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Se 376 Replication, Transcript, Small Exhibits, Etc.

BEFORE THE

OIL CONSERVATION COLMISSION

STATE OF NEW MEXICO

TRANSCRIPT OF PROCEEDINGS

CASE NO. 376

June 19, 1952

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E. E. GREESON ADA DEARNLEY Court Reporters Box 1903 Phones 5-9422 And 5-9346 Albuquerque, New Mexico

BEFORE THE OIL CONSERVATION COMMITTEE SANTA FE, NEW MEXICO

JUNE 19, 1952

In the Matter of:

Buffalo Oil Company's application for exception to Commission Rule 506 (a) with regard to its wells in the Maljamar-Paddock Pool, Lea County, New Mexico, and the gas-oil ratio limitation prescribed therefor.

Case No. 376

MR. SPURRIER: The next case is Case No. 376. (Notice of Publication read by Mr. Graham.)

MR. JACK M. CAMPBELL, Atwood, Malone & Campbell, Atty's. at Law, Roswell, appearing on behalf of Buffalo Oil Company: I would like to make a brief preliminary statement to the Commission. This application filed by Buffalo Oil Company is for an exemption to Rule 506 A of the Commission limiting gas-oil ratio in the Maljamar Paddock Pool in Lea County, New Mexico. Buffalo Oil Company owns all of the wells in the pool which are only three in number. The royalty under the wells is all owned by the United States of America. The adjacent or adjoining owners of leases have been advised and

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letters will be introduced in evidence showing that they have no objection to the application. The U. S. G. S. has been advised as to the application and as we understand it is entering no protest in connection with it. The reason for the application, as the testimony will show is that this is a pool of very limited size, very thin and tight pay section and from the point of view of economics to prevent the premature abandonment of the wells and to obtain all the oil possible from them, the application has been made.

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having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. CAMPBELL:

- Q State your name please.
- A Ralph L. Grey.
- Q By whom are you employed?
- A Buffalo Oil Company.
- Q In what capacity?
- A Assistant Superintendent.
- Q Are you a petroleum engineer?
- A Yes.

W.W.C.F. HICROGRAPHICS

Q You testified before this Commission in that capacity?

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MR. SELLINGER: Are the sitness' qualifications acceptable to the Commission?

MR. SPURRIER: They are.

Q Are you acquainted with operations of the Buffalo Cil Company in the Maljamar Paddock Pool in Lea County, New Mexico?

A Yes, I am.

Yes.

A

(Exhibit No. 1 marked for identification in Case No. 376.)

MR. CAMPBELL: I hand you what has been identified as Exhibit No. 1 and ask you to state to the Commission what that represents.

A This is a map, showing wells that have been drilled to the Paddock zone in the Maljamar Paddock Pool. It shows the three completed wells and also the 7 surrounding dry holes in the Paddock.

Q Is Buffalo Oil Company the owner of all the producing wells in this pool?

A That is right.

Q In your opinion by the drilling of the 7 dry holes have the limits of the pool been fully defined?

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A we think they have.

Q Who are the royalty owners, owning the minerals underlying the three wells in the pool?

A The U. S. Government.

Q Have you discussed this matter with the officials of the U.S.G.S.?

A Yes. We discussed it with the local office at Artesia and also at the Roswell office and both offices have been notified of the circumstances and of our intentions to ask for this order.

Q Have you discussed this matter with the Kewanee Oil Company and the Carper Drilling Company which the map indicates own leases in the vicinity of this operation?

A Yes, that is right, both companies have been.

(Exhibits No. 2 & 3 marked for identification in Case No. 376.)

Q I hand you what have been marked Exhibit No. 2 and Exhibit No. 3 and ask you to state to the Commission what those are.

A Exhibit No. 2 is a letter from Kewanee Oil Company to the Buffalo Oil Company, stating that they have no objections to the removal of the limiting gas-oil ratio for the Maljamar

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Paddock Pool.

Q What is Exhibit No. 3?

A Exhibit No. 3 is a letter from the Carper Drilling Company, also stating that they have no objections.

MR. CAMPBELL: Let the record show that Exhibits 1, 2 and 3 have been offered in evidence.

MR. SPURRIER: Without objections they will be received.

Q Mr. Grey, will you give to the Commission the well data that you have available on the Lee Wells that are now located in the Maljamar Paddock Pool?

A The discovery well, Mitchell B, 20 P, was completed May 1950, total depth of 5288. The pay was encountered from 5276 to 5288 however there was only approximately 12 feet of net pay of which only about five feet of this was considered good pay. Average permeability from core analysis was 8.2 milidarcys. Average porosity was 12.6%. The well was acidized with 45 hundred gallons. Initial potential 158 barrels of oil per day through a 26/46 inch choke.

The second well drilled, Mitchell B, 22 P, was completed July 23, 1950. Total depth 5442 pay interval was from 5278 to

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5299. A net pay thickness of 15 feet was found within this interval of which only about 4 feet could be considered good pay. The average permeability for this well from sore analysis was 9.8 milidarcys. Average porosity of 10.4%. The well was treated with 1800 gallons of acid. The initial potention was 92 barrels of oil per day through 14/64 inch choke.

Mitchell B, 19P was a shallow well deepened to the Paddock pay and it was completed August 20, 1950. Total depth 5386, the pay interval was 5375 to 5383 with a net pay thickness of which 6 feet was considered good pay. This well had an average permeability of 3.92 milidarcys. 16% porosity. It was not acidized. Official potential was 185 barrels of oils per day, through 7/64 inch choke.

Q What has been the cumulative production of oil from these three wells since their discovery?

A Mitchell Well B, 19 P through April 1952 had produced 29,591 barrels, Mitchell B, 20 P had produced 25,441 barrels, Mitchell B, 22 P produced 32.467 barrels.

Q From your knowledge of these wells and their production to date do you consider the operations in this particular pool to be a marginal operation from the point of

view of return of your investment?

ADA DEARNLEY & ASSOCIATES COURT REPORTANS ROOM 12, CRONWELL BLDG. PHONES 7-9645 AND 5-9546 ALBUQUERQUE, NEW NEXICO A It is, in fact it is very doubtful that the wells will ever pay out and it is certain that the total cost of, including dry holes, will never be paid out.

Q Will you now advise the Commission as to the bottom hole pressure information you have on these three wells?

A The original bottom hole pressure in Mitchell B, 19 r taken September 5th, 1950 was 1952 pounds per square inch. On January 22, 1951 pressure was 1944, January 22, 1952 it was 1928. Mitchell B, 20 P, initial pressure taken May 6, 1950 was 1925 pounds per square inch. September 5th, 1950 pressure had declined to 1889. January 22, 1951 pressure was 1808. January 22, 1952 pressure had declined 1660. Mitchell B, 22 P initial pressure September 5th, 1950 was 1952 pounds per square inch. January 22, 1951 it was 1759, January 22, 1952, had declined to 1615.

Q To complete the well information on these three wells will you briefly give the gas-oil ratio history on these wells?

A On Mitchell B, 20 P gas-oil ratio tests have been taken at intervals of every few months. On May 12, 1950 gasoil ratio was 1509, September 10, 1950, was 2227, April 7, 1951,

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was 4319, August 4, 1951, it was 8860, and in April 25, 1952, had increased to 12,678. On Mitchell B, 22 P the gas-oil ratio was originally 1389.

2 What date was that?

A July 27, 1950.

Q What was the latest gas-cil ratio you took on that? A That on April 24, 1952 had increased to 1893.

Q What was the situation with reference to Mitchell B, 19 P?

A Mitchell B, 19 P is located on flanks of the structure near the water table and it has a local very high permeable condition. The gas-oil ratio has always been low at this well. It was 8550 originally and at the present time it was 508.

Q That well then, so far as your present problem is concerned, does not give you much difficulty?

A It is not anticipated that the gas-oil ratio will be any problem with this well.

Q Based upon that information as to the drop in the bottom hole pressure and the increase in the gas-oil ratio will you state to the Commission what you consider to be the reason for that condition?

A With such a low permeability and very thin pay section

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it is impossible to produce any substantial quantity of oil without a very rapid increase in gas-oil ratio. It can be expected that this increase will continue and at a very sharp increased rate.

(Mark Exhibits 4, 6 & 6 for identification.)

Q I hand you what has been identified as Exhibit No. 4. 5 & 6 and ask you to state what those are.

A Exhibits 4, 5 & 6 show the results of core analyses on Mitchell B, 19 P, Mitchell B, 22 P and Mitchell B, 20 P.

Q What generally do those core analysis reflect insofar as the permeability is concerned and the thickness of the pay section?

A These core analyses show definitely that the oil zone is very thin and has a low permeability and a fairly low porosity.

Q I would like to offer these in evidence.

MR. SPURRIER: Without objection they will be re-

Q In view of the gas-oil ratio situation and the limit that is placed on that ratio by the rules, what has been the result with reference to the allowable production from the wells?

A Results of the gas-oil ratio and Mitchell B, 20 P

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exceeding the limit for the pool, the allowable was penalized in June 1951 to 25 barrels per day and in June 1952 allowable has been further penalized to 10 barrels of oil per day.

Q And in the light of that reduction in the allowable what might result in the event relief is not granted in regard to that particular well?

A Well, it is pretty obvious that gas-oil ratio is increasing very rapidly and the penalized allowable is now down to 10 barrels of oil per day. Further decreases will put the well in the status of not becoming profitable to operate.

Q In the event the Commission grants the application here what do you contemplate doing with the gas that is produced from these wells?

A We contemplate continuing to gather the gas and process it through the Maljamar repressure plant. It is now being taken by the plant and gas is processed, gasoline, butane and propane are removed and the residue gas is injected back into the Maljamar-San Andres pay zone.

Q Have you discussed this matter with officials of the Maljamar agreement?

A We have discussed that the plant has a more or less

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slack period during the night in which they are low on gas and if we are allowed to remove the gas-oil ratio limitation it will enable us to produce this well during the night at such a time that the gas will be able to take all of the gas and thereby help the plant in the repressuring operation.

Q In other words you contemplate if the application is granted and the gas-oil ratio is increased that all the gas that is produced will be processed through the plant and there will be no waste of the additional gas produced?

A That is right.

Q In your opinion will you recover more oil from this reservoir if this application is granted than if the application is denied?

A That is true because the well naturally can not be produced at a loss. It has to produce at a profit and by removing gas-oil ratic limitations it will be possible to continue producing the well at a profit for a longer period of time.

MR. CAMPBELL: I think that is all.

MR. SPURRIER: Does anyone have a question of this witness? If not, the witness may be excused.

(Witness excused.)

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MR. SPURRIER: Is there a further comment in this case? If not, the case will be taken under advisement and we will proceed to Cases 363 and 377. Are you prepared Mr. Reed?

MR. REED: Yes, we are ready.

STATE OF NEW MEXICO) : COUNTY OF BERNALILLO)

I HEREBY CERTIFY that the foregoing and attached transcript of hearing in Case No. 376 before the Oil Conservation Commission, State of New Mexico, at Santa Fe, on June 19, 1952, is a true and correct record of the same to the best of my knowledge, skill and ability.

DATED at Albuquerque, New Mexico, this 25^{-7h} day of June, 1952.

ADA DEARNLEY & ASSOCIATES COURT REPORTANE ROOM 12, CROMWELL BLDG PHONES 7.9645 AND 8.9546 ALBUQUERQUE, NEW MEXICC

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E. E. GREESON AGA DEARNLEY Gourt Reporters Box 1303 Phones 5-9422 ANS 5-9546 Alburuerque, New Mexico

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KEWANEE OIL COMPANY

р. 0. 80X 3780 Оденва, Техан

WEST TEXAS DIVISION

May 22, 1952

PRODUCTION DEPARTMENT

Re: Lindting Gas-Oil Ratio Maljamar Paldick Pool, Lea County, New Merico

Mr. Ralph Gray Buffalo Oil Company Carper Building Artesia, New Mexico

Et 162.76

Dear Sir:

This will confirm your recent conversation with W. H. Mills, May 22, 1952, regarding the proposed removal of the New Mexico Oil Conservation Commissions limiting gas-oil ratio of 2000 cubic feet per barrel in so far as producing wells in the Maljamar Paddock Pool are concerned.

We are cognizent of the nature of the producing reservoir, realizing that with such a thin productive section and relatively low permiability, producing gas-oil ratios will of necessity be comparatively excessive when considering the amount of oil produced.

With this in mind, Kewanee Gil Company interposes no objection to your request to remove the limiting gas-oil rat:o from the field rules adopted for the Maljamar Paddock Pool by the New Mexico Gil Conservation Commission.

Yours very truly,

Nepour

K/ J. McCoun Division Superintendent

AJN-WHM/34

P. S. Four idea of producing Mitchell B-20-P during those periods where the incoming gas to the Maljamar Cooperative Plant is insufficient to operate the compressors at ompacity is excellent and will no doubt increase the overall efficiency of plant operations.



CARPER ENDINERALITE

О D U C T R 1 0 15 D N n G

EWERY CARPER PRESIDENT STANLEY CARPER SIZE PAILS MARSHALL ROWLEY VICE PRIS ARTESIA NEW MEXICO LARPER BOILDING TELEFHONE (AT L D BR

May 27, 1952

Buffalo Cil Coma any Carper Building Artesia, New Nexico

EN 110 3:16

Attention: Mr. Halps Bray

Gentlemen:

We have no objection to your rejuest for the removal of the limiting cas-off ratio from the field rules adopted for the Valjamar Padorok Follky the New Mexico (il Conservation Condisatore.

We realize it will be necessary for you to produce enough oil from this horizon to make it a raying proposition and that you would not be able to do so without increasing the gas-oil ratio since you have only a few feet of effective ray and very low permiability.

As one of the members of the Maljamer Coorerative Repressuring Agreement, we also appreciate the time at which you propose to produce this well, and that is when the plant has insufficient pas to operate the compressors at capacity.

Sincerely,

INC. CARPER DELLING COMP

Marshall Rowley

MR:cc

ATWOOD MALONE & CAMPBELL

LAWYERS

CHARGES F HALCONE

Case 376

ROEWELL NEW MEXICO

347 66, 2356

Mr. R. R. Spurrier, Secretary Gil Conservation Consission Banta Fe. Lew Acxico

Dear Diok:

I an enclosing herewith original and three copies of application which I am filing on tenalf of huffelo Gil Company. I believe that Ralph Gray discussed this application with Sill and advised him that I would send it along in order that it could be published for the June hearing.

I have now noticed that you have requested the copies of proposed orders be furnished to the Commission and I neglected to furnish these on the three cases which I handled at this month's hearing. In the next few days I will send copies of proposed orders in cases Nos. 346, 353 and 370. I will also submit a proposed order in the Buffald case but I did not have time to prepare it and still get the application in in time for publication.

With kindest personal regards, I am

Yours very truly,

ack

for ATWOOD, MALONE & CAMPEELL

JHC/md

P.S. I have only one copy of the plat at this time and have attached it to the original. We will furnish additional copies at the hearing.





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CORE LABORATORIES. INC Petroleum Reservoir Engineering DALLAS

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OFF LOCATION CORE ANALYSIS RESULTS (Figures in parentheses refer to footnote remarks)

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District Engineer.

Cert 76 4 376

(*) REFER TO ATTACHED LETTER.

NOTE:

FORM #+18

(1) OFF LOCATION ANALYSES-NO INTERPRETATION OF RESULTS.

These analyses, opinions or interpretations are based on observations and material supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, Inc. (all errors and omissions excepted); but Core Laboratories, Inc. and its officers and employees, assume no responsibility and make no warranty or representations as to the productivity, proper operation, or profitableness of any oil, gas or other mineral well or sand in connection with which such report is used or relied upon.



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CORE LABORATORIES, INC.	LAB Petroleum Re	servoir Engineering
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Case 376

APPLICATION BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

Comes now Buffalo Oil Company on this 22nd day of May, 1952 and makes application to the Oil Conservation Commission of New Mexico for an order excepting all of its wells in the Maljamar-Paddock Pool, in Eddy County, New Mexico, from the limiting gas-oil ratio established by Rule 506 (a) of the Rules and Regulations of the Commission. As its basis for this application, applicant states:

1. The Maljamar-Paddock Pool was discovered by the applicant in 1950 and the gas-cil ratio limit of 2000 cubic feet per barrel was automatically assigned for the new pool and has been in effect since that time.

2. Since the discovery, only three producing wells, all owned by applicant and all on federal leases, have been drilled and seven dry-hole tests of the Paddock zone have been drilled in the area as shown by the plat attached hereto. The limits of the pool have been defined and established as an extremely small noncommercial accumulation containing a thin pay interval and low permeability.

3. Due to the condition of the pool, which makes it impossible to produce a substantial quantity of oil without the high gas-oil ratio, the limiting ratio causes an undue hardship on the operator and will result in a premature abandonment unless relief is granted.

¹+. Granting of the application will not result in a waste of gas, inasmuch as all gas produced from the Paddock zone is gathered and processed by the Maljamar Cooperative Repressuring Agreement for the extraction of butane, propane and gasoline and residue gas is injected back into the Maljamar.

WHEREFORE, the applicant respectfully requests that the Commission set this application for public hearing at the June, 1952 hearing of the Commission and that due and proper notice be given as required by law and that the Commission after hearing issue its order granting the application.

BUFFALO OIL COMPANY

By ATWOOD, MALONE & CAMPBELL

By Campbe



BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

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

> CASE No. 376 ORDER No. R-174

THE APPLICATION OF BUFFALO OIL COMPANY FOR AN ORDER EXCEPTING ALL WELLS IN THE MALJAMAR-PADDOCK POOL, LEA COUNTY, NEW MEXICO, FROM THE LIMITING GAS-OIL RATIO ESTABLISHED BY RULE 506 (a) OF THE RULES AND REGULATIONS OF THE OIL CONSERVATION COMMISSION

, ORDER OF THE COMMISSION

BY THE COMMISSION

This cause came on for hearing at 9:00 a.m. on June 19, 1952, at Santa Fe, New Mexico, before the Oil Conservation Commission, hereinafter referred to as the "Commission."

NOW, on this $16^{\prime\prime}$ day of July, 1952, the Commission, a quorum being present, having considered the records and the testimony adduced, and being fully advised in the premises,

FINDS:

(1) That due notice having been given as required by law, the Commission has jurisdiction of the case and the persons and subject matter thereof.

(2) That to date there have been ten wells drilled to the Paddock pay in the Maljamar -Paddock pool; that of these ten wells there are producing oil wells and seven were drilled as dry holes.

(3) That Buffalo Oil Company is the owner and operator of all three producing wells.

(4) That the ten wells which have been drilled have defined the limits of the pool.

(5) That due to the characteristics of the Maljamar-Paddock reservoir, the gas-oil ratio on two of the producing wells has been steadily increasing.

(6). That a gas-oil ratio limitation of 2000 in the Maljamar-Paddock pool is conducive to waste inasmuch as this limitation, which, under existing conditions, limits production, would lead to an early abandonment date.

(7) That the gas produced is utilized at the Maljamar Cooperative Repressuring Agreement plant and the additional gas produced by removal of the gas-oil ratio limitation would therefore not be wasted. Order No. R-174 page - 2 -

IT IS THEREFORE ORDERED

That the application of the Buffalo Oil Company for removal of the gas-oil ratio limitation in the Maljamar-Paddock pool, be, and the same hereby is approved;

PROVIDED, HOWEVER

That the operators of all wells in the pool shall comply with the provisions of Rule 301 of the Commission's Rules and Regulations and shall submit an annual gas-oil ratio test of each well on Form C-116

IT IS FURTHER ORDERED: That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order after proper notice and hearing, the Commission may terminate the authority hereby granted.

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

STATE OF NEW MEXICO OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman Member GUY SHEPARD, Secretary