pressured up pretty well so that all of the injections into those two wells, particularly Greer Two and Greer Three, that the water probably went in a direction of the lower pressure; and therefore, I feel certain that we didn't have radial flow out of those two wells, and as a result, I feel like we are getting some response.

Q What has your Number Four produced to date?

A I don't think I have that figure. I think I have all of the daily figures, I could probably add them up, I don't have the accumulative figure.

MR. RUSSELL: Is this it?

A Yes, here we go. It looks like it averages about 250 barrels a day for seven days, and looks like it has averaged about, oh, 190 barrels for twelve days. So, roughly it looks

like around 4,000 barrels.

Q 4,000 cumulative today, and that test of one -- That was just yesterday's test, right?

A 6-8-64.

Q 6-8-64. Okay.

MR. NUTTER: Are there any further questions of this witness? You may be excused.

Do you have anything further, Mr. Russell?

MR. RUSSELL: Yes, I would like to offer into evidence Newmont's Exhibit Number One.

(Whereupon, Newmont's Exhibit Number One offered into evidence.)

MR. NUTTER: Newmont's Exhibit Number One will be admitted into evidence.

(Whereupon, Newmont's Exhibit Number One admitted into evidence)

MR. RUSSELL: And I would like to make a statement for the record. That Newmont Oil Company supports the application of Kennedy Oil Company as modified by the statement of Mr. Losee dismissing the second portion of the Application, and upon the condition that capacity allowable not be granted until one of the wells in the northwest quarter of the southwest quarter of Section 20 is placed on injection.

MR. NUTTER: Thank you.

Mr. Losee, do you have any statements you wish to

make?

MR. LOSEE: Not unless the Examiner has some questions with respect to the modification of the Application. I have made enough statements. Thank you.

MR. NUTTER: Does anyone have anything to offer in this Case 3038?

We will take the case under advisement and the Hearing is adjourned.

* * *

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

I, CHARLES WALKER, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Witness my Hand and Seal this day of , 1964.

Charles F. Boyd Walker
NOTARY PUBLIC

My Commission Expires
March 25, 1968.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3038, heard by me on June 10, 1964.

, Examiner
New Mexico Oil Conservation Commission

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