

Case No.

428

Application, Transcript,
Small Exhibits, Etc.

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. 428
ORDER No. R-215

THE APPLICATION OF SHELL OIL
COMPANY FOR AN ORDER GRANTING
PERMISSION TO DUALY COMPLETE
AND PRODUCE ITS SHELL-STATE "A",
NO. 1 WELL, IN THE EUNICE-MONUMENT
POOL, LOCATED IN THE SE/4 SE/4
SECTION 35, TOWNSHIP 19 SOUTH, RANGE
36 EAST, NMPM, LEA COUNTY, NEW
MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o' clock a.m. on November 20, 1952, at Santa Fe, New Mexico, before the Oil Conservation Commission, hereinafter referred to as the "Commission".

NOW, on this *28th* day of *November*, 1952, the Commission, a quorum being present, having considered the records and the testimony adduced, and being fully advised in the premises,

FINDS:

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

(2) That applicant's Shell-State "A", No. 1 SE/4 SE/4 Section 35, Township 19 South, Range 36 East, NMPM, Lea County, New Mexico, was completed in June 1935 as an oil well producing from the Grayburg formation in the open-hole interval 3800-3929, having drilled through the Seven Rivers-Queen gas zone, at an approximate depth of 3100-3350 feet.

(3) That although recent experiments tend to show that mechanical packers and other devices are ordinarily available for successful dual/multiple completions of oil - gas wells, the Commission is unconvinced of the soundness, as a waste-prevention practice, of such dual/multiple completions as a general practice in New Mexico without specific controls over each such project

IT IS THEREFORE ORDERED:

That the applicant herein, Shell Oil Company, be, and it hereby is authorized to dualy complete and produce its Shell-State "A", No. 1 well, SE/4 SE/4 Section 35, Township 19 South, Range 36 East, NMPM, Lea County, New Mexico, in such a manner that gas from the Seven-Rivers-Queen formation may be produced through the annular space between the casing and tubing, and oil from the Grayburg formation through the tubing by proper perforations and installation of a proper packer or packers;

PROVIDED, HOWEVER, That subject well shall be completed, and thereafter produced, in such a manner that there will be no commingling within the well bore, either within or outside the casing of gas, oil and gas, or oil produced from either or both of the separate strata, and,

PROVIDED FURTHER, That said subject well for dual completion and production shall be equipped in such a way that reservoir pressures may be determined separately for each of the two specified strata, and further, be equipped with all necessary connections required to permit recording meters to be installed and used, at any time, as may be required by the Commission or its representatives, in order that natural gas, oil, or oil and gas from each separate stratum may be accurately measured and the gas-oil ratio thereof determined, and,

PROVIDED FURTHER, That the operator applicant shall make any and all tests, including segregation tests, but not excluding other tests and/or determinations at any convenient time and in such manner as deemed necessary by the Commission; the original and all subsequent tests shall be witnessed by representatives of the Commission and by representatives of offset operators, if any there be, at their election, and the results of each test properly attested to by the applicant herein and all witnesses, and shall be filed with the Commission within ten (10) days after the completion of such test, and,

PROVIDED FURTHER, That upon the actual dual completion of such subject well, applicant shall submit to the Commission a diagrammatic sketch of the mechanical installation which was actually used to complete and produce the seal between the strata, and a special report of production, gas/oil ratio and reservoir pressure determination of each producing zone or stratum immediately following completion.

IT IS FURTHER ORDERED: That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order after proper notice and hearing, the Commission may terminate the authority hereby granted and require applicant or its successors and assigns to limit its activities to regular single-zone production in the interests of conservation.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


EDWIN L. MECHEM, Chairman


GUY SHEPARD, Member


R. R. SPURRER, Secretary

S E A L

OF THE COMMISSION

DEC 3 1952

THE
OIL REFINERY COMMISSION
ALBUQUERQUE, NEW MEXICO

THE SOLUTION OF THE

ALBUQUERQUE, NEW MEXICO
437

November 20, 1952

E. E. GREESON
ADA DEARNLEY
COURT REPORTERS
BOX 1302
PHONES 5-9422 AND 5-9546
ALBUQUERQUE, NEW MEXICO

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

November 20, 1942

In the Matter of:

State A-1-SE SE 35-19S-36E - Oil from Grayburg
and gas from Seven Rivers - Queen (Eunice-Monument
Pool) (428)
State C-2-SE NE 24-19S-36E - Oil from Grayburg
and gas from Seven Rivers - Queen (Eunice-Monument
Pool) (429)
State L-2-SE SE 1-21S-35E - Oil from Queen-Grayburg
and gas from Yates-Seven Rivers (Eunice-Monument Pool) (430)
State A-2-NE NE 12-21S-35E - Oil from Queen Grayburg
and gas from Yates-Seven Rivers (Eunice-Monument Pool) (431)
State M-1-Lot 8 of 1-21S-35E - Oil from Queen-Grayburg
and gas from Yates-Seven Rivers (Eunice-Monument Pool) (432)
State H-2-NE NE 13-21S-35E - Oil from Seven Rivers -
Queen and gas from Yates formation (Eunice-Monument
Pool) (433)
State M-4-Lot 16 of 1-21S-35E - Oil from Grayburg and
gas from Yates-Seven Rivers (Eunice-Monument Pool) (434)
State F-1-NE SE 29-19S-37E - Oil from Grayburg and gas
from Seven Rivers - Queen (Eunice-Monument Pool) (435)
Livingston #8 - Lot 14 of 3-21S-37E - Oil from Drinkard
and gas from Blinbry (Drinkard Pool) (436)
Livingston #9 - SE SW 3-21S-37E - Oil from Drinkard and
gas from Blinbry (Drinkard Pool) (437)

Cases No. 428 through 437.

(Notice of Publication read by Mr. Graham.)

MR. SETH: These are all gas-oil dual completions, may
they be consolidated for trial?

MR. SPURRIER: Certainly.

MR. SETH: We will present all the data as to the wells
first.

W. A. SCOTT

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

By MR. SETH:

Q Just state your name for the record, Mr. Scott.

A W. A. Scott.

Q By whom are you employed?

A Shell Oil Company.

Q Where?

A Hobbs, New Mexico, as Exploitation Engineer.

Q Have you previously testified as an expert before the Commission?

A Yes, sir, I have.

MR. SETH: Are his qualifications admissible?

MR. SPURRIER: They are.

MR. SETH: If the Commission please we would like to start with the Drinkard Pool wells.

Q Do you have a map showing the proposed locations of the Drinkard wells?

A Yes, I do.

(Shell's Exhibit No. 1 Marked for Identification.)

Q Referring to Shell's No. 1, Mr. Scott, would you state, please, first what the map or plat indicates?

A This is a plat of the general area surrounding the two wells which we have applied for, Drinkard Oil Blinbry gas dual

completions. We show here, circled in red, our two proposed duals, Livingston No. 8 and Livingston No. 9. We also show, marked with a solid green circle, the presently completed Blinebry gas wells and with a dotted green circle those wells for which dual completions have been approved for Blinebry-Drinkard duals and which will be dually completed in the near future.

Q Are there other gas-oil dual completions in the vicinity?

A Yes, sir, there are.

Q Briefly what are the results of the drill stem test in the nearby wells?

A Referring to the Exhibit No. 1, in Section 3, which is the section in which our two applied for wells are located, you will notice that the Shell-Livingston section had a drill stem test of the Blinebry gas shown which flowed seven and one-half million cubic feet per day. Shell-Livingston No. 4 in the same section had a drill stem test of the Blinebry which flowed ten million cubic feet per day. Then in the section immediately west of that, the southeast corner of the section, the Stanolind No. 4 well had a drill stem test of the Blinebry which flowed two and eight tenths million cubic feet per day.

Q Would you state the relative locations of the Drinkard and Blinebry formations?

A Both formations, I am referring now to an electrical log a copy of which was furnished with the application to dually complete these wells, both formations are ⁱⁿ the middle permian, the top of the Blinebry is the zone from approximately - - well, the

Blindery itself covers the zone from approximately 5600 to 5800, the Drinkard covers the zone from approximately 6500 to 6700.

Q Would you state, please, the procedure that will be followed in dually completing these wells if the Commission grants it?

A I am referring now to a sketch of the proposed mechanical installation as was furnished the Commission with the application to dually complete these wells, in which we show that we will set a model, Baker model D retainer production packer between the Blinebry and the Drinkard zones, that side door choke equipment will be run in the tubing string above the production packer so that all tests that our company desires to take, in addition to the required tests of the Commission, may be adequately taken.

Q Do you believe that your method of completion will adequately provide for a separation in the well bore?

A Yes, sir, it will. I might add that this is the identical method of dual completion in which we have used on other Commission approved dual completions in this area, in which an effective separation has definitely been proved and reported to the Commission.

Q That will provide for the determination of reservoir pressure separately and other data?

A Yes, sir, it does.

MR. SETH: If the Commission please we would like to have considered as a part of the record the log and the diagrammatic sketch which was filed with our application, if it is agree-

able.

MR. SPURRIER: Without objection they will be received.

MR. SETH: We would like also, in the interest of brevity, to have the statements in our application, with reference to these specific well locations and completion dates, the open hole intervals and the gas zones, be made a part of the record as if they were testified to at this hearing. We would like next to consider the general data on the Eunice-Monument Pool wells. These are Cases 428 to 435, inclusive.

Q Mr. Scott, you have a map showing the location of the proposed completions in these areas?

A Yes, sir, I do.

(Shell's Exhibit No. 2 Marked
for Identification.)

Q Would you state what this map shows as to both areas concerned here, Mr. Scott?

A Yes, sir. In these cases this map serves the purpose of showing the location of all 8 of Shell's proposed gas-oil dual completions of which three are in the northern, or Monument area, and five are in the southern, or Eunice area, the proposed Shell dual completions marked in red. In addition we also show some of the nearby competitor gas wells which are now producing gas from the reservoir in which we were intending to produce gas by the dual completions. These wells are circled in yellow and underneath in green is the cumulative gas recovery as of October 1st, 1952, in million cubic feet for those competitor wells.

Q Are there applications made to meet directly competitive withdrawals of gas from the reservoir?

A Yes, we have applied to dually complete these wells so as to develop a proved gas reserve and also to meet the competitive withdrawal situation.

Q Do you believe that the gas reserves have been reasonably well proved in this field in the two areas up to this point?

A Yes, sir, we have made a detailed study of the gas reserves in this area and we feel that they are proved to the extent of justifying our applications to develop them.

Q At the present time there is gas and oil production in both areas in the field?

A Yes, sir, there is.

Q Do you plan to run electric logs during the process of the dual completions, if they are permitted?

A Yes, sir. They will be radioactive logs. If these applications are permitted we will, I might add here that in some of these wells we do not have logs on them due to the fact that they are older wells, therefore if permission is granted we will run radioactive logs on each and every well and furnish that to the Commission.

Q Will your intervals be determined more exactly for the completions after the study of these logs is made?

A Yes, sir, in our application we submitted a tape log of the area, composite log, and at the same time gave approximate interval for the production. After we run the radioactive logs

that interval will be more definitely determined and we will definitely state those intervals at the time we furnish the radioactive log to the Commission.

Q Will your completion procedure and the mechanical devices used be essentially the same as you have testified to as to the Drinkard wells?

A Yes, sir, they will be to the Drinkard-Blinebry-Tubb.

Q Drinkard-Blinebry combination?

A Yes, sir.

Q The gas will be produced through what?

A Produced through the tubing, casing annulus and also through the tubing.

Q In your opinion will this type of procedure insure - -

A Yes, it will. We have found by previous experience in the Drinkard area that it has been found satisfactory and we and we expect it to be here in this case.

Q Is there any more general data, Mr. Scott, on these two areas?

A No, none that I know of. I believe that amply covers any general data that would be necessary unless there are any questions on it.

MR. SETH: We would like to ask the Commission again to have the diagramatic sketch and the logs which were filed with the application to be considered as part of the record in this case. We also offer Shell's Exhibit No. 2, the map, in evidence at this time.

MR. SPURRIER: Without objection they will be received.

MR. SETH: Would it be agreeable with the Commission again to have the data as to well locations and completion dates, the open hole intervals, the descriptions of the gas zones and the names of the two formations be considered a part of the record as taken from the application rather than having the witness testify to each well individually?

MR. SPURRIER: Without objection it will be done.

MR. SETH: Is there anything further, Mr. Scott, that you would like to testify to?

A No, sir, I believe that adequately covers the situation. I might add that based on our experience in the Drinkard-Fusselman area that we feel confident that the mechanical installation will be sufficient and naturally as in previous dual completions all records and required affidavits and statements will be furnished the Commission at the time of the dual completions.

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

MR. SPURRIER: Are there any questions of this witness?

MR. MACEY: First of all, Mr. Scott, up in the north end of the Monument field where I have particular reference to Township 19 South, what are you going to do with the gas that is produced from these dual completions?

A That gas will be sold. There is a definite firm market for that gas. It will be sold to transmission.

MR. MACEY: Is that going to go through the gasoline plant, is what I am getting at.

A No, sir, this will be a dry gas which I imagine, as far as I know, will go directly to the transmission company. I might add here that the gas in the Durio-Monument area is classified as a dry gas whereas the gas in the Blinbry Tubb area around Drinkard has distillate recoverable obtainable from it.

MR. MACEY: One other question I have on the Blinbry-Drinkard wells, did you run any temperature surveys on those wells when you began your production string?

A On the Blinbry-Drinkard wells?

MR. MACEY: Yes, that is the Livingston.

A Yes, sir, I think we did run temperature surveys on those, with regard to the top of the cement behind the oil string and found that they were adequate. I might add there, that regard to these wells, an investigation was made as to the calculated fill up of the cement behind the oil strings in these presently producing oil wells that we propose dual completions in and it was found that there was adequate cement for calculated fill up to go well above the gas zone in each case for each one of the particular wells. We investigated that thoroughly.

MR. MACEY: Mr. Scott, according to Mr. Spurrier it has been a practice to have one hundred and sixty acres assigned to a producing gas well. in the southeast, New Mexico. Do you intend to make some arrangements with your offset? I notice in one case here you have only got 40 and in the entire section, and in another case the same thing, you have only got a 40 in a quarter

of 160.

A Yes, sir, I might add there that we certainly do intend to make arrangements at the time that proration takes place. I would like to explain that at this time in the area of competitive withdrawals there are presently producing gas wells by competitors on 40 acre units and on 80 acre units which tends to present a competitive withdrawal situation as far as our acreage is concerned. Our acreage is on State land and naturally we feel that to protect the correlative rights of State ownership from withdrawal at the present time that it is only prudent operation that we produce this gas now. Then at such time when proration takes place and 160 acre units should be established naturally we would certainly take our fractional part if we were unable or unsuccessful in obtaining unitization agreements with the surrounding operators.

MR. SPURRIER: Are there any further questions of this witness?

MR. WALKER: Don Walker, with Gulf. Mr. Scott, did you name your transmission company or do you know yet who that would be?

A No, sir, I didn't name that because I don't know. I understand that there have been arrangements made but, I have been assured that arrangements are being made but that comes under another department with the company. I don't know just who that company is at the present time. I have been told that arrangements have been made to take this gas immediately upon the dual-

completions of the well, if it is permitted.

MR. WALKER: Have you anticipated your withdrawal rates?

A The withdrawal rates?

MR. WALKER: Yes, in other words how much gas would you produce from these wells?

A No, no, sir, we have not anticipated any withdrawal rates.

MR. WALKER: So have no production now, whatever the company needs you will try to supply?

A If possible, yes, sir.

MR. WALKER: That is all.

MR. SPURRIER: Any further questions? If not the witness may be excused. Is there anyone else that has a comment in this case?

(Witness excused)

The next case ^{we} will take up is Case 439. We will skip 438. We will take cases 428 through 437 under advisement.

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO)

I HEREBY CERTIFY that the foregoing and attached transcript of hearing in Cases No. 428 through and including 437 before the Oil Conservation Commission, State of New Mexico, at Santa Fe, on November 20, 1952, is a true and correct record of the same to the best of my knowledge, skill and ability.

DATED at Albuquerque, New Mexico, this 29th day of November, 1952.


REPORTER

E. E. GREESON
ADA DEARNLEY
COURT REPORTERS
BOX 1303
PHONES 5-9422 AND 5-9546
ALBUQUERQUE, NEW MEXICO

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

October 28, 1952

C
O
P
Y

Mr. C. R. Bickel
Shell Oil Company
Hobbs, New Mexico

Dear Sir:

The dual completion applications which you submitted this month have been scheduled for hearing on November 20, 1952, as Cases 428 - 437, inclusive. These have been properly advertised, as you have probably noted.

Yours very truly,

W. B. Macey
Chief Engineer

WBM:mr

2011

NOTES ON THE SUBMISSION OF MANUSCRIPTS

11-11-68

[illegible]

1962-1963

18 SEP 1964

As a result, the



SHELL OIL COMPANY

THIS LETTER IS FROM OUR
FIELD OFFICE

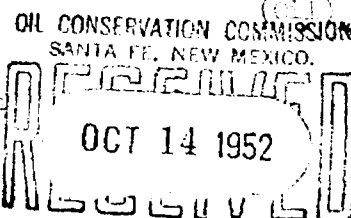
AT Box 1037
Albuquerque, New Mexico

October 7, 1952

Case #28

Subject: Application to Partially Complete
Shell State A-1, Monument Field,
Los Alamos County, New Mexico as Dual
Seven Rivers-Queen (Gas)-Grasburg
(Oil) Well.

Oil Conservation Commission
State of New Mexico
Santa Fe, New Mexico



Gentlemen:

By means of this application the Shell Oil Company wishes to state the following:

(a) That Shell State A-1, located in the SW/4 of the NE/4 of Section 35, T-19-S, R-36-E was completed in June 1935 at a total depth of 3929 feet. The appended Exhibit A shows the location of this well together with the locations of all offset wells.

(b) That the said well was completed as an oil well producing from the interval 3800-3929 feet in the Grasburg formation after having been drilled through the Seven Rivers-Queen gas productive interval extending from approximately 3100 feet to 3350 feet. The appended Exhibit B is a type log of the Lunce-Monument area. It is planned to run a radio-active survey of Shell State A-1 during the dual completion operation and a copy of the log will be filed with the Commission.

(c) That the applicant proposes to (1) perforate the 7-inch casing opposite the Seven Rivers-Queen gas-productive horizons and (2) set a Baker retainer production packer at approximately 3740 feet in the 7-inch casing. The exact interval(s) to be perforated will be selected after the above-mentioned radio-active survey has been completed.

(d) That the applicant proposes to partially complete the said well to produce oil from the Grasburg formation through the casing and gas from the Seven Rivers-Queen formations through the 7-inch casing. The manner and method of the proposed dual completion are shown on Exhibit C.

(e) That the granting of this application for permission to produce dual gas and oil from the Grasburg formation and gas from the Seven Rivers-Queen formations is in the interests of conservation and the protection of correlative rights.

Oil Conservation Commission

October 7, 1952

(2) That the applicant will do such things as may be required of it by the New Mexico Oil Conservation Commission in the maintenance of operation of production from said two formations.

(3) That the manner and method of the proposed dual completion is technically feasible and practical.

Therefore, the Shell Oil Company requests that the Oil Conservation Commission set a certain day upon which this application may be heard and after said hearing to grant permission in order that the applicant may duly complete Shell State A-1 so that oil from the Graptolite formation may be produced through the tubing and gas from the Seven Mirrors-Queen formations through the casing.

Respectfully submitted,

SHELL OIL COMPANY

BY: C. R. Michel

Tree Showing Rams Closed

Oil Production

Gas Flow Line

$\frac{9}{8}$ " Casing Cemented @ 2450'
w/ 450 S&S NC&H

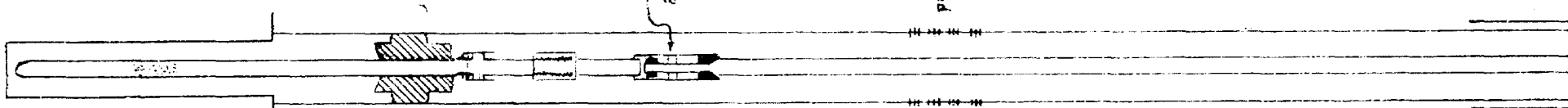
Casing Test Performed
w/ 4-21 yd. Shells / feet
Approx. From 3100' to 3350'

9 5/8" Casing Cemented @ 2450'
w/ 450 S&S neat

Casing Not Perforated
w/ 4 1/2" open hole / feet
Approx. from 2100' to 3350'

Otis Side Door Choke
Blacked Off
@ 3760'

Baker Model 'D' Refractor
Production Bumper
Set @ 3780'



7" Casing Cemented @ 3800' w/ 135 S&S neat

Tubing Perforations

TD 3929'

Detail of Mechanical Work to be
Installed in Fully Completed Borehole
and Monument Wells for Submission to
Oil Conservation Commission