

CASE 2589: Application of CHACO OIL CO. for an amendment of ORDER NO. R-1533, McKinley County, N.M.

phistip, Transcript,

mill Exhibits, Etc.

BEFORE THE OIL COMSERVATION COMMISSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE OIL COMMERVATION CONSISSION OF NEW MEXICO FOR THE PURPOSE OF CONSISSERING:

> CASE Bo. 2589 Order Bo. R-2282

APPLICATION OF CHACO OIL COMPANY FOR AN AMENDMENT OF ORDER NO. R-1533, MCMANARY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on June 28, 1962, at Santa Fe, Hew Maxico, before Elvis A. Uts, Examiner duly appointed by the Oil Comservation Commission of New Mexico, here-imafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 17th day of July, 1962, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis a. Utz, and being fully advised in the premises.

PINDS:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Chaco Oil Company, is the operator of a waterflood project in the Red Mountain Oil Pool, located in Sections 20 and 29, Township 20 Borth, Range 9 West, MIPM, McKinley County, New Mexico, as authorized by Order No. R-1533, entered in Case No. 1805 on November 23, 1959.
- (3) That the applicant seeks an amendment of said Order No. R-1533 to provide administrative procedures for obtaining approval of unorthodox locations for injection and producing wells in said waterflood project.
- (4) That in addition to said administrative procedure, the applicant requests approval of 8 non-standard locations for wells which may be utilized for either injection or production purposes.
- (5) That approval of the subject application will neither cause waste nor impair correlative rights.

-2-CASE No. 2589 Order No. R-2282

IT IS THEREFORE ORDERED:

(1) That the following-described unorthodox locations are hereby approved for either injection or producing wells:

Well No. I-16, located 945 feet from the South line and 2590 feet from the East line of Section 20; Well No. I-17, located 442 feet from the South line and 2430 feet from the West line of Section 20; Well No. I-18, located 90 feet from the North line and 2410 feet from the west line of Section 29; Well No. I-20, located 1344 feet from the North line and 2555 feet from the West line of Section 29; Well Mo. I-21, located 834 feet from the Morth line and 2113 feet from the West line of Section 29; Well No. 25, located 80 feet from the South line and 2575 feet from the East line of Section 20; Well Mo. 26, located 560 feet from the South line and 2470 feet from the Rast line of Section 20; and Well No. 27, located 730 feet from the North line and 2505 feet from the West line of Section 29;

all in Township 20 North, Range 9 West, NMPM, McKinley County, New Mexico.

- (2) That an administrative procedure is hereby established to parmit unorthodox locations for injection or producing wells in the Red Mountain Oil Pool upon a showing to the Commission that such unorthodox location will place the injection or producing well in a pattern which will result in a thorough and efficient sweep of the oil by the waterflood project in said pool and that correlative rights will not be violated by the proposed location.
- (3) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DOME at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF MES MEXICO
OIL COMSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

E. S. WALKER, Member

A. L. PORTER, Jr., Member & Secretary

Case 25-89 Leand 6-25 62 1. Seant. Chars. O'A Copyret for se bujetion or producing well J. Will # I-16. located 945/5, 2580/E line f. # I-17, 442/5+2430/w lines su. 20. 3. # I-18, 90/N+2410/W lene Rec. 29. 4. I= 27 , 730/N+2505/n lines -22. 29, 5-2 I-21, 834/N & 2/13/4 lines 8. # I-2-01 1348/N + 2555/W Cin J sec. 29 allin. Trow Rqw. Met NIZT Also Grant a divinitative procedure for any injection or producing welle which may be requisiting completing the Chaco-Red Mr. flord. Shut to the 27. 4.26, 560/5, 2470/E lines Dec. 20. 8, 4.25, 80/5, 2575/E " " 20.

-BEFORE THE OIL CONSERVATION COMMISSION Santa Fe, New Mexico June 28, 1962

EXAMINER HEARING

IN THE MATTER OF:

Application of Chaco Oil Company for an amendment of Order No. R-1533, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks an amendment of Order No. R-1533 to provide administrative procedures for obtaining approval of unorthodox locations for injection and producing wells in the Red Mountain Oil Pool, McKinley County, New Mexico.

CASE 2589

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. UTZ: Case 2589.

MR. MORRIS: Application of Chaco Oil Company for an amendment of Order No. R-1533.

MR. BIRDSEYE: If it please the Commission, I am Henry S. Birdseye, and I would like to represent Chaco Oil Company in this case.

MR. MORRIS: Mr. Birdseye, in what capacity do you represent Chaco Oil Company?

MR. BIRDSEYE: As a part owner.

MR. MORRIS: You are part owner?

MR. BIRDSEYE: Yes, sir.

MR. MORRIS: Is Chaco Oil Company incorporated?

MR, BIRDSEYE: No, it is not.

MR. MORRIS: And you are one of the partners in the company?

MR. BIRDSEYE: Yes. I would like to present some exhibits here. These should be numbered in sequence Exhibit 1, 2, and

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

MR. UTZ: Are there other appearances in this case?

MR. BIRDSEYE: No, sir, not on behalf of Chaco Oil

Company.

MR. UTZ: You may proceed, Mr. Birdseye.

(Witness sworn.)

HENRY S. BIRDSEYE,

the witness, having been first duly sworn on oath, testified as follows:

MR. BIRDSEYE: My name is Henry S. Birdseye. Consulting Geologist, of Albuquerque, New Mexico; also a co-owner of Chaco Oil Company. We seek in this application to amend Commission Order R-1533, which originally established unorthodox locations, for the purpose of a waterflood in the Red Mountain Field in McKinley County, New Mexico.

The Chaco Oil Company lease covers the South Half of Section 20 and the North Half of Section 29 in Township 20 North, Range 9 West, McKinley County. It is a lease from the Santa Fe

Railroad. Under Order R-1533, unorthodox locations for eleven injection wells were granted to permit the institution of a peripheral waterflood in the Red Mountain Field. At that time, the lease had been developed on unorthodox locations by previous owners and to an additional extent by ourselves.

The Order R-1533 provided that in the event that any of the eleven unorthodox locations for injection wells should prove to be oil-productive, that an administrative procedure was thereby established to permit the drilling of offset injection wells to replace the original ones in the pattern, and to provide for an efficient and thorough sweep of the field. As we developed the field to the west on the western portion of the field, referring to Exhibits 1, 2, and 3, it developed that the productive area was considerably more extensive than we had originally anticipated, which resulted in oil productivity being found in the wells originally scheduled as No. I-2, I-3 and I-4. On the east side of the field, the well at location No. I-9 also proved to be oil productive. All of those four wells are now producing oil wells.

Wells No. I-2, I-3, and I-4 were replaced in the pattern with Wells No. I-13, I-14, and I-15. Well No. I-14, which has subsequently been renumbered No. 25 Santa Fe, also proved to be oil productive. We are conducting pump tests on Well No. I-15, tentatively renumbered 26 Santa Fe, and it appears that that well will be oil productive. We are also testing Well No. I-13 which we think will also prove to be oil productive.

LBUQUERQUE, N. M. PHONE 243-6691

The locations for those wells were granted under an administrative procedure as set up under Rule 1533; however, inasmuch as those last three wells which I have mentioned, No. I-13, I-14, I-15, appear all to be oil productive, we will be required to complete the peripheral pattern by extending locations still further to the west, which are shown on the exhibits as Wells I-16, I-17, I-18, and further to the south I-20, I-21.

We have drilled Well No. I-19, which is shown on the map as also renumbered No. 27, and it is likewise oil productive. We are severely hampered in locating either injection or producing wells on the south limits of the field by topography. There's a high mesa some 400 feet high which pretty well controls the accessibility of drilling locations.

To refer to Exhibit 3, which is a structural map of the Red Mountain Field, we believe that the locations for the most westerly injection wells, I-16, 17, and I-20 and 21, to the southwest will as efficiently as possible complete the encirclement of the productive area and provide for an efficient and thorough sweep of the field, in conjunction with the wells which have already been drilled along the southeast, east, and northeast periphery of the field; and which have been taking water in some cases for over a year now.

We are here today to seek an order which will authorize the utilization of locations I-16, I-17, I-18, I-20, and I-21 for water injection, and to qualify as produceable locations, I-13,



I-19; and further to seek authorization for additional injection and producing wells at unorthodox locations chosen to efficiently close the periphery of this flood to the southwest and west should such locations be deemed necessary.

We think that a testing program for several months will be advisable before we actually choose such unorthodox locations.

Insofar as the matter of correlative rights is concerned, we do not think that such a problem exists, inasmuch as the producing area of the Red Mountain Field is close to the center of our 640-acre lease, and it is a distance of some 1300 feet from the most easterly producing well to the eastern boundary of our property.

It is a distance of over 2,000 feet to the north line of our property, and a distance of nearly 2,000 feet to the south boundary of our property from the nearest producing well, and a distance of approximately 2600 feet from the west line of our property to the nearest producing well. So we do not believe that we would be impairing any other operator's correlative rights.

That is the essence of our testimony, Mr. Utz.

MR. UTZ: Do you wish to submit Exhibits 1, 2, and 3?

MR. BIRDSEYE: Yes, sir.

MR. UTZ: Exhibits 1, 2, and 3 will be entered into the record of this case.

(Whereupon, Applicant's Exhibits Nos. 1, 2, and 3 entered in evidence.)

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Birdseye, let's run those unorthodox locations by once more which you are requesting to be approved by this case. If you would give the unit letter in which these wells are located, I believe I could find them a little easier.

Well No. I-16 in Unit N of Section 20, the most northwesterly well, located 945 feet from the south line, 2590 feet from the east line.

What was that again?

Well No. I-16 in Unit N of Section 20, 945 feet from the south line, 2590 from the east line. I should point out that Section 20 and 29, at least the East Half of 20 and 29 are not a full 2640 feet, so that Well No. I-16, for example, which is 2590 feet from the east line, is actually in the Southwest Quarter of Section 20.

Well No. I-17 is also in Unit N of Section 20; it is 442 feet from the south line, 2430 feet from the west line of Section 20.

Q All right.

No. 18, I-18 is in Unit C of Section 29. It is 90 feet from the north line, 2410 feet from the west line of Section 29.

Q All right, sir.

No. I-19, which was drilled as an injection location but which has proved to be oil productive, is in Unit B of Section

29; it is 730 feet from the north line, 2505 feet from the west line of Section 29.

Well No. I-20 is in Unit F of Section 29; it is 1344 feet from the north line, 2555 feet from the west line, of Section 29.

Well No. I-21 is in Unit C, Section 29, 834 feet from the north line, 2123 feet from the west line of Section 29.

Q 2134?

2123 from the west line, 834 from the east line.

MR. MORRIS: I believe you have given them all but your No. 13.

Well, we have authorization for Well No. 13 under Order I'll give you the footage if you would like.

MR. MORRIS: No, I don't need it.

(By Mr. Utz) You mentioned your No. 15 over in Unit P, did you not?

Yes, sir. Α

Is that a standard location? Q

No, sir, that is also an unorthodox location. I'm glad you brought that up. However, that was approved as an offset to Well No. 1-2 authorized under R-1533. I believe we have an administrative order from the Commission authorizing locations I-14 and I-15, which is hidden in here. I will try to find it.

If you are sure it has been approved, it won't be necessary.

I am quite certain.

Q In addition to these wells mentioned here, you are requesting in this case administrative approval for any future non-standard locations, is that true?

A Yes, sir, that is true. Actually, what we would prefer to have is an order which would allow us to drill future necessary unorthodox locations without going through an administrative procedure, to save the Commission time and to save us time; however, inasmuch as the application did not request that, it may be inappropriate to request it now so we'll have to stand by our application, which is for administrative procedure to approve future unorthodox locations.

Q I would suspicion that the attorney's smile would indicate that you are correct.

MR.MORRIS: Mr. Birdseye, do you have in mind administrative procedure whereby locations could be approved for good cause shown, something general of that nature?

A Well, for locations to be approved for the same reasons as they were granted under the administrative procedure established by Order 1533, that the proposed relocation will place the injection well in a pattern which will result in a thorough and efficient sweep of the oil by the waterflood. This is in the event that an unorthodox location for an injection well should prove to be oil productive.

I think we should also provide for unorthodox producing

ALBUQUERQUE, P PHONE 243.6

locations, if such become advisable, principally for the prevention of waste. We don't presently anticipate that it will be necessary to drill more than two or three additional unorthodox locations to drain the producing area thoroughly and to complete the peripheral pattern of the flood. For the next several months, we hope to conduct a testing program and establish more thoroughly the advisability of future wells.

Q (By Mr. Utz) Mr. Birdseye, is Well No. I-20 as far south as you can go, due to the topography?

A Yes, No. I-20 and I-21 are actually right at the base of this mesa.

Q There's a mesa coming right around here?

A Our only alternative would be to move to the south side of the mesa, which would be so far away, close to half a mile, that it couldn't have any effect to flooding the field, or to build a road on top of the mesa, which would be prohibitively expensive.

Q Is the injection in these wells still by gravity?

A No, sir. We originally anticipated that this might be possible. However, from the institution of injection, we found that it was necessary to have a wellhead injection pressure which averages about 350 pounds in order to get an appreciable quantity of water injected. Our injection pressures have maintained that level quite steadily since then. There are slight variations from well to well a minimum pressure of 200 pounds is adequate in one well and a maximum of about 450 pounds is required in two wells, but the balance

ALBUQUEROUE, N.

wells?

of them will average about 350 pounds at the wellhead in order to take what we consider a proper quantity of water. Is your pump located -- you just have one pump for all

Yes, sir. We have one triplex injection pump which is located in the vicinity of the well shown as No. I-9 in P, I believe, of Section 20, which well incidentally is producing as an oil well, which we will continue to produce as an oil well until it declines to an uneconomic point. We would have set it to the east by an injection well, except that the well just to the southeast of I-9 about 250 feet, shown as No. 15 on the map, showed that the effective sand thickness at that location is close to zero.

So except for the expense of building a road on the mesa, you could put an injection well up there?

We could, it would be, probably -- we estimate the cost of building a road up there would be in the vicinity of \$15,000, and that the well would be approximately 1,000 feet deep instead of the usual 450 to 500 feet deep.

MR. UTZ: Are there any further questions of the witness?

MR. MORRIS: No, sir.

MR. UTZ: The witness may be excused.

(Witness excused.)

MR. UTZ: Are there any statements in this case? We will take the case under advisement and take a ten-minute recess.

(Whereupon, a short recess was taken.)

STATE OF NEW MEXICO COUNTY OF BERNALILLO

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

WITNESS my Hand and Notarial Seal this 3rd day of July, 1962.

My Commission Expires: June 19, 1963.

> I do hereby certify that the foregoing is a complete record of the proceedings in the Exeminer hearing of Case No. 2589,

19 6 كـ.

Examiner New Mexico Oil Conservation

Clin 2589

CHACO OIL COMPANY

MAIN OFFICE OCC

P. O. Box 8294
Albuquerque, New Mexico
25 May, 1962

1952 MAY 28 M 8 1 14

Re: Application for Amendment to Order #R-1533, Red Mountain Field, McKinley Co., New Mexico

Mr. A. L. Porter, Jr., Secr.-Dir. N. M. Oil Conservation Commission P. O. Box 871 Santa Fe, New Mexico

Dear Sir:

Chaco Oil Company respectfully requests an Examiner Hearing before the Commission to consider Chaco Oil Company's application for an amendment to Order #R-1533, to provide for administrative procedures for the granting of unorthodox locations of injection and producing wells in the Red Mountain Water Flood project, Sections 20 and 29, Township 20 North, Range 9 West, N.M.P.M., McKinley County, New Mexico.

Thank you.

Yours very truly, CHACO OIL COMPANY

Henry S. Birdseye

HSB:lm copy: NMOCC, Aztec

January 1878



IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION COMMISSION OF NEW MEXICO FOR THE PURPOSE OF CONSIDERING:

CASE No. 1805 Order No. R-1533

APPLICATION OF CHACO OIL COMPANY FOR AN ORDER AUTHORIZING A WATER FLOOD PROJECT IN THE RED MOUNTAIN OIL POOL, McKINLEY COUNTY, NEW MEXICO, AND FOR ELEVEN UNORTHODOX WATER INJECTION WELL LOCATIONS

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 10, 1959, at Santa Fe, New Mexico, before Elvis A. Utz. Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 23rd day of November, 1959, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Elvis A. Utz, and being fully advised in the premises.

FINDS:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereor.
- (2) That the applicant proposes to institute a water flood project in the Red Mountain Oil Pool by the injection of water into the Menefee zone of the Mesaverde formation through the following-described 11 wells at unorthodox locations in Township 20 North, Range 9 West, NMPM, McKinley County, New Mexico:

Well No. I-1, located 980 feet from the South line and 2025 feet from the East line of Section 20;

Well No. I-2, located 490 feet from the South line and 2300 feet from the East line of Section 20;

Well No. I-3, located 80 feet from the South line and 2280 feet from the East line of Section 20;

-2-Case No. 1805 Order No. R-1533

Well No. I-4, located 310 feet from the North line and 2290 feet from the East line of Section 29;

Well No. I-5, located 615 feet from the North line and 1920 feet from the East line of Section 29;

Well No. I-6, located 600 feet from the North line and 1500 feet from the East line of Section 29;

Well No. I-7, located 370 feet from the North line and 1150 feet from the East line of Section 29;

Well No. I-8, located 5 feet from the North line and 1130 feet from the East line of Section 29;

Well No. I-9, located 450 feet from the South line and 1145 feet from the East line of Section 20;

Well No. I-10, located 900 feet from the South line and 1280 feet from the East line of Section 20;

Well No. I-11, located 1330 feet from the South line and 1490 feet from the East line of Section 20.

- (3) That the applicant further proposes that an administrative procedure be established to permit the relocation of injection wells at other unorthodox locations in the event that the injection wells drilled as herein proposed should prove to be productive of oil.
- (4) That the producing wells in the area to be water-flooded are substantially depleted.
- (5) That the operation of the proposed pilot water flood project should be governed by Rule 701 of the Commission Rules and Regulations, including those provisions regarding allocation of allowables.

IT IS THEREFORE ORDERED:

(1) That the applicant be and the same is hereby authorized to institute a water flood project in the Red Mountain Oil Pool by the injection of water into the Menefee zone of the Mesaverde formation through the following-described wells at unorthodox locations in Township 20 North, Range 9 West, NMPM, McKinley County, New Mexico:

Well No. I-1, located 980 feet from the South line and 2025 feet from the East line of Section 20;

-3-Case No. 1805 Order No. R-1533

Well No. I-2, located 490 feet from the South line and 2300 feet from the East line of Section 20;

Well No. I-3, located 80 feet from the South line and 2280 feet from the East line of Section 20;

Well No. I-4, located 310 feet from the North line and 2290 feet from the East line of Section 29;

Well No. I-5, located 615 feet from the North line and 1920 feet from the East line of Section 29;

Well No. I-6, located 600 feet from the North line and 1500 feet from the East line of Section 29;

Well No. I-7, located 370 feet from the North line and 1150 feet from the East line of Section 29;

Well No. I-8, located 5 feet from the North line and 1130 feet from the East line of Section 29;

Well No. I-9, located 450 feet from the South line and 1145 feet from the East line of Section 20;

Well No. I-10, located 900 feet from the South line and 1280 feet from the East line of Section 20;

Well No. I-11, located 1330 feet from the South line and 1490 feet from the East line of Section 20.

- (2) That an administrative procedure be and the same is hereby established to permit the relocation of injection wells at other unorthodox locations upon showing the following:
- (a) That an injection well drilled at a location herein authorized has proven productive of oil.
- (b) That the proposed relocation will place the injection well in a pattern which will result in a thorough and efficient sweep of the oil by the water flood.
- (3) That the operation of the water flood herein authorized shall be governed by Rule 701 of the Commission Rules and Regulations, including those provisions regarding allocation of allowables.
- (4) That monthly progress reports on the water flood project herein authorized shall be submitted to the Commission in accordance with Rule 704 and Rule 1119 of the Commission Rules and Regulations.

Case No. 1805 Order No. R-1533

DONE at Santa Fe, New México, on the day and year hereinabove designated.

STATE OF MEN MEXICO OIL CONSERVATION COMMISSION JOHN BURNOUGES, Chairman

MURRAY E. MORGAN, Member

A. L. PORTER, Jr., Member & Secretary

SEAL

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GOVERNOR EDWIN L. MECHEM CHAIRMAN

State of New Mexico Oil Conservation Commission

LAND COMMISSIONER E. S. JOHNNY WALKER MEMBER



STATE GEOLOGIST A. L. PORTER, JR. SECRETARY - DIRECTO

. O. BOX 871

Jely 17, 1962

Re:

Mr. Henry S. Birdseye P. O. Box 8294 Albuquerque, New Mexico

Case No. 2589 Order No. 3-2282

Applicant:

Chaco Oil Company

Dear Sir:

Enclosed herewith are two copies of the above-referenced Commission order recently entered in the subject case.

Very truly yours,

A. L. PORTER, Jr. Secretary-Director

Carbon copy of order also sent to:

Hobbs OCC ______
Artesia OCC _____
Aztec OCC _____x

OTHER