

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

December 2, 1968

EXAMINER HEARING

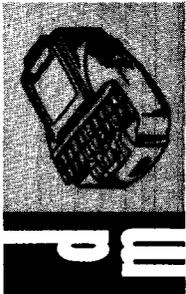
IN THE MATTER OF:)

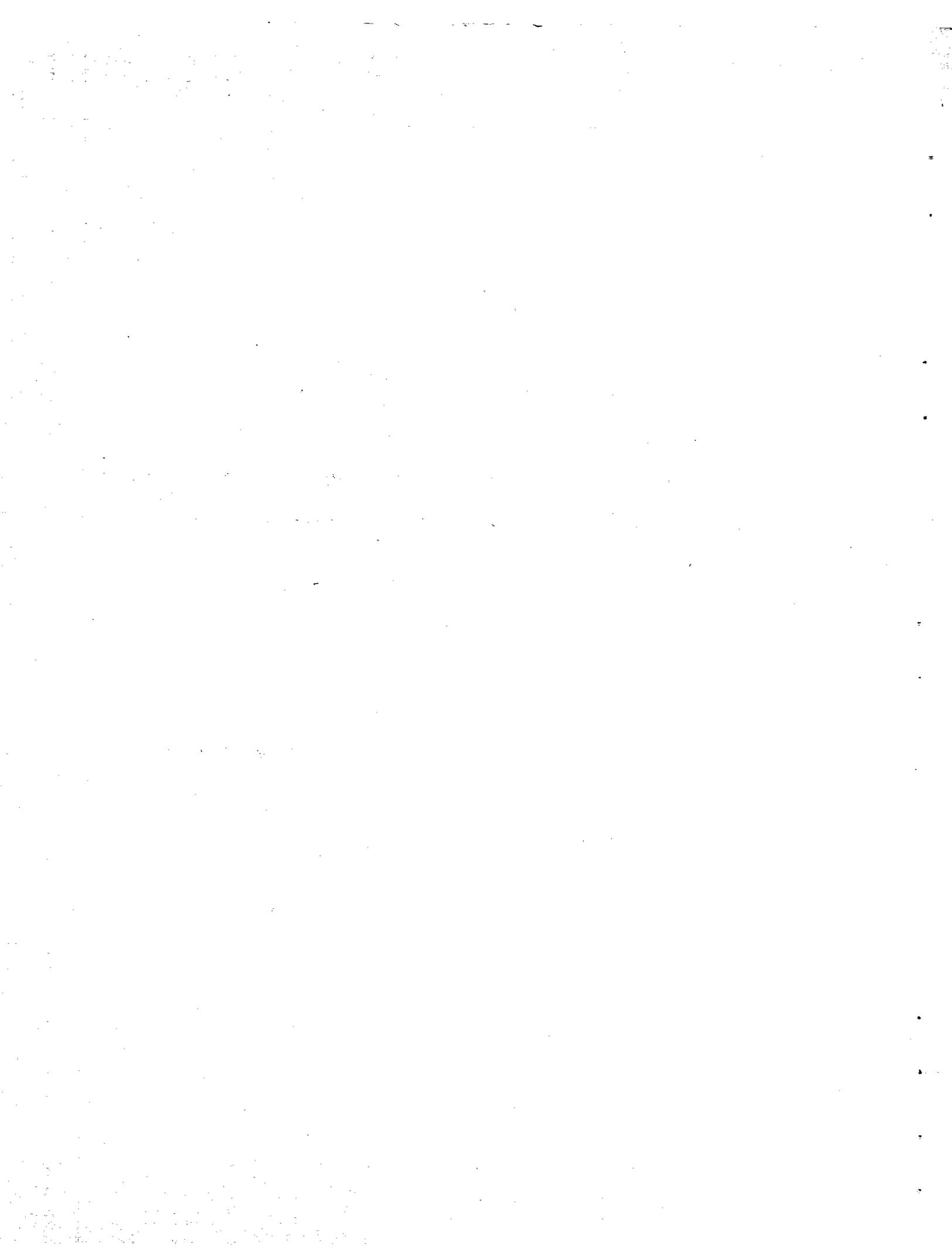
Application of Newmont Oil)
Company for a waterflood)
expansion and unorthodox)
well locations, Eddy)
County, New Mexico.)

Case No. 3983

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING





MR. NUTTER: We will call next Case No. 3983.

MR. HATCH: Case 3983, application of Newmont Oil Company for a waterflood expansion and unorthodox well location, Eddy County, New Mexico.

MR. LOSEE: A. J. Losee, Artesia, New Mexico, appearing for the applicant. I have one witness, Mr. Leadbetter.

(Witness sworn.)

(Whereupon, Applicant's Exhibits Numbers 1 through 3C, inclusive, were marked for identification.)

HERMAN LEADBETTER

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

DIRECT EXAMINATION

BY MR. LOSEE:

Q State your name, please.

A Herman Leadbetter.

Q Where do you live?

A Artesia, New Mexico.

Q What is your occupation?

A Division Superintendent, Newmont Oil Company.

Q Have you previously testified before the Commission and had your qualifications accepted?

A Yes.

Q Mr. Leadbetter, this map also shows the West Loco Hills Unit agreement boundary lines, does it not?

A Yes, it does.

Q Together with all the producing and injection wells therein?

A Yes.

Q Now, it also shows the location of Anadarco Production Company wells to the west of this?

A Yes.

Q Are they presently in the process of preparing an exhibit -- a unit agreement which will encompass the area adjoining the West Loco Hills Unit to the west?

A Yes, they are in the final stages of forming this unit, and it was my understanding that this had been set for hearing on December 11th, before the Oil Commission here.

Q Mr. Leadbetter, what formation produces oil in the area of these proposed injection and producing wells?

A The Grayburg Number 4 Sand, locally known as the Loco Hills Sand.

Q Referring down here to your injection, proposed injection well 8-B-6, and referring to the offset location, do you have any plans to drill any additional wells in that area?

A We plan, if the 8-B-6 encounters a sufficient sand

section, which we anticipate, we plan to drill a producing well to the east or to the southeast of the 8-B-6.

Q Mr. Leadbetter, are you familiar with the provisions of the Commission's order R-2871-B?

A Yes.

Q Now, was there an order entered by the Commission with respect to a development plan for this unit?

A Yes, this sets out the development of this unit by stages across the area that was divided into a buffer zone, plus five stages that were to be developed at six-month intervals.

Q That started from the east side of the unit and progressed to the west on six-month intervals?

A Yes.

Q You started the buffer zone development on July 1, 1963, is that correct?

A That's right.

Q Now, all of these four subject wells, the injection and the one producer are located in what stage?

A They would be in stage five.

Q And you commenced conversion of the injection wells pursuant to this order in stage five, on or about January 1, 1966?

A Yes.

Q Now, generally speaking, have the producing wells in this stage five area had a response to water injection?

A Yes, there are some particularly in stage four to the east that had good response; and the stage five, there are some responses in stage five. The injection in this area has been deliberately delayed, in order to wait for the formation of the Anadarco Unit, and to keep the oil from migrating across the unit boundary.

Q Actually, the terms of R-2871-B that you referred to, required only that conversion be made in stages and not when response was received by injection, is that correct?

A That's right, by administrative approval.

Q Now, these three injection wells on your west boundary, are they being drilled in cooperation with Anadarco Production Company?

A Yes, these three wells, along with others, have been agreed upon between the Newmont Oil Company, unit operator of the West Loco Hills Unit, and Anadarco that has operated the far West Loco Hills Unit as a cooperative plan along this lease line.

Q Mr. Leadbetter, referring only to the three injection wells, do you have an opinion as to whether those wells at that location will, one, protect the correlative rights of the interest owners and, two, will result in an efficient sweep of

the oil to the producing wells?

A Yes, they will.

Q Referring to your proposed producing well, 10-A-7, I notice that it is in a 160-acre tract which already has four wells, three of which are producers. Will you explain the reason you propose to drill this new well at an unorthodox location?

A The 10-A-4 and 10-A-3, which offset the proposed location, are performing poorly. We have water channeled, we think from the north. We felt like that by drilling this well at that particular location, we can adequately drain this area, and add a more economical way by drilling a new well, than try to repair the two wells that are presently there, and we can place it at a spot where we want it at this time.

Q All right, please refer to the form of cooperative agreement which has been marked as Exhibit 2, and tell the Examiner whether or not this is the proposed agreement that Newmont and Anadarco will enter into when Anadarco's unit is approved.

A Yes, this agreement has been verbally agreed to between Newmont and Anadarco, and they have promised to execute this.

Q And the only reason at this time to limit their

approval is that they need approval of their unit agreement?

A Right.

Q Now, does this agreement require Newmont Oil Company to drill the three proposed injection wells at the locations set forth in your application?

A Yes.

Q Now, let me ask you one question with respect to the agreement. There are some pressures indicated at which water will be injected into the proposed injection wells at a rate of between 500 and 1200 pounds per square inch, is that the intention of Newmont?

A Yes.

Q Please refer to what has been marked Exhibit 3-A, being the diagrammatic sketch of the proposed injection well completion for Well 43-3, and tell the Examiner what is shown on this sketch.

A This shows the proposed setting depths, and of the casing and the cement program. We plan to set eight and five-eighths-inch casing at the top of the salt, which we expect at about 375 feet. We plan to cement this eight and five-eighths-inch casing with 50 sacks of cement; to set new four and a half-inch, nine and a half-pound casing, 30 to 50 feet through the Loco Hills Sand, which we expect to find at 2,515 to 2,525.

Q In your opinion, will this 100 sacks of cement bring the cement back up the pipe at least 100 feet above the uppermost perforations?

A Yes, it should be in excess of that.

Q Please refer to what has been marked as Exhibit 3-B, being a similar diagrammatic sketch for your well 19-B-6, and explain what is shown on this exhibit.

A This exhibit shows the proposed casing strings, proposed to set eight and five-eighths casing at 380 feet, or five feet into the top of the salt, which we anticipate at 375 feet; set four and a half-inch, nine and a half-pound casing at 2,565, which is about 50 feet through the Loco Hills Sand, which we expect to find at 2,505 to 2,515. It will be cemented with 100 sacks.

Q And again, your 100 sacks will bring it, in your opinion, at least 100 feet above the uppermost perforations?

A Yes.

Q Referring to Exhibit 3-C.

A This exhibit shows the proposed casing program for West Loco Hills Unit 8-B-6, with eight and five-eighths set at 345 feet with 50 sacks, four and a half-inch set at 2,600 with 100 sacks. We expect to find the top of the salt at about 340 in the Loco Hills Sand, 3,537 to 3,547.

Q And again, your cement will go up the hole at least 100 feet above your uppermost perforations?

A Yes.

Q Mr. Leadbetter, at what pressures do you propose to inject this water into these three injection wells?

A Pressures up to 1200 pounds.

Q Approximately what volume of water?

A The average well in this area is taking approximately 400 barrels per day. There is a possibility that we might get slightly more than this into some of the wells for a period of time, but not a great deal more than that.

Q Mr. Leadbetter, in this West Loco Unit, are you reinjecting your produced water?

A Yes, we are.

Q Now, are you treating that produced water?

A Yes, we are treating it with a corrosion inhibitor.

Q Is your system for reinjecting water what could be known as a closed system?

A Yes.

Q May I ask you if you have an opinion with respect to this proposed producer, that Well 10-A-7, as to whether the drilling of the well at that location will permit you to recover oil that would otherwise not be recovered?

A Yes, very definitely.

Q Were Exhibits 1 through 3-C prepared by you or under your direction, Mr. Leadbetter?

A Yes.

MR. LOSEE: We move the introduction of Exhibits 1 through 3-C, Mr. Examiner.

MR. NUTTER: Newmont's Exhibits 1, 2, and 3-A through 3-C will be admitted into evidence.

(Whereupon, Applicant's Exhibits Numbers 1 through 3C, inclusive, were admitted in evidence.)

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Leadbetter, I notice from the application and from Exhibit 3-B, and also from the cooperative waterflood agreement, that this Well No. 19-B-6 is proposed to be located ten feet south of the north line and 1,320 feet west of the east line of Section 9, which is going to make it fall directly on the 40-acre line. Can we move that well five feet one direction or another, so we can attribute it to a 40-acre tract?

A We would be very glad to move it in any direction.

Q I hope it doesn't complicate the cooperative agreement.

A No, I am sure it won't. I didn't think about it being

that way. We moved everything else, I believe.

Q You moved it ten feet south so it wouldn't be on the line. Which way do you want to go with it?

A Let's move it west.

Q So it will be 1,325 feet. We will amend Exhibit 3-B to show the well location as being ten feet from the north line and 1,325 feet from the east line.

Mr. Leadbetter, is this particular area one of those areas where it is difficult to obtain circulation on your surface pipe?

A Yes. I don't think you probably could.

Q But in each case you are setting your eight and five-eighths-inch casing at least five feet down into the salt section?

A We say five feet. If we can get shut down in time, we would pick up the salt from the samples. When we get the salt, we shut down and set the surface pipe.

Q It is in the salt, however?

A Yes.

Q And then it is cemented with 50 sacks?

A We try not to get too much, because we felt like cementing might go up a little better without too much salt there.

Q Now, on your Exhibits 3-A, B, and C, the zone that is

shown here to the left is your expected Loco Hills Sand Zone, and that would be the perforated interval?

A That's right. This is just about estimated what we will perforate the Loco Hills Sand, and this is about where we expect it.

Q It is your intent to go about 50 feet below those perforations before you set your casing?

A Right.

Q And then cement with sufficient cement to come up at least 100 feet above the uppermost perforation?

A Yes, I think it would probably be in excess of that.

Q And the water is treated prior to injection?

A Yes. At the present time, this area is all fresh water, but it is possible that in time -- we have two plants, and the plant on the east side is the one where the salt water is all going down. But it is possible that this may not be the final arrangement.

Q At any rate, when you are injecting produced water, the water would be treated?

A Yes.

Q Do you operate a closed system?

A Yes.

Q Have you had any corrosion problem with the system

to date?

A We have never had any serious problems. I don't believe we have had any caisson leaks in the unit. We have had a few line leaks on the surface, but part of these are due to outside corrosion from alkaline salt, and they are primarily due to that.

MR. NUTTER: Any further questions of Mr. Leadbetter? You may be excused. Do you have anything further, Mr. Losee?

MR. LOSEE: No, sir.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3983?

MR. HATCH: The Commission has received a letter from Anadarco dated November 27, supporting the application of Newmont Oil Company to drill three water injection wells in unorthodox locations.

MR. NUTTER: If there is nothing further, we will take the case under advisement, and the hearing is recessed.

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STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, SAMUEL MORTELETTE, Court Reporter 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.

Samuel Mortelette

COURT REPORTER

I do hereby certify that the foregoing is a true and correct record of the proceedings before me on this date.
Date: 12/2/68
3983
Samuel Mortelette
New Mexico Oil Conservation Commission