CASE 2314: Application of SHELL for exception to gas-oil ratio provisions of Rule 26(A)-Order R-1670.

-ase No.

2314

pplication, Transcript,
mall Exhibits, Etc.

GOVERNOR
JACK M. CAMPBELL
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

P. O. BOX 871
SANTA FE

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

March 13, 1963

Mr. Richard S. Morris
Seth, Montgomery, Federici & Andrews
Attorneys at Law
Box 828
Santa Fe, New Mexico

Re: Case No. 2314
Order No. R-2191-A
Applicant:
Shell 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.

A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC
OTHER

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. 2314
Order No. R-2191-A

IN THE MATTER OF THE HEARING CALLED
IN ACCORDANCE WITH ORDER NO. R-2191
TO PERMIT SHELL OIL COMPANY TO APPEAR
AND SHOW CAUSE WHY THE STATE WELL
NO. 1-A, LOCATED IN UNIT D, SECTION
36, TOWNSHIP 24 SOUTH, RANGE 36 EAST,
NMPM, JALMAT GAS POOL, LEA COUNTY, NEW
MEXICO, SHOULD NOT BE RECLASSIFIED AS
AN OIL WELL.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on February 21, 1963, 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 13th day of March, 1963, 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 thereof.

(2) That under the provisions of Order No. R-2191, entered by the Commission on February 22, 1962, Shell Oil Company was ordered to appear and show cause why its State Well No. 1-A, located in Unit D of Section 36, Township 24 South, Range 36 East, NMPM, Jalmat Gas Pool, Lea County, New Mexico, should not be reclassified as an oil well if a six-month report of the gas-oil ratio of said well reflected a ratio of less than 100,000 to 1.

(3) That the last six-month report for the subject well reflected a ratio of less than 100,000 to 1.

(4) That the Special Rules and Regulations governing the Jalmat Gas Pool define a gas well as a well producing with a

gas-oil ratio in excess of 100,000 cubic feet of gas per barrel of oil.

(5) That the evidence does not justify classification of the well as a gas well at this time; that the well should presently be reclassified as an oil well in accordance with the Special Rules and Regulations governing the Jalmat Gas Pool; and that the well should be reclassified in the future in accordance with the Special Rules and Regulations governing the Jalmat Gas Pool.

(6) That reclassifying the well as an oil well will not cause waste as the Special Rules and Regulations governing the Jalmat Gas Pool provide sufficient flexibility in daily rates of oil production to allow the operator to produce the well at a rate that will prevent waste of both oil and gas.

IT IS THEREFORE ORDERED:

(1) That the Shell Oil Company State Well No. 1-A, located in Unit B of Section 36, Township 24 South, Range 36 East, NMPM, Jalmat Gas Pool, Lea County, New Mexico, is hereby reclassified as an oil well.

(2) That the subject well should be reclassified in the future in accordance with the Special Rules and Regulations governing the Jalmat Gas Pool.

(3) That Order No. R-2191, entered by the Commission on February 22, 1962, is hereby superseded.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year herein-above designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

Jack M Campbell

JACK M. CAMPBELL, Chairman

E. S. WALKER, Member

A. L. Porter, Jr.

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

esr/

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. 2314
Order No. R-2191

APPLICATION OF SHELL OIL COMPANY
FOR AN EXCEPTION TO THE GAS-OIL
RATIO PROVISIONS OF RULE 26(A),
ORDER NO. R-1670, LEA 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, 1961 and January 24, 1962, 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 22nd day of February, 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,

FINDS:

(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, Shell Oil Company, seeks an exception to the gas-oil ratio provisions of Rule 26(A), Order No. R-1670, to permit its State Well No. 1-A, located 380 feet from the North line and 380 feet from the West line of Section 36, Township 24 South, Range 36 East, NMPM, Lea County, New Mexico, to remain classified as a gas well in the Jalmat Gas Pool, with a gas-oil ratio below 100,000 to 1.

(3) That the evidence presented at the hearings of this matter reflects that the above-described State Well No. 1-A would not produce liquids and the gas-oil ratio would be greater than 100,000 to 1 when the said well was produced at a rate not exceeding 1000 MCFPD.

(4) That the application in this case should be denied.

(5) That the applicant should be required to produce the above-described State Well No. 1-A at a daily rate not to exceed

1000 MCFPD, subject to the well's status and its assigned monthly allowable; that the operator should report to the Commission the producing gas-oil ratio of said well for the period covering the first six months of 1962 and for each six-month period thereafter; and that, in the event any such six-month report reflects a gas-oil ratio of less than 100,000 to 1, the operator should appear and show cause why said well should not be reclassified as an oil well.

IT IS THEREFORE ORDERED:

(1) That the application of Shell Oil Company for an exception to the gas-oil ratio provisions of Rule 26(A), Order No. R-1670, to permit its State Well No. 1-A, located 380 feet from the North line and 380 feet from the West line of Section 36, Township 24 South, Range 36 East, NMPM, Lea County, New Mexico, to remain classified as a gas well in the Jalmat Gas Pool, with a gas-oil ratio below 100,000 to 1 be and the same is hereby denied.

(2) That the applicant is hereby directed to produce the above-described State Well No. 1-A at a daily rate not to exceed 1000 MCFPD; subject to the well's status and its assigned monthly allowable.

(3) That the operator shall report to the Commission the producing gas-oil ratio of said well for the period covering the first six months of 1962 and for each six-month period thereafter.

(4) That in the event any such six-month report reflects a gas-oil ratio of less than 100,000 to 1, the operator shall appear and show cause why said well should not be reclassified as an oil well.

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

E. S. WALKER, Member

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

esr/

Case 2314
Heard. 6-27-61
Rec. 12-20-61

1. Denie Shell's request ~~that~~ the well be reclassified ~~as a gas~~ a gas well ~~even~~ even when the GOR is less than 100,000:1.

2. Require ~~that~~ the well be produced at a maximum rate of 1000 MCFD ~~in~~ in which case the witness testified that the well would not produce liquids and the GOR would be greater than 100,000:1. A special test which was requested shows this to be true.

3. Require that the producing GOR for the 1st 1/2 of 1962 be ~~required~~ reported and each 6 mos. thereafter.

4. Require that ~~the~~ if the above report shows the well to be an oil well at rates of 1000 MCFD or less that operator shall be called to show cause why the well should not be reclassified as an oil well.

[signature]

SHELL OIL COMPANY
P. O. Box 1858
Roswell, New Mexico

MAIN OFFICE OCC
JAN 30 PM 1:28

January 28, 1963

Subject: Order No. R-2191
Gas-Oil Ratio
Shell State A-1A
Jalmat Gas Pool
Lea County, New Mexico

File
Case
2314

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention Mr. A. L. Porter, Secretary-Director

Gentlemen:

In compliance with Section 3 of Order No. R-2191, we submit herewith the gas-oil ratio of the subject well for the period covering the last six months of 1962.

	Production		Gas-Oil Ratio
	Liquid (bbls.)	Gas (MCF)	Cu. ft/bbl.
Last 6 months 1962	6089	141,137	23,179
December 1962	1183	25,188	21,292

Yours very truly,

R. L. Rankin
Division Production Manager

$\frac{6089}{182} = 33.4$ BOPD.

$\frac{1183}{31} = 38.1$ BOPD.

$\frac{141,137}{182} = 775.4$ MCFD.

$\frac{25,188}{31} = 812.5$ MCFD.

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

February 22, 1962

COPY

Mr. Ben Howell
Vice President
El Paso Natural Gas Company
P. O. Box 1492
El Paso, Texas

DOCKET MAILED
Date 2/8/63

Dear Mr. Howell:

Enclosed is a copy of Order No. R-2191, entered in Case No. 2314, which involved an application by Shell Oil Company to allow one of its wells in the Jalmat Gas Pool to remain classified as a gas well with a gas-oil ratio below 100,000 to 1.

It will be noted from Finding No. 3 of this order that the subject well will behave properly as a gas well when produced at a rate not exceeding 1000 MCFPD. Shell's application was denied on the ground that no relief is needed so long as the well is produced at such rate.

El Paso Natural Gas Company's cooperation is needed if this well is to be produced at a more or less constant rate, since this solution necessarily varies from the normal method of producing Jalmat gas wells. El Paso's cooperation will be greatly appreciated by the Commission and, I am sure, by Shell Oil Company also.

Very truly yours,

RICHARD S. MORRIS
Attorney

RSM/esr
Enclosure

cc: Mr. Oliver Seth
Attorney for Shell Oil Company
P. O. Box 828
Santa Fe, New Mexico

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 – DIRECTOR

P. O. BOX 871
SANTA FE

February 22, 1962

Re: CASE NO. 2314
ORDER NO. R-2191
APPLICANT:
Shell Oil Company

Mr. Oliver Seth
Seth, Montgomery, Federici & Andrews
Box 828
Santa Fe, New Mexico

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.

A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC
OTHER Mr. Jack Campbell
Mr. Clarence Hinkle

Case 2314
Heard 1-24-62
Rec. 1-25-62

1. Sonic Shell's request for an exception to ~~the~~ Rule 26(A) of R-1670. (The 100,000 GOR well ~~the~~ classification rule)
2. Grant them permission to produce the well at rates not in excess of 1000 MCFD as a gas well.
3. Provide that the pipeline or purchaser shall take gas from this well in this manner, but shall take the allowable ~~over a short~~ for each 6 mo. proration period so long as the well is capable of producing the well.

4. Another way of requiring this would be to require pipeline to produce the well in a manner that will not result in allowable being cancelled but not in excess of 1000 MCFD.

Tests have shown that the well can be produced as a gas well when produced in this manner.

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
June 28, 1961

CASE 2314

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
June 28, 1961

EXAMINER HEARING

IN THE MATTER OF:

Application of Shell Oil Company for an exception to the gas-oil ratio provisions of Rule 26 (A), Order No. R-1670, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the gas-oil ratio provisions of Rule 26 (A), Order No. R-1670, to permit its Shell State Well No. 1-A, located 380 feet from the North line and 380 feet from the West line of Section 36, Township 24 South, Range 36 East, Lea County, New Mexico, to remain classified as a gas well in the Jalmat Gas Pool, with a gas-oil ratio below 100,000: 1. Case 2314

BEFORE:
Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

MR. MORRIS: The Case 2314, Application of Shell Oil Company for an exception to the gas-oil ratio provisions of Rule 26 (A), Order No. R-1670, Jalmat Gas Pool, Lea County, New Mexico.

MR. SETH: Oliver Seth appearing for the applicant. We have one witness, Mr. Morris.

(Witness sworn.)

(Marked Applicant's Exhibits Nos. 1 through 5 for identification.)

CHARLES P. ST. LAURENT

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

DIRECT EXAMINATION

BY MR. SETH:

Q Are you employed by Shell Oil Company?

A I am employed by Shell Oil Company.

Q What capacity, and what are your duties?

A Division Reservoir Engineer, responsible for proration and reserve estimates in Shell's Roswell Division, New Mexico.

Q Are you generally familiar with your State Well No. 1-A in Section 36, 24 South, 36 East?

A I am.

Q Have you testified previously before the Commission or an Examiner?

A I have.

MR. SETH: May he testify?

MR. UTZ: Yes, sir; he may.

Q (By Mr. Seth) Would you state, please, for the Examiner the general purpose of the application of Shell in this case?

A Shell is in this case making application for an exception to the gas-oil ration provisions of Rule 26 (a) which requires that any well producing with a ratio of less than 100,000: 1 should be classified as an oil well. Through a unique situation Shell asks exception to this Rule in order to continue to produce State 1-A as a gas well with a gas-oil ratio below 100,000: 1.

Q Do you have an Exhibit showing the location of this

well?

A I have.

Q Referring to what has been marked Exhibit No. 1, would you state, please, what this shows?

A Exhibit No. 1 is a location plat depicting our current crucial interpretation to the top of the Yates and identifying the acreage identified to State's Well 1-A which well is shown circled in red on the plat; and the aforementioned acreage is shown outlined in green. As depicted on this plat, Well State 1-A is located on the cross of a local culmination in the Yates and is on the west edge of the central basin platform.

Q Your contours, as appearing on Exhibit 1, are they Yates contours?

A Yes. They are contours on top of the Yates.

Q Now, have you anything further to state with reference to Exhibit No. 1?

A Not at this time.

Q You have an Exhibit microlog for this particular well?

A I have. Exhibit No. 2

Q Referring to Exhibit No. 2, would you tell the Examiner, please, what that shows?

A Exhibit No. 2 is the annotated microlog of Shell State 1-A, and indicated thereon is the top of the Yates -- 2696 feet, and the casing seat of 5½-inch casing seat. The approximate plug-back total depth of the well being 2744 feet; and shown shaded in

red are the porous stringers throughout the open hole producing section of the Yates.

Q You have taken some tests on this well. The data from these tests shows a production is being obtained from what intervals?

A At the present time, the production is being obtained based on this test data from the open holed interval from the top of the Yates section. It is a 148-foot open hole interval, ranging from the top of the Yates to the depth datum of 148 feet.

Q How much net pay is in that section?

A This interval contains some 9 to 10 feet of net pay occurring in 8 stringers throughout the open hole section which range in thickness from 6 to 24 inches.

Q Could you give us a little bit of a background on the well, a little bit about its history and the completion data and any workovers that have been done on it?

A Shell State 1-A was completed on February 12, 1953, as a Yates Gas Well with a calculated open flow potential of 5.35 million cubic feet per day and no liquid production. It produced at normal rates for a period of three years until March of 1956, at which time the well began making large quantities of water. On May 9, 1956, on a special test the well produced 1427 barrels of oil plus 302 barrels of water; and the following day the well died. Now, I might mention, in referring for a moment to Exhibit 2, that the production at this time that I just referred to in 1956 was

obtained from the complete section from the Yates down to total depth. The plugback total depth shown occurred as a result of the treatment in March 1956 wherein workover operations were initiated to eliminate this water production. And, the well was treated with a diesel oil cement squeeze to shut off the water and resulted in the plugback total depth of 2844. At the time of this workover, in 1956 and prior to treating the well, a formation packer was set at approximately 2700 feet being at the top of the Yates there. And, selective tests from above and below the packer resulted in minor amounts of gas and water production from above the packer and significant amounts of water production with a small amount of gas from below the packer. As I previously stated, then during the month of June of 1956, the well was squeezed with diesel cement to shut off water production. This treatment did eliminate the water production and it certainly inhibited the production of gas. The stabilized capacity, after the diesel oil squeeze, amounted to approximately 500 MCF of gas per day with no liquid. In order to attempt to return the well to its previous gas productive status the well was acidized at that time to improve the deliverability. The resulting deliverability amounted to approximately 550 MCF per day. The well then produced free of liquids until March of 1960, at which time the well was sand fract with 20,000 gallons of refined oil plus one and a half gallons of gaseous sand. This treatment resulted in an increase in deliverability from 510 MCF per day to 7900 MCF per day. On a final flow test, after this treat-

ment on April 1960, the well flowed 2763 MCF per day with a flowing tubing pressure of 749 PSI and no fluid production. For the following six months the well produced at monthly gas rates ranging from 20 million cubic feet per month to as high as 60 million cubic feet per month with no fluid production. However, the capacity appeared to be declining, and later wire line tests indicated the tubing was plugged with sand. During August of 1960, a unit was moved in to clean out the sand in the tubing and open hole, and during this operation some 700 barrels of oil and 90 barrels of salt water were required to maintain the well under control in order that we could pull the tubing and attempt to remove the sand. After baling out the sand, the well was put back on production; and during the following month and a half the well produced liquid intermittently, with total fluids ranging from zero to 120 barrels, and totaling from 40 to 50 per cent water.

Q Do you have some data showing the relation of this well to others by way of an Exhibit, a cross section?

A I have, sir.

Q Now, referring to what has been marked Exhibit 3, would you tell the Examiner, please, what this other Exhibit shows?

A Exhibit 3 is an east-west section running through Shell State 1-A and originating from Texaco's Aug A-2 No. 1 which is located in this central portion of Section 35 running from that well east to Texas Pacific Coal & Oil Watkins 1, to Shell State 1-A, to Shell State No. 1-B, and to Shell State No. 2-A.

The cross section is annotated and presents the treatment and performance history to Shell State No. 1-A indicating the completion in February of '53 and the deliverability at that time; and the subsequent production tests at the time the well started to produce water. These tests, referring to the Exhibit, are shown as P.T. production tests. In March '56, it produced approximately 120 barrels of oil and 80 barrels of water with a ratio of 10,700. In April of '56, from the open hole interval 2636 to 942, production 5 barrels of oil plus 105 barrels of water. And, May '56 was when the well died; and previous tests stated earlier, 27 barrels of oil plus 302 barrels of water. The record continues to show what operations were performed at that time prior to the diesel oil cement squeeze. And, as shown, the well was treated, squeezed with 100 sacks of DOC, diesel oil cement. And, following an intermittent test, the well was again squeezed with 100 sacks of diesel oil cement, and a third treatment which finally shut off the water and resulted in a plugback depth of 124. I believe the rest of it is pretty general.

Q Do you have any comment on this well with relation to the others as shown on Exhibit No. 3?

A I have. The cross section indicates the Shell State No. 1-A is the highest well structure in the area. It has an elevation of plus 585 feet. The next highest well in the area is the Texas Pacific Coal & Oil Watkins 1 with an elevation of plus 579 feet.

MR. UTZ: You are speaking of the top of the Yates now?

THE WITNESS: The top of the Yates; yes, sir.

Q (By Mr. Seth) The next highest well is shown on this same Exhibit, is it not?

A Yes. Texas Pacific Coal & Oil Watkins 1 is shown on the same Exhibit, being the first well of the Shell State 1-A.

Q Now, do you have any comment on the other well shown, or --

A As indicated on the cross section, Texas Pacific Coal & Oil Watkins 1 is currently classified as a Jalmat Oil Well, and through the information available we discerned its present capacity amounts to 56 barrels of oil plus 355 barrels of water with a ratio of 7030 cubic feet per barrel. The well, referring again to the cross section, produces from roughly the same type and equivalent -- that being a tingert sandstone with occasional streaks of calorious dolomite.

Q Is that pretty much characteristic of the Yates production in this area?

A It is; yes, sir.

Q In connection with the well which is the subject of this hearing, have you prepared a graph showing the rate of the production with relation to the allowables?

A I have, sir. That would be Exhibit No. 4.

Q Referring to what has been marked as Exhibit No. 4, would you tell us, please, what that Exhibit shows?

A Exhibit No. 4 is an annotated graphic plat reflecting the monthly gas allowable and gas production of Shell State 1-A, and also indicates the gas-oil ratio from the date of completion to the present time.

Q Now, the solid line appearing on this Exhibit 4 is the rate of gas production; is that right?

A Yes, sir. The solid line shown across the top of the Exhibit is the monthly gas production.

Q What is the dotted line?

A The dashed and dotted line, shown coinciding with the solid line, is the monthly gas allowable.

Q Where is the gas-oil ratio shown?

A The gas-oil ratio for the two periods of liquid production -- that being in 1956 and 1961, is shown in dashed lines at the base of the Exhibit, and its scale in GOR in cubic feet per barrel at the right-hand side of the Exhibit.

Q Are they results of deliverability tests as shown on this Exhibit, also.

A The results of the deliverability tests are shown in heavy arrows on this graph.

Q They are shown at 100,000 line; is that right?

A Yes. They are shown, referring to the right-hand scale, shown at the 100,000 line.

Q Now, does this Exhibit indicate that you have had two periods of difficulty with liquids in this well?

A It does, sir.

Q Now, would you elaborate on that, please.

A As may be noted from the notations across the top of the Exhibit, the well produced from the date of completion to the previously mentioned time of when the well started making large volumes of water in 1956, produced at a monthly rate ranging from 2 million to 68 million cubic feet per month with no liquids. At the time, the water production -- again there is a note showing the diesel oil cement squeeze treatment and the subsequent plug-back of 2844 in addition to the treatment were 1500 gallons of acid to restore the well to capacity. The next notation of significance is the sand fract treatment in March of '60 wherein the open hole section of 2636 to 2821 was treated with 20,000 gallons of refined oil. And, you will note the deliverability before and following as indicated: 10 to 79 over 4, and then the six months' interval of liquid free production at rates ranging from 20 million cubic feet per month to as high as 60 million cubic feet per month. The occurrence of sand, or the clean-out shown there of the sand.

Q Your deliverability began to decline, did it not?

A That is right. This is what called our attention.

Q And then you had the clean-out?

A Yes, sir. And, following the clean-out, wherein we

were required to load the hole with oil and water in an effort to control it while working on it, the liquid production -- as shown by the dashed line at the bottom -- occurred following this clean-out of the sand. The final notation of the graph is that referring to an increase in acreage factor from 1 to 1.25, which was approved by Commission Order NSP-549 in March of 1961.

Q Do you have any other comments on this Exhibit --

A No, sir.

Q -- No. 4?

A No, sir.

Q Have you compiled some further data on this well --

A I have, sir.

Q --to draw-down and other factors?

A We have compiled special and specific test data on the well.

Q Is that Exhibit No. 5?

A Shown as Exhibit 5; yes, sir.

Q Would you tell us, please, what this Exhibit shows?

A Exhibit No. 5 is a graphic representation of recent production test data on Shell State 1-A.

Q Excuse me. Would you mind starting at the top and explain -- are the three different graphs on this one Exhibit?

A There are three different graphs. The top graph has been prepared to reflect the flowing surface of the pressure -- that would be the solid line shown on it, solid connected lines

shown on the graph. And, it does reflect the flowing surface pressure and different rates of gas production. Across the top of the graph is shown as static shut-in well-head pressure being 829.2 PSI for ease in referring to draw-down. The 5 per cent and 10 per cent draw-down lines have been constructed on the graph based on the 829.3 PSI shut-in pressure and the indicated flowing pressures under various test conditions.

Q Immediately under this data in the center, what is shown there?

A Immediately under the aforementioned data, we have presented the gas-oil ratio of the well as a function of the different producing rates. The solid line on this central plat represents the 100,000: 1 and is the minimum GOR specified by Rule-26 (a) for a gas well.

Q Now, across the bottom of the exhibit --

A Across the bottom of the Exhibit we have represented by a solid line the gas producing rate in MCF per day. And, in addition, below the top solid line we have shown the water production and the oil production for the various tests. These liquid producing rates are in barrels per day and their scale is shown on the inside of the left of the graph paper.

Q All these three graphs are related to each other, are they not?

A Yes, sir. They are all tied to specific tests on the dates shown across the bottom of the graph.

Q And they show the performance of the well at different rates of production; is that correct?

A Yes, sir. They reflect the changes in the various perimeters presented as a function of rate of gas production.

Q Now, generallyhow has the well performed? Has the gas production increased or decreased; and in what magnitude does any change occur?

A The graph reflects that, in general, below a rate of 1500 MCF per day there are no liquids produced. There are no liquids produced at this less than 1500 MCF per day. Correspondingly, a rate of 1500 MCF per day does not occasion a draw-down of greater than approximately 7 per cent, but when the rate is increased to in excess of 1500 MCF per day whereby --

Q Can you give us a particular example on Exhibit 4 where this comes about?

A Well, if we could refer to March 17 on the example, and starting from --

Q What year?

A March 17 of 1961. Starting from the bottom of the graph first, we note that some 20 barrels -- 15, excuse me, some 15 barrels of oil, some 17 to 18 barrels of water were produced at a gas rate of approximately 1420 MCF per day, resulting in a corresponding ratio of some 93,000 cubic feet per barrel for a corresponding draw-down in flowing surface pressure of approximately 12½ to 13 per cent.

MR. UTZ: What date was that?

THE WITNESS: March 17 of 1961.

MR. UTZ: You are referring to Exhibit 5, aren't you--

THE WITNESS: Yes, sir.

MR. UTZ: --rather than 4?

A Yes, sir. This is Exhibit 5.

Q (By Mr. Seth) Can you give us another example referring to Exhibit 5?

A We can go back to, say, March 14 of 1961, when there were no liquids produced to test, with a gas rate of approximately 1660 MCF per day. The gas-oil ratio, with no liquid, would be infinite; and a corresponding draw-down amounted to approximately 5 per cent of this static shut-in well-head pressure.

Q Take another one where there is a significant amount of fluid production?

A In April 3, or on April 3 of 1961.

Q You are referring to Exhibit 5?

A Again referring to Exhibit 5. You will note that approximately 80 barrels of oil were produced, and some 155 barrels of water were produced. The gas production rate amounted to some 1650 MCF per day. The corresponding gas-oil ratio amounted to 22,000 cubic feet per barrel, and the draw-down approximately 12 per cent of static shut-in well-head pressure. It will be noted that following the high rates of liquid production there are tests shown for the month of June of 1961 -- referring specifically

to June 7 of 1961, on Exhibit 5. You will note that there was no liquid production, that gas -- that daily gas rate had been reduced to some 440 MCF per day; corresponding ratio is infinite and draw-down at that time -- The draw-down at that time should be shown on Exhibit 5 and is approximately 4 per cent.

Q Generally, how does the well perform as to the production of liquid as related to the rate of gas production?

A As reflected by Exhibit 5, in general, when the draw-down reaches or exceeds 10 per cent, liquid production is initiated in the well. Correspondingly, when the daily rate reaches or exceeds 1.5 million a day, liquid production is initiated in the well and slowly increases in the rate -- is increased as the gas rate is increased. When the gas rate is decreased to roughly 1.5 million cubic feet per day or less, liquid production ceases and the well produces at dry gas. It would be noted from Exhibit 5 that the liquid production is, in general, coincidental with the occurrence of, or the achievement of a 10 per cent draw-down in Shell State 1-A.

Q Would you describe this performance as being somewhat unusual for a well in the Yates?

A Yes; in that when the rate is reduced to less than 1.5 million feet a day, the well produces no liquids at all, and it is only when we exceed this rate that liquid production occurs.

Q And, do you believe that these unusual conditions and unusual performance warrants an exception to the Jalmat Rule 26

(a) in this case?

A Yes, sir. In view of the foregoing discussion and the unusual nature of the well, we are requesting exception to Rule 26 (a) in order to continue to produce State 1-A as a gas well should the GOR fall below 100,000: 1. The well is a high-capacity gas well as reflected by the deliverability tests, and the Yates top in this well is the structurally highest well in this area of the Jalmat Gas Pool.

Q And do you believe that if the exception is granted and the well is continued as a gas well, this will still be in accordance with good practices?

A Yes, sir; definitely.

Q Do you have any further recommendations or comments?

A No, sir; none at this time.

MR. SETH: We would like, Mr. Utz, to introduce Exhibits 1 through 5 at this time.

MR. UTZ: Without objection, Exhibits 1 through 5 will be entered into the record.

MR. SETH: And that is all the direct we have.

EXAMINATION

BY EXAMINER UTZ:

Q Is the name St. Laurent?

A Yes.

Q What would you say is the maximum liquid or oil producing capacity of this well?

A I don't believe I could estimate the maximum without tests of much higher rates than we have here. But, at average rates based upon the rates of the production shown on Exhibit 5 -- and the well had not been tested, you know, in excess of thes rates -- the maximum, or average oil production under sustained 10 per cent drawn-down amounts to approximately 75 barrels per day.

Q Which would be in excess of the oil well allowable?

A Which would be in excess of the oil well allowable.

Q So, the allowable, say, with 34 barrels, you would only have a gas allocation of 340 MCF per day?

A Yes, under which conditions the well would produce no liquids.

Q That would be a gas well under those conditions?

A Right.

Q Then, what has your daily gas allowable as a gas well been running?

A Well, for the first half of 1961, referring to Exhibit 4, the average gas allowable has been approximately 25 million cubic feet per month.

Q Which is something like 800,000 or 900,000 a day, right?

A Right.

Q What is the ~~graphite~~ gravity of this liquid?

A The liquid, the oil has an 83 ~~OI graphite~~ API gravity.

Q Pretty heavy.

A Yes, sir.

Q I believe you stated that this well was completed throughout the other Yates interval?

A Yes, sir; from the open hole interval from the casing seat and 2636 feet to total depth of 2562 feet was the original open hole interval of the well.

Q Now you are plugged back to 2844?

A Yes, sir. Now we are plugged back to 2844.

Q Why did you plug back to 2844? -- To shut off liquid?

A Yes, sir; that was a diesel oil cement squezze at that time, and the result in plugback effect was the function of where the cement was set up, not to any specific depth. It was a consequence of the diesel oil cement squeeze.

Q Do you have any idea of the interval that is now open where the liquids might be coming from?

A No, sir; we have not. Referring to the previous testing we did at the time, the well was treated with diesel oil cement -- selectivity test -- and below the top of the Yates; and at that time we received a slight amount of water production and a slight amount of gas production from that porosity shown in the tank cell. So, we are relatively certain that the production is not occurring from up there, but we do not know where specifically the oil, gas, or water production is occurring from within the open holed interval being from the top of the Yates 2696 to plugback total depth 2844.

Q Your Exhibit No. 3 does not show where the Watkins No. 1 is perforated, does it?

A I believe, sir, that Watkins No. 1 is open hole, as it shows the casing sheets at approximately 2700 feet.

Q And that is producing as an oil well?

A Yes, sir; as an oil well.

Q How about your Shell State 1-B?

A The Shell State 1-B is an abandoned well, non-commercial producer. On drill stem test in January of 1952, the well produced a gas-to-surface in 19 minutes, and on tests we recovered some 240 feet of slightly gaseous sulphur water, and no completion was made.

Q The offset, north offset, which I believe is the Humble Southwest Harrison N-1, is it a Jalmat Gas Well?

A It is a Jalmat Gas Well.

Q And, how about the Northwest Diagonal Offsett, the Woolworth Well; who does it belong to?

A The Northwest Diagonal Offset is Texas Pacific Coal & Oil Woolworth 1.

Q Is that an oil well?

A It is a Jalmat Oil Well; yes, sir. It was converted to oil in January of 1960.

Q So it is really pretty hard, isn't it, to pin down what the actual GOR is on this well?

A Yes, sir. The GOR is a function of withdrawal rates.

Q So, when it is tested near the oil allowables it is actually tested as a gas well?

A Yes, sir. In fact, when it is tested significantly above an equivalent gas allowable for an oil well, it is tested as a gas well.

Q What would be your analysis, the phenomena taking place that causes this well to do that? I believe you stated that it was on a local high.

A Yes, sir.

Q Could it be that the well has produced enough gas to be pulling in the oil from around it now?

A I don't think so, sir, or if the encroachment of oil had reached the well in these upper stringers, then I believe we ought to be producing liquids at any rate of gas production. There are probably numerous explanations that might be offered -- one being: that when we fract the well, when we sand fract the well we create a fracture down into -- If you will recall, back before we squeezed the well, the well did produce some oil to moderate. At that time evidentally, since that time, since we have -- If we fractured down to any of those stringers then the high draw-down could be drawing the fract oil under the new fract. It might also be drawing oil and water through any of the small stringers shown within the open holed interval above the current plugback total depth.

Q Well, if the latter was the case, shouldn't this well have produced liquids ~~material~~ sand gas in its life?

A Yes, sir; because as I mentioned previously, the rates

at various times -- The monthly production achieved on something in the order of 60 million cubic feet which certainly would have been sufficient -- may be approximately 2 million a day, to draw in the oil and water if it were from the upper stringers.

Q Well, earlier in the life of the well it produced dry gas, did it not?

A Yes, sir; at rates ranging from 23 to 68 million a month.

Q So, the first analysis, it would seem to be probable, be more accurate; would you say?

A Yes, sir; that the fract treatment did in some way fracture into one of the low zones that formerly produced oil and water.

Q Opened up new reserves on the well bore?

A Yes, through the high draw-down it was pulled up through the fracture.

Q Now, are you familiar with the liquid gravities of other Jalmat Oil Wells in Jalmat's Pool? Do they run about the same as this one?

A I'm not certain, but I believe they do -- approximately anywhere from 30 to approximately 30 degrees.

Q Is this a sweet ~~curve?~~ crude?

A I think there is a very low percentage of hydrogen sulphide in the crude. The gas itself, the Yates gas tests from Shell State 1-A tests .5 or .58 of 1 per cent hydrogen sulphide.

MR. UTZ: Are there other questions of the witness?

MR. CAMPBELL: Mr. Examiner, may I ask a couple of questions -- Jack M. Campbell of Campbell & Russell, appearing on behalf of the Texas Pacific Coal & Oil Company.

What is your average gas allowable with your present one and a quarter unit for this well?

THE WITNESS: The average has been 25 million cubic feet per month.

MR. CAMPBELL: And what was the rate at which you said the well had to produce in order to produce liquids?

THE WITNESS: Exhibit 5 indicates that the rate would have to be sustained in excess of 1.5 million cubic feet per day.

MR. CAMPBELL: That is in excess of the gas allowable?

THE WITNESS: That is in excess of the gas allowable.

MR. CAMPBELL: What good would this order do you?

THE WITNESS: I don't understand your --

MR. CAMPBELL: How would you be able to produce liquids from this well classified as a gas well? I can't understand quite what you are seeking to do here.

THE WITNESS: One-half million a day and some 45 million a month, the average allowable at 25. The liquids do not occur until we approach 5 million a day. If the allowable were taken at 24-hours a day, 30 days a month, the average withdrawal rates would be an approximate 750 MCF and no liquid would be produced.

MR. CAMPBELL: You can produce it in such a way if

that allowable -- to produce your liquids --

THE WITNESS: We are limited by El Paso's preventions in withdrawing gas from the well. If we could in some fashion prevail upon El Paso to take at a regular rate, I don't believe the well would produce liquids in producing its normal monthly allowable.

MR. CAMPBELL: What are you seeking to accomplish if this application is granted?

THE WITNESS: Permission to continue producing Shell State 1-A as a gas well should at any time during the month the gas-oil ratio fall below 100,000: 1, due to an excessive rate of withdrawing in any given 6 or 12-hour period.

MR. CAMPBELL: Do you believe that there are any other wells in this area that by the similar treatment, such as the fract treatment that you mentioned, be put in such a situation that the same situation could be applicable to them?

THE WITNESS: Not having reviewed the performance and connections of the other wells I would hesitate to make a specific answer. But, based upon the productive capacities, recent productive capacities and monthly production of the offset oil well, it does not appear that they would be able to sufficiently increase their gas production to achieve the same status as this well. However, it may well be possible.

MR. CAMPBELL: If you had been able to produce this well under an order similar to the one you are seeking, say during

the last proration period, what production would you have obtained that you hadn't been able to obtain in this well? I am trying to get at exactly what you are seeking to accomplish by way of production from the reservoir if this order is approved. What change will it make? And, what you are permitted to produce in this reservoir, liquid and gas.

THE WITNESS: It would permit us to continue producing at the average monthly allowable of 25 million, I would say, but as far as the liquids are concerned that would be dependent upon the rates at which the gas was withdrawn. These tests are depicted on Exhibit 5 that were intentionally high-rated in order to evaluate the performance of the well under the high and low rates. The average rates of withdrawal -- and I haven't the data which states how El Paso took it at any one time, but the average rates of withdrawal over the past six months have been in accordance with the allowable. And, all I can say is if the gas had been taken each day, 24-hours a day, no liquids would have been produced. During this specific test period -- and that is shown on Exhibit 3 at the base of the annotation -- the well produced 1095 barrels of oil plus 33.477 million cubic feet of gas, but that was for the test period wherein we intentionally increased the rates. So, what liquid might have been produced under the provisions of the exception we are seeking is not the best. I don't believe I could answer with any degree of certainty.

EXAMINATION CONTINUED

BY MR. UTZ:

Q Is this well now in danger of being reclassified as an oil well?

A Yes, sir.

Q February '61 GOR?

A Well, based upon a deliverability, the last deliverability test submitted in achieving in 10 per cent draw-down, we produced some 47 barrels of oil and 40 barrels of water. That was the deliverability test dated May 1 to May 5, 1961.

Q Is there anything in the Commission Rules to require you to take GOR's at the rate that you took them?

A Are you referring to special tests that are run or to deliverability?

Q No, to your regular GOR test?

A Yes. I believe the State requires a 10 per cent draw-down on the deliverability test in order -- and that is then the official GOR for the gas.

Q But, taking GOR's with the regulations for an oil well you would have a GOR infinity?

A Yes, sir.

MR. UTZ: Are there any other questions? The witness may be excused. Are there any other statements in this case?

MR. MORRIS: Mr. Examiner, I have a communication I would like to read into the record from the Humble Oil & Refining Company, signed H. L. Hensley by Henry E. Meadows. It reads as follows:

"In reference to Case 2314, Humble is opposed to Shell's request for exception to the gas-oil ratio provision of Order R-1670, Rule 26 (a). Humble's S. W. Harrison 1 in Section 25, T-24-S, R-36-E, directly offset by Shell's State 1-A, produces dry gas. It is our understanding that Shell State 1-A produces with a gas-oil ratio of approximately 20,000 cubic feet per barrel. Many Jalmat Oil Wells produce with similar ratios; for instance, the range of gas-oil ratios on Humble's Jalmat Oil Wells range from" -- It's garbled at this point -- "from 7212 to 40,386 cubic feet per barrel. Humble is opposed to Shell's request on the grounds that Humbles correlative rights would be violated if this exception were granted and further, the Shell State 1-A gas-oil ratio is not exceptional for wells classified as Jalmat Oil Wells.

MR. CAMPBELL: I would like to make a statement on behalf of the Texas Pacific Coal & Oil Company that the company owns a considerable amount of acreage offset in the vicinity of this well. Our principal concern about the granting of an application such as this is that it would set a precedent which we believe would create a situation in this zone portion on the

Jalmat Pool where other operators presently producing oil wells under the Rule limitations might be able by reworking and testing frequently their wells, come within the same type of exception. And, for that reason we oppose this inasmuch as we feel it would set a precedent that will perhaps get the situation out of control in that particular area of the Jalmat Pool.

MR. UTZ: Are there any other statements?

MR. SETH: Mr. Examiner, on that particular point I think the testimony and the evidence show that this is a unique situation. There is no indication that there are any other wells or can be any other wells in a similar category. Now, as far as setting a precedent is concerned, this is a typical situation where an exception should be granted, and is reasonably asked for. We have a very odd production characteristic on this well, and this is where an exception is needed. And, I think the witness has testified in response to the question that this is an unusual situation, and it is not indicated that other wells can be artificially placed in the same category, as Mr. Campbell indicated it might be. We feel this is a typical situation for an exception.

MR. UTZ: I would like to recall the witness for one more question, please.

Q (By Mr. Utz) Mr. St. Laurent, if the Commission reclassifies this well as an oil well, your next GOR test would be when? -- Around October?

A I believe so, latter part of this year.

Q And is it your opinion that when that GOR test is made as an oil well that it will again be more than 100,000: 1?

A Yes, sir. If we test the well as an oil well, we produce no liquids, so the GOR would be infinite.

Q Then, the Commission would be faced with the problem of whether to reclassify it again as a gas ~~allowable~~; would it not?

A Yes, sir.

MR. UTZ: The witness may be excused. Are there any other statements?

This case will be taken under advisement.

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STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, MICHAEL HALL, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill, and ability.

Michael Hall
NOTARY PUBLIC

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2314, heard by me on June 26, 1961.

Elvis A. Utz, Examiner
New Mexico Oil Conservation Commission

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
January 24, 1962
EXAMINER HEARING

IN THE MATTER OF:
Applicant of Shell Oil Company for an exception to the gas-oil ratio provisions of Rule 26(A), Order No. R-1670, Lea County, New Mexico. The Oil Conservation Commission, on its own motion, will reopen Case No. 2314 in which the applicant seeks an exception to the gas-oil ratio provisions of Rule 26(A), Order No. R-1670, to permit its State Well No. 1-A, located 380 feet from the North line and 380 feet from the West line of Section 26, Township 24 South, Range 36 East, Lea County, New Mexico, to remain classified a gas well in the Jalmat Gas Pool, with a gas-oil ratio below 100,000 to 1.

BEFORE:

Elvis Utz, Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 2314.

MR. WALKER: Application of Shell Oil Company for an exception to the gas-oil ratio provisions of Rule 26 (A), Order R-1670, Lea County, New Mexico.

MR. SETH: We have one witness, if the Commission please.

MR. WALKER: Will you stand and raise your right hand, please? (Witness complies.) Do you solemnly swear that the testimony you are about to give will be the truth, the whole truth, and nothing but the truth, so help you God?

MR. STOKES: I do.

MR. UTZ: Do we have any other appearances?

MR. SETH: Oliver Seth appearing for the applicant. If the Commission please, this is a case that was reopened at the

request of the Commission for the submission of some additional tests, the style of which the applicant has secured since the original hearing date.

D. D. Stokes.

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

DIRECT EXAMINATION

BY MR. SETH:

Q Would you state your name, please, and by whom employed?

A My name is D. D. Stokes. I am employed by Shell Oil Company in Roswell, New Mexico as Division Reservoir Engineer.

Q Are you familiar with the application in this case?

A Yes, sir, I am.

Q Are you also familiar with the test data that was requested by the Commission since the last hearing?

A Yes, sir.

Q Do you have the data with you?

A Yes, sir.

MR. UTZ: Is this exhibit the same as the one you previously submitted to the Commission?

A Yes, sir, it is.

Q (By Mr. Seth) Now, referring to what has been marked Exhibit No. 1, would you state to the Commission, please, what this Exhibit shows and tell us a little bit about the background of these tests?

A This is a graph of the production history during the three month test period which the Commission prescribed for this well. It is divided into three parts with the top part showing flowing pressure behavior during the test period. The second part shows the gas-oil ratio and the bottom section shows the production of the gas-oil and water.

Q Now, it is divided from left to right into three sections?

A Yes, sir. We have three test periods taken in the months of August, September and October, 1961. During the month of August we were directed to test the well at a rate of around one million cubic feet per day. During this test period our average rate was 1,000,024 cubic feet per day with a maximum of 1,000,088 and a minimum of 909,000. During this period we produced no fluid and of course had an infinite amount of GOR. Our drawdown of surface pressure during this time averaged about four per cent. This section of it covers the month of September and at that time we were directed to test the well at about 350 MCFD per day which is approximately equal to the maximum gas allowable for an oil well in Jalmat. Again during this period we produced no fluid and the gas-oil ratio was infinite.

Q What was the drawdown?

A The average drawdown was around two or two and a half per cent during this period.

Q And in the third section, the right hand section?

A During the month of October we tested the well at a high-

er rate. The average during this month was 1,408,000 cubic feet per day with a mimimum of 1,239,000 and a maximum of 1,790,000. After three fays of production at a high rate we began to produce fluid, both oil and water and gas-oil ratio. It began to produce during the latter part of 20,000 feet per barrel. We were producing between 50 and 75 barrels of oil per day.

Q What would the drawdown average, roughly, during this period?

A The drawdown would be about 8 per cent here in the latter part of that flow period.

Q Did you have any cumulated oil production during this period?

A The well produced 1513 barrels of oil during the month and 100,045 barrels of water.

Q Now, considering the test and the draft and the statistical data that you have, what conclusion did you arrive at?

A Well, I believe this test period confirmed the testimony we presented at the original hearing. I also believe that if this well is classified as an oil well, that it will produce nothing but gas, it will never produce any oil and that our income and the income of the royalty owner both, will be cut severely because of the fact that we will be on a very low gas rate with no oil production. I feel if the well were produced at a steady rate during the month based on our gas allowable that it could produce liquid free, but due to the demand situation the well has produced

erratically during the month, it will pull hard on some days and shut in on others, and during the time it is pulling hard it does make liquid with the considering reduction in GOR.

Q By reason of the unusual performance of the well under the field rules, if you did not get an exception it would be an oil well one period and a gas well the next period, and it would change continually on that basis, is that correct?

A Yes, every six months we'd have to have the status changed. It would produce for six months as an oil well produced with GOR, then changed to a gas well, it would produce probably some gas in the normal rate.

Q Did you have data tabulated from which this exhibit was prepared?

A Yes, sir, that is tabulated and attached as Exhibit 2. I have no comments to make on that data.

Q Do you have any further comments as to the tests or to this Exhibit No. 1?

A No, sir, I believe that is all.

MR. SETH: We would like Exhibit 1 and 2 entered into the record, Mr. Examiner.

MR. UTZ: Without objection Exhibits 1 and 2 will be entered into the record.

(Whereupon applicant Shell Oil Company's Exhibits 1 and 2 were admitted in evidence.)

MR. SETH: That is all the direct testimony we have.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Stokes, would it be possible to install a choke in this well that would permit production at no higher rate than say a million a day?

A I believe it would, sir, but if we did that and the well was shut in for half the month and then could produce more than a million the last half, we'd just lose an allowable.

Q Then if that were done, you'd have to have some control on the purchaser to leave the well on the line until such time that it has produced it's allowable?

A Yes, sir.

Q Do you see any objection to that?

A no, sir.

Q That would solve the whole situation, would it not?

A I would believe for the present it would, sir.

Q Do you anticipate that some day it will start making at these lower rates?

A I believe that it enough gasses were drawn from the reservoir with that much pressure in the gas section that where the oil is coming from, the well will go to oil. If the gas rate is restricted so that the pressure drops faster than to the oil bearing it, I don't believe we'd ever make oil then.

Q How many acres is dedicated to this well?

A 200 acres.

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

MR. MORRIS: I have one question, Mr. Examiner.

CROSS EXAMINATION

BY MR. MORRIS:

Q Mr. Stokes, were the tests from which the data shown on your Exhibit No. 1 in this reopened case, conducted by you in compliance with a letter to Shell Oil Company from Mr. Utz dated July 20, 1961?

A Yes, sir, they were.

MR. MORRIS: I would like to offer a copy of the letter written by Mr. Utz as part of the record in this case.

(Whereupon Applicant's copy of letter marked for Identification.)

Q (By Mr. Morris) Would you examine this document and state whether that is a copy of the letter received by Shell Oil Company?

A Yes, sir, that is a copy of the letter.

Q And after you received this letter from Mr. Utz, you conducted these tests in compliance with his request and the information that you are submitting today is the result of those tests?

A Yes, sir.

MR. MORRIS: I offer Mr. Utz's letter dated July 20, 1961, as part of the record in this case.

MR. UTZ: Without objection that will be entered into the record.

(Whereupon Commission's Exhibit was entered into evidence.)

MR. MORRIS: That is all.

MR. UTZ: Are there any other questions?

MR. SETH: We have nothing further.

MR. UTZ: The witness may be excused.

(Witness excused.)

MR. UTZ: Are there any statements in this case?

MR. MORRIS: Yes, sir, Mr. Examiner, I have a telegram from the Humble Oil and Refining Company signed by Mr. R. R. McCarty by F. A. Meadows, addressed to the Commission. It reads as follows: In reference to Case 2314 which has been re-opened on the January 24, 1962 docket, Humble Oil and Refining Company wishes to reiterate its position set out in our telegram of June 27, 1961 in the original hearing on this matter. It is emphasized again that high gas oil-gas ratios are common in the Jalmat Oil Pool and that the well for which Shell requests exception is similar to many other Jalmat oil wells. It is urged that the Commission deny Shell's request.

MR. UTZ: Are there any other statements?

The case will be taken under advisement.

I N D E X

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, KATHERINE PETERSON, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill, and ability.

Katherine Peterson
COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2314, heard by me on Jan. 24, 1962.

..... Examiner
New Mexico Oil Conservation Commission

No. 3-62

DOCKET: EXAMINER HEARING - WEDNESDAY - JANUARY 24, 1962

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, as alternate examiner:

CASE 2478: Application of Texaco Inc. for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its C. H. Weir "B" Well No. 5, located in Unit G of Section 11, Township 20 South, Range 37 East, Lea County, New Mexico, as a triple completion (conventional) in the Skaggs-Drinkard and Skaggs-Glorieta Pools and in an undesignated Blinebry gas pool, with the production of oil from the Drinkard zone to be through a combination string of 2 1/16-inch and 1 1/4-inch tubing, the production of oil from the Glorieta zone to be through a parallel string of 2 1/16-inch tubing and the production of gas from the Blinebry zone to be through the casing-tubing annulus. Applicant further proposes, as an alternative manner of completion in the event the Blinebry gas cannot efficiently be produced through the casing-tubing annulus, to produce gas from the Blinebry zone through a string of 1-inch tubing.

CASE 2479: Application of Shell Oil Company for a 160-acre non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a 160-acre non-standard gas proration unit in the Tubb Gas Pool, comprising Lots 13 and 14 of Section 3, and Lots 9 and 16 of Section 4, Township 21 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the Livingston Well No. 11, located 3300 feet from the South line and 660 feet from the West line of said Section 3.

CASE 2314 (Reopened)
Application of Shell Oil Company for an exception to the gas-oil ratio provisions of Rule 26(A), Order No. R-1670, Lea County, New Mexico. The Oil Conservation Commission, on its own motion, will reopen Case No. 2314 in which the applicant seeks an exception to the gas-oil ratio provisions of Rule 26(A), Order No. R-1670, to permit its State Well No. 1-A, located 380 feet from the North line and 380 feet

from the West line of Section 26, Township 24 South, Range 36 East, Lea County, New Mexico, to remain classified a gas well in the Jalmat Gas Pool, with a gas-oil ratio below 100,000 to 1.

CASE 2480: Application of Shell Oil Company for temporary 80-acre proration units, Henshaw-Wolfcamp Pool, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a temporary order establishing 80-acre oil proration units for the Henshaw-Wolfcamp Pool, Eddy County, New Mexico. Applicant further seeks the establishment of special rules for said pool including a provision assigning the 80-acre proportional factor of 4.00 for allowable purposes.

CASE 2481: Application of El Paso Natural Gas Company for an exception to Order No. R-1670. Applicant, in the above-styled cause, seeks an exception to Rule 14(a) of the General Rules and Regulations for the Prorated Gas Pools of Northwestern New Mexico, Order No. R-1670, to permit the extension from February 1, 1962, to August 1, 1962, of the period during which underproduction of certain wells in the Basin-Dakota Gas Pool, San Juan County, New Mexico, may be produced.

CASE 2482: Application of El Paso Natural Gas Company for an exception to Order No. R-333-E. Applicant, in the above-styled cause, seeks the establishment of an administrative procedure whereby all operators, for good cause shown, may obtain an exception to Order No. R-333-E to permit the extension of the terminal date for the 1961 deliverability test period from December 15, 1961, to March 1, 1962, and the continued calculation and assignment of allowables to wells so excepted on the basis of currently effective deliverability tests with retroactive adjustment of allowables to February 1, 1962, being made upon the timely filing of the new deliverability test.

CASE 2483: Application of Aztec Oil & Gas Company for a pressure maintenance project, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks permission to institute the Aztec Totah Pressure Maintenance Project in Sections 18, 19, 20, 29, 30 and 34, Township 29 North, Range 13 West, San Juan County, New Mexico, in the Totah-Gallup Oil Pool with water injection initially to be through seven wells located in said project area, and requests adoption of special rules to govern the operation of said project.

CASE 2484: Application of Tenneco Oil Company for a pressure maintenance project in the Totah-Gallup Oil Pool, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks permission to institute a pressure maintenance project in the Totah-Gallup Oil Pool by the injection of water into the Gallup formation on its Glenn H. Callow Lease in Sections 27, 28 and 33, Township 29 North, Range 13 West, San Juan County, New Mexico. Applicant further proposes the promulgation of special rules and regulations to govern the operation of said project.

CASE 2485: Application of Union Oil Company of California for approval of the Red Tank Unit Agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Red Tank Unit Agreement embracing 3,680 acres, more or less, of Federal lands in Sections 14, 15, 22, 23, 26, 27 and 28, Township 22 South, Range 32 East, Lea County, New Mexico.

CASE 2486: Application of Union Oil Company of California for permission to take interference tests and transfer allowables, Anderson Ranch-Wolfcamp Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to take interference tests and to transfer allowables between eight wells in the Anderson Ranch-Wolfcamp Pool located in Sections 28 and 33, Township 15 South, Range 32 East, Lea County, New Mexico.

iqg/

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

COPY

January 5, 1962

Mr. Oliver Seth
Seth, Montgomery, Federici, and Andrews
Attorneys at Law
301 Don Gaspar Avenue
Santa Fe, New Mexico

Re: Case No. 2314 - Application of Shell Oil Company for an exception to the gas-oil ratio provisions of Rule 28(A), Order No. R-1670.

Dear Mr. Seth:

Following the hearing of the subject case on June 28, 1961, the Commission requested that further tests be made on the well in question and the results of those tests be submitted to the Commission. On December 11, 1961, the results of these tests were submitted to the Commission, as requested.

Several members of the Commission staff have reviewed the results of these tests and are of the opinion that any decision made in this case should be based upon the results of these tests.

Since the results of these tests are not part of the record in Case No. 2314 and since no opportunity for cross-examination with respect to them has been afforded to other counsel who made appearances in this case, the matter should be reopened at a hearing before Examiner Utz, who heard the case in the first instance.

The case is being set for hearing before Examiner Utz on January 24, 1962, at which time Shell may wish to appear

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

January 5, 1962

Mr. Oliver Seth
Seth, Montgomery, Federici, and Andrews
Attorneys at Law
Santa Fe, New Mexico

and present the test results and any other additional information which may have become available since the last hearing.

Very truly yours,

RICHARD S. MORRIS
Attorney

RSM/esr

cc: Mr. Jack Campbell
Campbell and Russell
Attorneys at Law
P. O. Drawer 640
Roswell, New Mexico

Mr. Clarence Hinkle
Hervey, Dow, and Hinkle
Attorneys at Law
P. O. Box 10
Roswell, New Mexico

COPY

SHELL OIL COMPANY

P. O. Box 1858
Roswell, New Mexico

December 11, 1961

Subject: Shell State 1-A
Section 36-24S-36E
Jalmat Gas Pool
Lea County, New Mexico

State of New Mexico
Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention Elvis A. Utz

Gentlemen:

In compliance with your directive of July 20, 1961, and relative to Case 2314, we have tested the subject well during August, September, and October 1961 at approximately the prescribed rates. Enclosed is a graphical presentation of the results of these tests. You will note that no fluids were produced at the first two prescribed rates. Further, you will note that the well was unable to maintain the prescribed 1500-1600 MCFPD after the well began producing fluids even though well flow was unchoked during the latter part of October. We believe the remainder of the enclosed graph to be self explanatory.

Please feel free to request any additional information that you may desire with regard to the producing characteristics of the subject well.

Yours very truly,

R. L. Rankin

R. L. Rankin
Division Production Manager

Enclosure

OIL CONSERVATION COMMISSION
BOX 871
SANTA FE, NEW MEXICO

COPY

July 20, 1961

Shell Oil Company
Roswell, New Mexico

Attention: Mr. Charles P. St. Laurent

Gentlemen:

After careful study of all material pertaining to Case 2014 it is the opinion of the commission staff that further tests should be run on your State 1-A, [redacted], Jalmat Gas Pool. We are therefore requesting that production tests be run as follows:

1. 30 days @ a daily rate of 1000 - 1100 MCFD

2. 30 days @ a daily rate of 800 - 400 MCFD

3. 30 days @ a daily rate of 1800 - 1600 MCFD

The above volumes shall be held as closely as possible to the prescribed rate by choking the well and shall be in the sequence prescribed above.

The liquid production shall be measured each day until the liquid production is stabilized. Thereafter a liquid measurement every two or three days may be used.

This test may be commenced as soon as convenient to the operator, however the commission would prefer it be commenced not later than August 1, 1961.

If you have further questions in regard to this matter please contact us.

Very truly yours,

E. A. UTZ
Engineer

EAU/ig

No. 18-61

DOCKET: EXAMINER HEARING - WEDNESDAY, JUNE 28, 1961

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, as alternate Examiner:

CONTINUED CASE

CASE 2298: Application of Chambers & Kennedy for a gas-oil dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Monument State Well No. 1, located in Unit J, Section 34, Township 19 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of gas from the Eumont Gas Pool and the production of oil from the Eunice-Monument Pool through the 5½-inch by 2½-inch casing-tubing annulus and through 2½-inch tubing respectively.

NEW CASES

CASE 2309: Application of Texaco Inc. for an oil-oil-oil triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its C. F. Falby (a) Well No. 4, located in Unit E, Section 8, Township 22 South, Range 37 East, Lea County, New Mexico, as a triple completion (conventional) in the Eumont Gas Pool, the Penrose-Skelly Pool, and the Drinkard Pool, the production of oil from each pool to be through parallel strings of 2 3/8-inch tubing.

CASE 2310: Application of Standard Oil Company of Texas for permission to transfer allowables, Lea County, New Mexico. Applicant, in the above-styled cause, during vertical communication tests, seeks permission to transfer allowables in the Vacuum Abo Pool for a 120-day period from its Vac-Edge Unit Well No. 4, located in the NW/4 NE/4 of Section 4, Township 18 South, Range 35 East, Lea County, New Mexico, to its Vac-Edge Unit Wells Nos. 3 and 6, located in the NE/4 NW/4 of said Section 4 and in the NE/4 NE/4 of said Section 4, respectively.

CASE 2311: Application of Continental Oil Company for an oil-oil dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks permission to complete its Britt B-15 Well No. 10, located in Unit F, Section 15, Township 20 South, Range 37 East, Lea County, New Mexico, as a dual completion (conventional) in an undesignated Blinebry Pool and in the Monument-Tubb Pool, the production of oil from each pool to be through parallel strings of 2-inch tubing.

CASE 2312: Application of Continental Oil Company for an exception to Rule 309 (a), Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 309 (a) to permit the commingling, after separate measurement, of the Maljamar-Paddock Pool production from the William Mitchell "A" lease, consisting of the N/2 of Sections 19 and 20, and from the William Mitchell "B" lease, consisting of the W/2 and the W/2 E/2 of Section 17, the E/2 and the E/2 W/2 of Section 18, and the S/2 of Sections 19 and 20, all in Township 17 South, Range 32 East, Lea County, New Mexico.

CASE 2313: Application of W. W. Holmes for an order fixing the spacing of wells, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks an order fixing the spacing of wells producing from the Mesaverde formation in the N/2 of Section 11, Township 18 North, Range 3 West, Sandoval County, New Mexico. Applicant recommends the establishment of two and one-half acre well spacing with no increase in the allowable to be assigned a basic 40-acre oil proration unit.

CASE 2314: Application of Shell Oil Company for an exception to the gas-oil ratio provisions of Rule 26 (A), Order No. R-1670, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the gas-oil ratio provisions of Rule 26 (A), Order No. R-1670, to permit its Shell State Well No. 1-A, located 380 feet from the North line and 380 feet from the West line of Section 36, Township 24 South, Range 36 East, Lea County, New Mexico, to remain classified as a gas well in the Jalmat Gas Pool, with a gas-oil ratio below 100,000:: 1.

CASE 2315: Application of Pan American Petroleum Corporation for a non-standard oil proration unit and for an unorthodox oil well location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of an 86.62-acre non-standard oil proration unit in the Totah-Gallup Oil Pool consisting of Lots 2, 3 and 4 of Section 12, Township 28 North, Range 13 West, San Juan County, New Mexico, to be dedicated to the Gallegos Canyon Unit Well No. 100 at an unorthodox location 476 feet from the North line and 1980 feet from the West line of said Section 12.

CASE 2316: Application of Pan American Petroleum Corporation for permission to dispose of salt water into the Wolfcamp formation, Lea County, New Mexico. Applicant, in the above-styled

CASE 2316: (Cont.) cause, seeks permission to dispose of produced salt water into the Wolfcamp formation through its Lois Wingerd Well No. 8 located 660 feet from the South and East lines of Section 24, Township 12 South, Range 37 East, Gladiola-Wolfcamp Pool, Lea County, New Mexico.

CASE 2317: Application of Pan American Petroleum Corporation for a pressure maintenance project in the Horseshoe-Gallup Oil Pool, San Juan County, New Mexico, and for special rules governing said project. Applicant, in the above-styled cause, seeks permission to institute a pressure maintenance project in the Horseshoe-Gallup Oil Pool by the injection of water into certain Northeast Hogback Unit wells in Sections 10, 11, 13, 14, 15 and 24, all in Township 30 North, Range 16 West, San Juan County, New Mexico. Applicant further seeks special rules governing the operation of said project.

CASE 2318: Application of El Paso Natural Gas Products Company for an order force-pooling a non-standard oil proration unit in the Cha Cha-Gallup Oil Pool, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests in the Cha Cha-Gallup Oil Pool lying North of the mid-channel of the San Juan River in the SE/4 of Section 17, Township 29 North, Range 14 West, San Juan County, New Mexico. Interested parties include Humble Oil & Refining Company, Pan American Petroleum Corporation, and A. L. Duff.

CASE 2319: Application of Tenneco Oil Company for a non-standard oil proration unit and for permission to commingle the production from separate leases, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of a 90.5-acre non-standard oil proration unit in the Cha Cha-Gallup Oil Pool consisting of lots 3 and 4 and the E/2 SW/4 of Section 31, Township 29 North, Range 13 West, San Juan County, New Mexico. Applicant further seeks permission to commingle the Gallup oil production from the subject unit with other Gallup oil production from the E/2 W/2 and from the E/2 of said Section 31 after separately metering the production from each area.

CASE 2320: Application of R. C. Banks for approval of the High Point Unit Agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the High Point Unit

CASE 2320: (Cont.) Agreement, which unit embraces 1920 acres of State land in Township 11 South, Ranges 34 and 35 East, Lea County, New Mexico.

The following cases will not be heard before 1:30 P.M.

CASE 2321: Application of Benson-Montin-Greer Drilling Corporation for an unorthodox oil well location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox oil well location in the Cha Cha-Gallup Oil Pool for its Jones Well No. 7, located 1200 feet from the North line and 900 feet from the West line of Section 15, Township 28 North, Range 13 West, San Juan County, New Mexico.

CASE 2322: Application of Southwest Production Company for an unorthodox oil well location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox oil well location in the Cha Cha-Gallup Oil Pool for a well to be drilled 2260 feet from the North line and 330 feet from the West line of Section 16, Township 29 North, Range 14 West, San Juan County, New Mexico.

CASE 2323: Application of Southwest Production Company for two non-standard oil proration units and for an unorthodox oil well location in the Cha Cha-Gallup Oil Pool, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the establishment of two non-standard oil proration units in the Cha Cha-Gallup Oil Pool, San Juan County, New Mexico, one unit consisting of the West 56.625 acres and one unit consisting of the East 56.625 acres of that portion of the SE/4 of Section 16, Township 29 North, Range 14 West, lying North of the mid-channel of the San Juan River; the West proration unit is to be dedicated to a well to be drilled at an unorthodox location 1912 feet from the South line and 2310 feet from the East line of said Section 16.

CASE 2324: Application of Aztec Oil & Gas Company for an order force-pooling a standard 320-acre gas proration unit, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order force-pooling all mineral interests in a standard 320-acre gas proration unit in the Basin-Dakota Gas Pool, consisting of the N/2 of Section 2, Township 29 North, Range 12 West, San Juan County, New Mexico.

CASE 2325: Application of Aztec Oil & Gas Company for a non-standard oil proration unit in the Totah-Gallup Oil Pool, San Juan County, New Mexico. Applicant, in the above-styled cause,

CASE 2325: (Cont.) seeks the establishment of an 86.13-acre non-standard oil proration unit in the Totah-Gallup Oil Pool, consisting of Lot 1, the NE/4 NW/4 and the NW/4 NE/4 of Section 30, Township 29 North, Range 13 West, San Juan County, New Mexico, to be dedicated to the Hagood Well No. 28-G located 765 feet from the North line and 3175 feet from the East line of said Section 30.

CASE 2326: Application of David Fasken for permission to drill directionally, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks permission to sidetrack and recomplete the David Fasken-King-Davis Well No. 2, located 1980 feet from the North line and 1980 feet from the West line of Section 27, Township 8 South, Range 37 East, Roosevelt County, New Mexico, in such a manner as to locate the bottom of the hole in the Bough "C" formation of the Bluitt-Pennsylvanian Pool 300 feet West of said surface location.

CASE 2327: Application of the Oil Conservation Commission on its own motion to consider the establishment of non-standard gas proration units for the Basin-Dakota Pool in Townships 29, 30, 31 and 32 North, Ranges 4, 5, 6, 7, 8, 9, 11,12, 13 West, San Juan and Rio Arriba Counties, New Mexico. Said non-standard units are necessitated by irregular sections resulting from survey corrections in the United States Public Lands Survey.

ig/

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SETH, MONTGOMERY, FEDERICI & ANDREWS
ATTORNEYS AND COUNSELORS AT LAW
301 DON GASPAR AVENUE
SANTA FE, NEW MEXICO

POST OFFICE BOX 828
TELEPHONE YU 3-7315

J. O. SETH
A. K. MONTGOMERY
OLIVER SETH
WM. FEDERICI
FRANK ANDREWS
FRED C. HANNAHS
GEORGE A. GRAHAM, JR.

May 19, 1961

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Re: Application for Exception to
GOR Provisions of Rule 26A,
Order No. 1670
Shell State 1-A, Jalmat Field

Gentlemen:

Please consider this letter an application for hearing for an exception to the gas-oil ratio provisions of Rule 26A, Order No. 1670 which are the special pool rules for the Jalmat Field. The requested exception is for the Shell State 1-A Well which is located 380 feet from the north and west lines of Section 36, Township 24 South, Range 36 East in Lea County, New Mexico.

It is requested that permission be given by way of an exception to permit the subject well to remain classified as a gas well although and when the gas-oil ratio falls below 100,000.

It will be appreciated if this can be set down for a hearing before an examiner at an early date.

Very truly yours,

SHELL OIL COMPANY

By SETH, MONTGOMERY, FEDERICI & ANDREWS, Its Attorneys

By

OS:wcl

6-15-61

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WESTERN UNION
TELEGRAM

W. P. MARSHALL, PRESIDENT

SYMBOLS
DL=Day Letter
NL=Night Letter
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1201 (4-60)

1962 JAN 23 AM 9:51

The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of destination

MAIN OFFICE 000

1962 JAN 23 AM 9:51

L LA042 DB075
D MDA048 PD=FAX MIDLAND TEX 23 1014A CST=
NEW MEXICO OIL CONSERVATION COMM, STATE LAND OFC BLDG=
ATTN A L PORTER SANTA FE NMEX=.

IN REFERENCE TO CASE 2314 WHICH HAS BEEN RE-OPENED ON THE JANUARY 24, 1962, DOCKET, HUMBLE OIL AND REFINING COMPANY WISHES TO REITERATE ITS POSITION SET OUT IN OUR TELEGRAM OF JUNE 27, 1961, IN THE ORIGINAL HEARING ON THIS MATTER. IT IS EMPHASIZED AGAIN THAT HIGH GAS OIL RATIOS ARE COMMON IN THE JALMAT OIL POOL AND THE WELL FOR WHICH SHELL REQUESTS EXCEPTION APPEARS SIMILAR TO MANY OTHER JALMAT OIL WELLS. IT IS URGED THAT THE COMMISSION DENY SHELL'S REQUEST=
HUMBLE OIL AND REFINING CO R R MCCARTY BY H E MEADOWS=.

CLASS OF SERVICE
This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION
TELEGRAM

W. P. MARSHALL, PRESIDENT

1201 (4-60)

SYMBOLS
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1961 JUN 27 PM 4 31

VLA182 BB395
D MDA253 PD=FAX MIDLAND TEX 27 510P CST=
NEW MEXICO OIL CONSERVATION COMMISSION, ATTN A L PORTER
JR= SANTA FE NMEX=

June 28th Hearing

IN REFERENCE TO CASE 2314, HUMBLE IS OPPOSED TO SHELL'S REQUEST FOR EXCEPTION TO THE GAS=OIL RATIO PROVISION OF ORDER R=1670, RULE 26 (A). HUMBLE'S S W HARRISON 1 IN SECTION 25, T=24=S, R=37=E, DIRECTLY OFFSET BY SHELL'S STATE 1=A, PRODUCES DRY GAS. IT IS OUR UNDERSTANDING THAT SHELL STATE 1=A PRODUCES WITH A GAS=OIL RATIO OF APPROXIMATELY 20,000 CUBIC FEET PER BARREL. MANY JALMAT OIL WELLS PRODUCE WITH SIMILAR RATIOS; FOR INSTANCE, THE RANGE OF GAS=OIL RATIOS ON

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION

TELEGRAM

W. P. MARSHALL, PRESIDENT

1201 (4-60)

SYMBOLS

DL = Day Letter

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The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of destination

HUMBLE'S JALMAT OIL WELLS INS FROM 7212 TO 40,386 CUBIC FEET PER BARREL. HUMBLE IS OPPOSED TO SHELL'S REQUEST ON THE GROUNDS THAT HUMBLES CORRELATIVE RIGHTS WOULD BE VIOLATED IF THIS EXCEPTION WERE GRANTED AND FURTHER, THE SHELL STATE 1=A GAS=OIL RATIO IS NOT EXCEPTIONAL FOR WELLS CLASSIFIED AS JALMAT OIL WELLS=

HUMBLE OIL & REFINING CO H L HENSLEY BY HENRY E MEADOWS==

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
February 21, 1963

IN THE MATTER OF:

The hearing called in accordance with Order No. R-2191, to permit Shell Oil Company to appear and show cause why its State Well No. 1-A, located in Unit D, Section 36, Township 24 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico should not be reclassified as an oil well in said pool.

Case No. 2314

BEFORE:

Elvis A. Utz, Examiner
A. L. "Pete" Porter

TRANSCRIPT OF HEARING

MR. UTZ: We will now take Case 2314.

MR. DURRETT: In the matter of hearing called in accordance with Order No. R-2191 to permit Shell Oil Company to appear and show cause why its State Well No. 1-A, located in Unit D, Section 36, Township 24 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, should not be reclassified as an oil well in said pool.

MR. MORRIS: If the Examiner please, I am Richard Morris of the Santa Fe law firm of Seth, Montgomery, Federici and Andrews, appearing for the Applicant, Shell Oil Company, in this case. We have one witness to present testimony. Mr.

Stokes.

(Witness sworn.)

MR. UTZ: Any other appearances in this case? You may proceed.

D. D. STOKES

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

DIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Stokes, will you state your name and position?

A My name is D. D. Stokes. I am Senior Reservoir Engineer for Shell Oil Company in Roswell, New Mexico.

Q Mr. Stokes, are you familiar with Case 2314 and its preferred counter parts?

A Yes, sir, I am.

Q And are you familiar with the subject of the case, being Shell's State Well No. 1-A and its performance?

A Yes, sir.

Q Would you give to the Examiner and to those present a resume of the history of this case to the present time?

A In May of 1961, we made application for an exception to Rule 26(A), Order No. R-1670, that is the rule governing gas-oil ratios in the Jalmat Gas Pool which provides gas-oil ratio less 100,000 to 1 should be classified as oil wells. Our well, at that time, on high gas rates, produced with the ratio of less

than 100,000 to 1. We appeared before the Commission on June 28, 1961, and at that time, were instructed to test the well at prescribed rates for a period of three months. We agreed to these tests and turned in the information to the Commission and another hearing was called in January of 1962. At that time we presented the testimony gathered from these tests, which showed that at rates of one million a day the well produced in liquid and rates of one million four to one million seven a day it produced oil and water. We tested the well at maximum gas rate that would be allowed for an oil well, which would be ten thousand times the unit allowable, and at this rate, the well also made no liquid.

Q Was an order of the Commission entered following the hearing on January the 24th?

A Yes, the Commission issued an order denying our application on the grounds no relief was needed since the well, when produced at the rate of a million a day, produced in liquid. The order contained provisions that we should produce the well at a rate not to exceed one million a day, subject to the allowable restrictions, and that we should report to the Commission at the end of each six-month period the gas-oil ratio on the well.

MR. MORRIS: At this point, I would assume that the record made in the previous hearings of this Case No. 2314 will be considered by the Examiner and by the Commission in this case

and we ask that the Commission give its consideration to the exhibits and to the testimony presented in the previous cases, even though this witness will show where the information has changed at this point.

MR. UTZ: Examiner will take administrative notice of all exhibits in the previous cases, as relative to the performance of the well at that time.

Q Mr. Stokes, you made reference to a finding in the previous order which denied your application. I refer you to Order No. R-2191, entered by the Commission on February 22, 1962, and I ask you that you read Finding No. (3).

A It states: "That the evidence presented at the hearings of this matter reflects that the above-described State Well No. 1-A would not produce liquids and the gas-oil ratio would be greater than 100,000 to 1 when the said well was produced at a rate not exceeding one million cubic feet per day."

Q Based upon that finding, the Commission decided that at that time no exception was needed?

A That is correct.

Q Has that picture changed, and do you have information showing you feel an exception is needed at this time?

A Yes, sir. The well now produces liquid at considerably lower gas rates than a million a day. I have prepared two exhibits, one of which shows the gas production and oil production in gas-oil ratio during the year of 1962. The other

one shows a special test taken during February.

Q Now, that first exhibit you referred to has been marked Exhibit No. 1 in this reopened case?

A Yes.

Q Referring to Exhibit No. 1, would you explain what that shows?

A Well, the order directing us to produce a rate not to exceed a million a day was issued on February the 22nd, however, we did not receive notice until March 15th. Looking at this graph, the unshaded on that hashered curve shows gas production, and after March 15th, our gas production rates did not exceed a million a day, except, I believe, on one 2-day periods until late in November of the year. You can also see from the gas-oil ratio curve, which is the jagged line in the center of the graph for the most part, that the general trend of gas-oil ratio throughout the year was down, producing at a rate of a million cubic feet a day in March and we had a ratio of about 35,000 to 1, while producing at that same rate in October, our ratio averaged about 20,000 to 1 flow.

Q The gas-oil ratio scale as shown on the right-hand margin of this exhibit?

A That is correct.

MR. UTZ: What is the gas-oil ratio curve, that heavy line?

THE WITNESS: That is the heavy line in the center of

the graph. For the most part, it does go up over to 100,000 to 1 in a few cases. The shaded area at the bottom is oil production, with the scale over on the left, barrels per day. Now, there is one period through here that covers about two months, from the middle of June until the middle of August, when the rate was quite stable at approximately 800,000 cubic feet per day there. During this period, the oil production rate was fairly stable at a rate of 30 barrels per day and the ratio through that period was stable at 20,000 to 1.

Q You feel that two-month period is fairly representative of the characteristics of this well during the period shown on the graph?

A Yes, sir, that is correct and it covers, with the testimony we presented previously, where the well produced no liquid at a rate of a million cubic feet a day, showing amount of drawdown to create oil and water production had decreased during the year.

Q Referring now to what has been marked as Exhibit No. 2, Mr. Stokes, will you explain what that shows?

A This shows the results of a special test that we made early in February, tests running from the 8th until the 18th. We tried to produce the well at the gas rate equivalent to where we would be allowed as an oil producer, in other words, the 10,000 to 1 build-up rate, 26 barrel a day unit allowable. During the early part of the test, the weather was quite cold

and we had trouble chocking and greasing and we were able to produce the well only part of the day. Notice on the 10th, we produced 6 hours, 3 hours at the normal rate, and we were having freezing trouble and had to open the well up to try to keep it flowing. For that extra three-hour period it was producing at a rate of about one million four a day or produced about five barrels of oil. It warmed up about the 12th and we were able to get a six-day test at rates between 360,000 a day and 475,000 a day. During this period we produced no liquid. You might say that the maximum gas production rate for Jalmat Oil Well is 360,000 cubic feet a day.

Q In other words, Mr. Stokes, this special test was designed to more than operate at oil well rates and you could produce only gas and no liquid?

A That is correct.

MR. UTZ: Was this test taken through tubing?

THE WITNESS: Yes, sir.

Q What conclusions can you draw from these two exhibits that would be relevant to this case?

A Referring to both exhibits, there are places here that a gas-oil ratio is less than 10,000 to 1. This generally occurs when a well is pulled at a hard rate. If we tested a well in excess of 100 barrels of oil a day, we would have a top allowable well, with a ratio of less than 10,000 to 1. Since we would be limited to 36 barrels a day, looking back in the

July of '62 period, if we produced at 36 barrels a day at a gas-oil ratio of 27,000 to 1, this would then penalize us to 14 barrels a day.

Q You are referring now to the penalty due to the 10,000 to 1, limiting ratio for wells classified as oil wells?

A That is correct. And our production in early May, at around 14 barrels a day, we had gas-oil ratio of 47,000 to 1; that would further penalize us. Eventually, we would reach a point where we would be penalized nothing and we would have no oil allowable and we would produce free of liquid, with a ratio in excess of 100,000 to 1.

Q So we are back to the same problem, are we not, Mr. Stokes, if you produce this well at gas well rates, you will make some oil, but if you produce it at oil well rates, you will produce only gas?

A That is correct.

Q And is there any point where the well could be produced in accordance with the rules, taking into account the definition of a gas well as being a well with the ratio of more than 100,000 to 1, and taking into account the limitation upon oil wells of a limiting ratio 10,000 to 1?

A No, sir, there is no point that it can be produced as a gas well without making oil, without severely reducing the allowable well.

Q Going back to the finding that you read earlier in

Order No. R-2191 that says that no exception was needed because if the well were produced at 100 MCF per day, the gas-oil ratio would be greater than 100,000 to 1 and it still could be considered a gas well, is that true today?

A No, that is no longer true.

Q What happens today if it is produced at the rate of a thousand MCF per day?

A Makes about 50 barrels of oil per day at that rate.

Q What is the general trend in this well of the producing characteristics?

A The overall trend throughout this year has been far below GOR with each succeeding month. Prior to this year, when we produced the well at one million cubic feet a day ratio in excess of 100,000 to 1 in December, producing at a million cubic feet a day ratio only 20,000 to 1. So I believe the general trend shows that ultimately this will become an oil well, but at the present time, it is still not capable of producing oil at oil allowable rates.

Q From that, could you conclude that the exception that was sought in the original case is needed even more today than it was then?

A Yes, sir.

Q And if that exception is granted, and the well is allowed to produce as a gas well, what will happen to your problem here?

A Well, I believe that if we can produce this as a gas well, we will ultimately draw the pressure down far enough so that oil can be produced at low gas rate. When this occurs, the well should be reclassified as an oil well. However, if we are classified as an oil well now, the well won't produce any liquid and it's a good chance that the pressure drawdown will never be sufficient to permit oil to flow at low gas rates.

Q What is your specific request of the Commission at this point?

A We feel, in view of the unusual production characteristics of this well, and which to my knowledge are unique in New Mexico, we feel an exception to this rule is in order and request the well be continued to be classified as a gas well until at least it is able to produce oil at oil well rates. We further suggest that the well be tested at the end of each three-month period at the gas rates equivalent to the maximum gas allowable for Jalmat Oil Well in order to determine whether its classification should be changed.

Q Now, let me be sure I understand your proposal to the Commission, Mr. Stokes. Shell is still seeking an exception to Rule 26(A) of the special rules for Jalmat Gas Pool?

A Yes, sir.

Q Which would exempt it or allow it to be classified as a gas well, even though its gas-oil ratio falls below 100,000 to 1?

A That is correct.

Q And you suggest that that exception be granted until such time as oil can be produced at rates of gas production, which would be constant with the production of oil within the normal unit allowable?

A Yes.

Q And to determine that point, you suggest that tests be taken at three-month intervals and submitted to the Commission?

A Yes, sir, that is correct.

Q Now, if your request is granted, Mr. Stokes, will correlative rights be fully protected in the area?

A Yes, sir, I believe so. At the original hearing we presented as an exhibit two cross sections, a structure map of this area. These exhibits showed that the closest oil well to the Jalmat Oil Well is the T. P. Coal and Oil Watkins No. 1 location to the west completed at about the same structural position as our well and yet is produced as an oil well, with oil-gas ratio for two years top allowable well. The two closest oil-gas wells are north offset and northwest offset, structurally with our well, yet, produce gas without any liquid. This, to me, indicates that the production we are getting is from an isolated stringer, not present in any of the offsetting wells and will probably not be drained unless we are able to get it from our well.

Q And from that, would you further conclude, Mr. Stokes,

that a possibility of waste would be present if the request is not granted?

A Yes, if we produce the well as an oil well now and produce no liquid, there is.

Q Is there a chance that a drawdown will never become sufficient for allowable oil flow?

A Since the stringer apparently is not being drained by nearby wells, it will never be drained.

Q Were Exhibits 1 and 2 prepared by you or under your direction?

A Yes, they were.

MR. MORRIS: Mr. Examiner, we offer Shell Exhibits 1 and 2 in the reopened case and into evidence and that concludes examination of this witness at this time.

MR. UTZ: Without objection, Exhibits 1 and 2 will be entered into the record.

CROSS EXAMINATION

BY MR. UTZ:

Q Mr. Stokes, I don't understand why you will not receive enough drawdown to eventually pool the oil in the well bore under the 360 MCF a day gas rate as compared to something like 800 to a million a day?

A Well, the well makes quite a bit of water in addition to oil. I feel there is a good chance the water will block that formation if it is allowed to come in contact with it over

a long period of time when there is no oil flow.

Q Rather than the process of lowering the pressure, its lowering the rate of flow that you are worrying about to pull the oil into the well bore.

A Well, from the well performance, you have to draw the pressure down more than eight per cent in order to start oil flow. Of course, the rate at which the well produces in order to reach the eight per cent drawdown has decreased over the past year and I believe will continue to decrease. At the same time, we are faced with the same problem of pumping water at the same time as oil when we produce at these rates. I am afraid that if we shut the well down to a rate of 360,000 a day, which rate it produces in liquid, that the water could block the oil bearing zone, wherever it might be.

Q (By Mr. Morris) When the reservoir pressures get lower?

A Yes, sir.

MR. MORRIS: Mr. Examiner, in connection with your question, might I ask another question?

MR. UTZ: Yes.

REDIRECT EXAMINATION

BY MR. MORRIS:

Q Mr. Stokes, at that low rate of flow, would your well be producing gas at economic rates?

A Well, yes.

Q I don't mean just in paying quantity but would it be an economic proposition to produce the gas at such reduced rates?

A It would seem to be somewhat unfair, you might say, to have a penalized gas well that is capable of producing more gas. We would still make small amounts of money on it but certainly not as much as at the normal gas rate.

Q At those rates, it would be classified as an oil well but would be producing no oil?

A Yes, that is correct. If it were classified as an oil well, we probably would lose income.

MR. MORRIS: That is all I have on that line, Mr. Examiner.

MR. UTZ: Any other questions of this witness? The witness may be excused.

MR. MORRIS: I would like to make a brief observation, Mr. Examiner. The witness has testified and it has been shown in previous hearing of this case that this is truly a unique situation. If the well is classified as a gas well, then it will produce oil and gas. If it is classified as an oil well, it will produce gas oil and produce no oil only. Truly and nominally, we feel that in this type of a situation which has no counter part anywhere in New Mexico, according to the witness' testimony, that an exception is in order and should be granted by the Commission.

MR. UTZ: Any other statements? The case will be taken

under advisement.

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STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ELAINE BUCHANAN, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF I have affixed my hand and notarial seal this 16th day of April, 1963.

Elaine Buchanan
Notary Public - Court Reporter

My Commission Expires:

October 14, 1966.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2714, heard by me on Feb 21, 1962.

, Examiner
New Mexico Oil Conservation Commission

I N D E X

EXHIBITS

NUMBER	MARKED FOR IDENTIFICATION	OFFERED	ADMITTED
#1	6	13	13
#2	7	13	13