

CASE 4078: Application of J.
GREGORY MERRION FOR DOWNHOLE
COMMINGLING, RIO ARriba COUNTY.

Case 11-11

- asc number

4078

Application

Transcripts.

Small Exhibits

ETC.

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SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
April 23, 1969
EXAMINER HEARING

IN THE MATTER OF:

Application of J. Gregory
Merrion for downhole
commingling, Rio Arriba County,
New Mexico.

Case No. 4078

BEFORE: Elvis A. Utz, Examiner.

TRANSCRIPT OF HEARING

MR. UTZ: Case No. 4078.

MR. HATCH: Continued from the April 9, 1969, Examiner Hearing; application of J. Gregory Merrion for downhole commingling, Rio Arriba County, New Mexico.

(Witness sworn)

MR. HATCH: Will you identify yourself for the record, please.

MR. MERRION: I am J. Gregory Merrion, of Farmington, New Mexico, independent oil and gas operator and petroleum engineer.

MR. UTZ: Any other appearances? You may proceed.

J. GREGORY MERRION

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

DIRECT EXAMINATION

BY MR. UTZ:

Q Do you have exhibits to offer?

A Yes, sir.

MR. HATCH: Each of these are a complete set?

MR. MERRION: Yes, sir. The exhibits consist of diagrammatic sketches of the NCRA State Well Number 3.

Well, and a proposed testing procedure, which is proposed to be used in the event downhole commingling is permitted by the Oil Commission.

MR. HATCH: Now, can we mark this as a packaged Exhibit 1?

MR. UTZ: It's all right with me. Proceed.

(Whereupon, Applicant's Exhibit was marked for identification.)

THE WITNESS: The NCRA State Well Number 3 in Section 16, Township 24 North, Range 6 West, Rio Arriba County was completed in the Devil's Fork-Gallup, Sealed on November 1st 1962, producing through perforations from 5774 to ninety-six. In January of 1968, there developed a casing leak in the Menafee Sand, and the well had flowed its entire life and was now full of mud. In reviewing the logs on the well, it was decided since a squeeze job would be necessary to repair the corrosion leak, an attempt would be made to test various zones in the Mesa Verde interval. Chronological Well History has been presented as part of Exhibit Number 1, which gives the detail of the workover, which it ensued -- which involved placing cement behind the entire Mesa Verde section, perforating,

treating with mud acid; and in one case, sand fracking and interval in the Mesa Verde section. There was developed some oil production from the interval 4541 to forty-seven, in the top point lookout stand. After frac, and after a swab test which did not recover all of the frac water, the well was making approximately one barrel of oil per hour on the swab test. After testing these Mesa Verde zones, the bridge plug was drilled out and it was attempted to swab in both the Mesa Verde and Gallup together, and clean them up by swabbing. But extensive swabbing does not result in a flowing well and the well was making approximately one barrel of oil per hour, plus some oil and mud cut water. Subsequently, the tubing was pulled from the well, a packer was run between the Mesa Verde and the Gallup, and the Gallup was tested by itself, with result that very little -- see, after a five day swab test, the well was down to three barrels of oil and one per cent B.S. and water and it was decided to frac the Gallup in an attempt to get it back to its former production which, before the work over, was in the neighborhood of fifteen barrels of oil per day, plus about 300 Mcf per day. Now, the

Gallup was fracked-down tubing, using 12,500 gallons of jelled water, 14,000 pounds of twenty-forty mesh frac sand, subsequent to cleaning out and swab testing after the frac job. A three-day swab test resulted. At the end of the three days, the well was swabbing at three to three-quarters of a barrel of fluid per hour, which was described by the unit operator as being fifty per cent oil and fifty per cent of soapy water, with a small flow of gas. There was still 336 barrels of load water to recover, and it appeared that the job of getting back the frac water and trying to get the well cleaned up would be a very long process, with some doubt that it ever would flow even after the frac job. It had been my intent, if we could bring the Gallup back to its former flowing status, to apply for a dual completion by the method of commingling the Point Lookout in the Gallup inside tubing, and using the Gallup gas to flow both zones. But the Gallup did not come back, and the Point Lookout did not appear capable of flowing by itself. However, subsequent to leaving the well in a temporary abandoned status, the casing was opened and a Point Lookout has flowed pretty close to a thousand barrels over a period of six months.

This is not a steady flow; every once in awhile, about every three or four days, it would head-up and flow a little bit of oil through the casing. The Gallup is shut-in and dead and it appears that in order to make the Point Lookout produce efficiently, a pumping unit installation will be necessary. We are inside four and-a-half casing and it is hoped that if commingling of both zones is permitted downhole, by setting a pump opposite the Gallup, and pumping the lookout oil, relieving the pressure against the sand face of the Gallup, that over a prolonged period of time, the Gallup might gradually clean up and restore itself to its former status. The problem involved is that the Gallup is part of the Devil's Fork - Gallup Reservoir, which is prorated on a volumetric withdrawal formula, and under commingling production, a method must be found to allocate production between the two zones. The last page of my exhibit proposes a testing procedure, which is hoped would do this. The procedure is to be as follows: Take seventy-two hour GOR test of Point Lookout while flowing through casing. Now, this test might actually have to be longer than seventy-two hours, to get something representative, and it might

not possibly, produce within the seventy-two hours, but a prolonged gas-oil ratio-test ratio of the Point Lookout, to establish a ratio of gas to oil production from that zone. Secondly, with a packer in the hole, under its present condition, swab test the Gallup for eight hours and record the swab rate at the end of eight hours test -- call that Swab Rate Number One. Unseat the packer and pull tubing to Point Lookout and reset the packer above the Point Lookout perts. Swab test Point Lookout and Gallup commingled for eight hours and record swab rate at end of test. Call that Swab Rate Number Two, which will represent a commingled swab rate. Then, the initial allocation of production could be made as follows: The Point Lookout oil would be quantity Swab Rate Two minus a Swab Rate One divided by Swab Rate Two times the total oil. Point Lookout gas would be the Point Lookout oil as determined in 4A times the Point Lookout gas-oil ratio as determined in Number One. The Gallup oil would be a total oil less Point Lookout oil. The Gallup gas would be the total gas less the Point Lookout gas. It is proposed that a quarterly gas-oil ratio test be taken in accordance with Devil's Fork field rules and

split in accordance with the above formula between the Point Lookout and the Gallup zones. Furthermore, if after one year, the decline curve on the well indicates increase production, the zones would be again separated by a packer and retested by swabbing. And if necessary, allocation between zones could be adjusted retroactively if warranted.

At the time this well was being tested by swabbing, initially, there was a good deal of water with the oil, and when it started flowing through the casing, it was erratic and -- and there really hasn't been a gas-oil ratio test really run on it, and until today there was no gravity run on the oil since it was mixed with water at the time we were swabbing. After talking to Mr. Nutter, yesterday on the phone, he mentioned something about gravity, and I had my pumper go out to the lease this morning. The well was essentially dead on the Gallup side, but -- I mean the Point Lookout side, but he opened it up and it did put out some oil, which he caught and measured the gravity -- this morning, which was 46.5 degrees at 55 degrees Fahrenheit. This compares with a Gallup gravity of 40.2 degrees APL corrected.

MR. UTZ: Sixty degrees?

THE WITNESS: Sixty; yes. Which would represent almost seven degrees gravity differential, which would be an additional way -- some indication of where the oil was coming from under commingling status. We have spent, of course, in all this testing and repairing this squeeze job, we spent close to thirty thousand dollars on the well and we don't have anything and we're kind of wanting to get this thing back on production and trying -- and hope that this Gallup would clean up and come back to somewhere near its former status. We feel that this would be an economical way of doing it. The difficulty, of course, is inside four and a half casing; you are limited as to space, and under pumping conditions it is difficult to pull logs and separate zones and re-run logs and so forth, to get the type of testing that is sometimes required under these type of installations.

Q In other words, what you intend to do is pull the packer out of this hole and run the tubing back to the sucker rods of the pump?

A Right; I would consider the possibility of running the packer back in there, and leaving it

unset, with the idea after a year, if we needed to retest, it would be in there and it wouldn't be necessary to trip it. But I would like to be able to pump it from the bottom there, and keep the hyperstatic head off of the Gallup.

Q The only thing that occurs to me, Mr. Merrion, at this point is, that if the increased production, within a six-months period -- say Gallup's balancing period would be the first of August, if the production had increased substantially from the time you completed the well, as a result of this application to August first, I believe we ought to take another look at it then. If it doesn't increase, I would think there would be no point in worrying about it.

A I should think that if an order was issued, which left it open -- kind of playing it by ear; you know, in the opinion of the Commission, they felt like it should be tested because of an abnormal increase in production, that would be fine with me. If it made more oil, I could afford to test it.

Q You are hoping it does, huh?

A Yes, sir.

Q Then, as you say, any change in gravity

could be noted at the same time?

A Right.

Q Any further questions of Mr. Merrion?

LEWIS C. JAMESON: I didn't quite understand the total production he had out of there. I believe he mentioned that previously.

THE WITNESS: We had produced right at, about, a thousand barrels, Lewis. In November, we produced 363 barrels. That was the first day, and things started flowing. And in December, it made 276, and in January, 169, and in February, 142, and in March, 139.

MR. JAMESON: One other comment that might eliminate some confusion; if this gravity test were taken with the well flowing a large amount of gas, I would think that it might be possible that this gravity test that was taken this morning was actually higher than what its ultimate gravity would be out of the Point Lookout. So, if the gravity decreases, when he puts the well on the pump, I wouldn't be at all surprised, and I wouldn't assume from that, alone, that some was coming from Gallup.

THE WITNESS: Well, the well had been dead

when he took the gravity, and he opened it up to atmosphere -- and it was open to a line, but he said he couldn't -- in the last week or so -- he couldn't tell me definitely when he shut the casing in -- or leave it open -- and he doesn't really think it has made anything, here, in about eight or ten days. But he opened it up to the atmosphere, and it sprayed a little gas and worked out a little oil -- it wasn't a large amount of gas, and the Point Lookout has never made much gas. It does not appear, or, I think, it would pull more steadily. It had been under static conditions, and, perhaps, this was laying on top and it was a little lighter, gravity, oil -- or higher than the main stream. I think it's generally a good practice to take a sample of the oil under some kind of stablized condition. So, this may be indicative of the point of lookout. From the appearance of the oil -- it is green, and waxy and similar in appearance to the Gallup. It's, perhaps, a little murkier looking and I was surprised when he reported the gravity to me earlier today. So, I would think that it might be used as an indication and not really as a final answer here.

MR. UTZ: In the process of testing this, you could not get a true gravity out of the test displaced out of your sample; so that the gas would have an effect on the gravity?

THE WITNESS: Well, of course, he did. He has a regular centrifuge, and gravity testing things, and there was no dissolved gases in the sample, but I think that Lewis was referring to -- sometimes you get a little condensation if the well is making a lot of gas. I don't think this was the situation, but I'm not as confident of this being truly representative of it. I think it's very much in the ball park in all probability. But, as I say, it's best to get a well under stabilized producing conditions, and then take a sample and then run your gravity. These were not the best conditions to take the sample.

MR. UTZ: Well, this is information that can be procured when you get the well on production?

THE WITNESS: Well, under the proposal, when the well goes on production, it will be under pulmingle status. However, we have proposed to take a seventy-two gas-oil ratio on it. And at that time,

we can collect another sample and double check our gravity. And that might be a better indication of the true gravity area there.

MR. UTZ: Any further questions of the witness? You may be excused.

(Witness excused)

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

MR. JAMESON: Petroleum consultants operate one gas well, and several other wells in the gas rim of the Devil's Fork-Gallup pool, and after going over the information that is included in the Applicant's Exhibit Number 1, we would have no objection to the granting of this, as the Applicant has requested, but we will be interested in watching it, and seeing how the volume produces changes within the next year, or even longer.

MR. UTZ: Thank you. Any other statements? The case will be taken under advisement, and the Hearing is adjourned.

(Whereupon, Applicant's Exhibit Number 1 was offered and admitted in evidence.)

I N D E X

<u>WITNESS</u>		<u>PAGE</u>
J. GREGORY MERRION		
Direct Examination by Mr. Utz		2

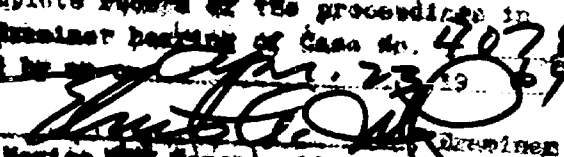
<u>EXHIBIT</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
Applicant's 1	3	14

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, CA FENLEY, Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me; and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.



CA FENLEY - COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4075 heard by me on Apr. 23, 1969.

 Secretary
 New Mexico Oil Conservation Commission

dearnley-meier

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

April 9, 1969

EXAMINER HEARING

IN THE MATTER OF:)

Application of J. Gregory)
Merrion for downhole)
commingling, Rio Arriba)
County, New Mexico.)

Case 4078

BEFORE: DANIEL S. NUTTER, Examiner

TRANSCRIPT OF HEARING

MR. HATCH: Case 4078, continued from March 26, 1969, Examiner hearing, application of J. Gregory Merrion for down hole commingling, Rio Arriba County, New Mexico.

The Commission has received a telephone call from Mr. Merrion this morning requesting that the case be continued to April 23, 1969.

MR. NUTTER: Case 4078 will be continued to the Examiner Hearing to be heard at the same place at 9 o'clock A.M. on April 23, 1969. The hearing is adjourned.

STATE OF NEW MEXICO)
) ss.
 COUNTY OF BERNALILLO)

I, SAMUEL MORTELETTE, Court Reporter in
 and for the County of Bernalillo, State of New Mexico,
 do hereby certify that the foregoing and attached
 Transcript of Hearing before the New Mexico Oil
 Conservation Commission was reported by me, and that
 the same is a true and correct record of the said
 proceedings, to the best of my knowledge, skill and
 ability.

Samuel Mortelette

I do hereby certify that the foregoing is
 a complete record of the proceedings in
 the Examiner hearing of Case No. 4078
 heard by me on 4/9 1969.

[Signature] Examiner
 New Mexico Oil Conservation Commission

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

March 26, 1969

EXAMINER HEARING

IN THE MATTER OF:)

Application of J. Gregory)
Merrion for downhole)
commingling, Rio Arriba)
County, New Mexico.)

Case No. 4078

BEFORE: Elvis A. Utz, Examiner

TRANSCRIPT OF HEARING

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

Hearing Date

MARCH 26, 1969

TIME: 9 A.M.

NAME	REPRESENTING	LOCATION
<i>James W. K...</i>	B T H	Midland
<i>James W. K...</i>	<i>Wells & Co.</i>	<i>San Antonio</i>
<i>Richard J. Moore</i>	<i>Montgomery et al.</i>	<i>San Antonio</i>
<i>Billy J. Stager</i>	U S & S	Roswell
<i>John T. CAMLION</i>	STANISLAW OF TEXAS	Midland
<i>Edwin E. Wyatt</i>	U S & S	Midland
<i>Harry F. Schuman</i>	Hanson Oil Co.	Roswell
<i>Wm B. Barnhill</i>	Olen Featherstone	Roswell
<i>Bill Southland</i>	<i>Getty Oil Co.</i>	Midland
<i>Harold G. Vest</i>	<i>Getty Oil Co.</i>	Hobbs
<i>Tom Burger</i>	Union Oil Co. of Calif	Midland
<i>Frank C. Johnson</i>	Petroleum Consultants	Midland
<i>Ray M. Young</i>	Marathon Oil Co	Midland
<i>Paul R. Gorman</i>	Marathon Int'l Co.	Midland
<i>John C. ...</i>	<i>... Oil Co.</i>	Midland
<i>Nma L. ...</i>	P W ...	SF - ...
<i>Darrell R. ...</i>	SOLAR OIL	Midland

NEW MEXICO OIL CONSERVATION COMMISSION

Examiner Hearing

Santa Fe, NEW MEXICO

Hearing Date MARCH 26, 1969 TIME: 9 A.M.

NAME	REPRESENTING	LOCATION
Robert J. Stephens	Franklin, (L) & Son, Inc.	Roswell
Franklin, (L) & Son, Inc.	Franklin, (L) & Son, Inc.	Roswell
Ernest W. Wheeler	Ernest W. Wheeler	Dallas, Tex.
Robert H. Wheeler		Roswell
Richard D. Jones	Monsanto	Midland
Edward J. Hutchins	Union Oil Co. of Calif.	Midland
George H. Hunkeler Jr.	Curtis Hankamer	Roswell, N.M.
Joseph W. Marshall	Curtis Hankamer	Midland
JH Hoover	Gulf Oil Corp.	Roswell N.M.
WV Kestler		
W. H. G. Smith	Sam D. Smith	Santa Fe, N.M.
James F. Stewart	Sam D. Smith	Midland, Tex.
O. Love	T. G. Guley & Paul H. Guley	Midland N.M.

MR. UTZ: The hearing will come to order. The first cases on the docket will be two dismissals.

MR. HATCH: Case 4078, application of J. Gregory Merrion for downhole commingling, Rio Arriba County, New Mexico.

I have just received a call from the Applicant requesting that this case be continued to April 9, 1969.

MR. UTZ: Case 4078 will be continued to the April 9th hearing.

STATE OF NEW MEXICO)
)
 COUNTY OF BERNALILLO) ss.

I, SAMUEL MORTELETTE, Court Reporter in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill and ability.

Samuel R. Mortelette
 COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 4075 heard by me on May 26, 1949.
Samuel R. Mortelette, Examiner
 New Mexico Oil Conservation Commission

J. GREGORY MERRION
PETROLEUM ENGINEER
P. O. BOX 807
FARMINGTON, NEW MEXICO 87401

OFF. 325-0181
RES. 327-9094

July 8, 1969

63 JUL 5 PM 1:10

Case 4078

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

Gentlemen:

Re: J. Gregory Merrion, NCRA State #3
Well, Devils Fork and Gallup and
Undesignated Mesaverde
Application for Allowable
Pursuant to Order #R-3741

Pursuant to the captioned order, please be advised that:

1. During the period 7 a.m., June 1, 1969, through 7 a.m., June 4, 1969, the Mesaverde side of the NCRA State No. 3 well was tested while flowing through the casing. Production during the 72-hour test was 36 bbls oil and 21.15 MCF gas, or an average daily rate of 12 BOPD and average GOR of 587 CF/bbl. Gravity of the oil was 47.5° API corrected.
2. On June 12, 1969, B & R Service Co. swabbed the Gallup side of the NCRA #3 well through 2" EUE tubing for 8 hours. Initial fluid level was 4500'. Final fluid level, 5600'. Recovery during test was 15.5 bbls oil and 4 bbls water. Final swab rate during last three hours was 15 BOPD and 3.75 BOPD (swab rate #1).
3. On July 3, 1969, Drake Well Service moved in and rigged up on well, unseated Baker Model R packer and left it hanging unset in well. Mesaverde and Gallup were then swabbed comingled for 8 hours. Initial fluid level was 3100 feet. Final Fluid level was 5600 feet. Recovery during swab test was 35 bbls oil and 38 bbls water. Final swab rate was 30 bbls oil per day and 6 bbls water per day (swab rate #2).
4. Based upon above swab tests $(WV_p) = \frac{30 - 15}{30} = 0.5$
5. On July 4, 1969, rods were run and well was put on pump for comingled production.
6. From 9 a.m., July 7 to 9 a.m., July 8, 1969, the comingled production was tested at 33 BOPD and 96 MCF gas per day, for a GOR of 2910 CF/bbl.

New Mexico Oil Conservation Commission

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July 8, 1969

7. Based on the above tests it is determined that:

a. Mesaverde Oil Prod	=	0.5	X	33	=	16.5 BOPD
b. Mesaverde Gas Prod	=	16.5	X	587	=	9.7 MCF/da
c. Gallup Oil Prod	=	33	-	16.5	=	16.5 bbls/da
d. Gallup Gas Prod	=	96	-	9.7	=	86.3 MCF/da
Gallup GOR						5230 CF/bbl

Based upon the above, it is requested that an allowable be assigned to both sides of the well.

Yours very truly,

Gregory Merrion
J. Gregory Merrion

JGM:mg

Enclosures

C-104 (in quad)

C-104 (in quad)

} - to Aztec

cc: New Mexico Oil Conservation Commission
1000 Rio Brazos Road
Aztec, New Mexico



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

GOVERNOR
DAVID F. CARGO
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

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

April 29, 1969

Mr. J. Gregory Merrion
J. Gregory Merrion & Associates
Post Office Box 507
Petroleum Building
Farmington, New Mexico 87401

Re: Case No. 4078
Order No. R-3741

Applicant:
J. Gregory Merrion

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x

Artesia OCC

Aztec OCC x

Other Mr. Lewis C. Jameson, Petroleum Consultants Inc.
Albuquerque, New Mexico

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. 4078
Order No. R-3741

APPLICATION OF J. GREGORY MERRION
FOR DOWNHOLE COMMINGLING, RIO ARRIBA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 23, 1969,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 28th day of April, 1969, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, 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, J. Gregory Merrion, is the owner
and operator of the NCRA State Well No. 3, located in Unit L of
Section 16, Township 24 North, Range 6 West, NMPM, Rio Arriba
County, New Mexico.

(3) That the subject well was originally completed for
production from the Devils Fork-Gallup Pool, but production was
lost during remedial work and treatment has not restored produc-
tion.

(4) That the well was subsequently perforated in an undesig-
nated Mesaverde oil pool and marginal production achieved.

(5) That the applicant proposes to set a single string of
2-inch tubing opposite the Devils Fork-Gallup perforations and

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CASE No. 4078

Order No. R-3741

attempt to produce both of the subject zones through said tubing, commingling production from the subject zones in the 4 1/2-inch casing.

(6) That the proposed method of production may restore the producing capability of the subject well in the Devils Fork-Gallup Pool.

(7) That the reservoir characteristics of each of the two zones are such that underground waste would not be caused by the proposed commingling in the well-bore.

(8) That the proposed commingling may result in the recovery of additional oil and gas from the Devils Fork-Gallup Pool, thereby preventing waste, and will not violate correlative rights.

(9) That production tests should be conducted, prior to commingling and periodically thereafter, to determine the production from each zone.

IT IS THEREFORE ORDERED:

(1) That the applicant, J. Gregory Merrion, is hereby authorized to complete his NCRA State Well No. 3, located in Unit L of Section 16, Township 24 North, Range 6 West, NMPM, Rio Arriba County, New Mexico, in such a manner as to produce oil and gas from an undesignated Mesaverde oil pool through perforations from 4541 feet to 4629 feet and to produce oil and gas from the Devils Fork-Gallup Pool through perforations from 5774 feet to 5796 feet, commingling the production from each of said zones in the well-bore until further order of the Commission;

PROVIDED HOWEVER, that the production of each zone shall be established and future production allocated to the Mesaverde and Gallup zones of the subject well in accordance with the following procedure:

1. Prior to commingling, the productivity, gravity, and gas-oil ratio of the Mesaverde zone shall be determined from a 72-hour gas-oil ratio test flowing through the casing.
2. Determine the rate of Gallup oil production by means of an 8-hour swab test of said zone. (Swab rate #1.)

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CASE No. 4078
Order No. R-3741

3. Determine the rate of the commingled oil production by means of an 8-hour swab test of the commingled Gallup and Mesaverde zones. (Swab rate #2.)
4. Determine the Mesaverde allocation of production factor as follows:

$$(MV)_f = \frac{\text{Swab rate \#2} - \text{Swab rate \#1}}{\text{Swab rate \#2}}$$

5. Determine the monthly allocation of production as follows:
 - a. Mesaverde oil production = MV_f x commingled production.
 - b. Mesaverde gas production = Mesaverde oil production x Mesaverde GOR.
 - c. Gallup oil production = commingled oil production less Mesaverde oil production.
 - d. Gallup gas production = commingled gas production less Mesaverde gas production.

(2) The operator shall take gas-oil ratio tests quarterly in accordance with the special rules and regulations governing the Devils Fork-Gallup Pool and the results thereof used in subsequent computations of allocation of production.

(3) That should production curves indicate on February 1, 1970, that the productivity of the well has increased, the aforementioned swab tests shall be repeated and allocation to the various zones adjusted retroactively, as warranted.

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

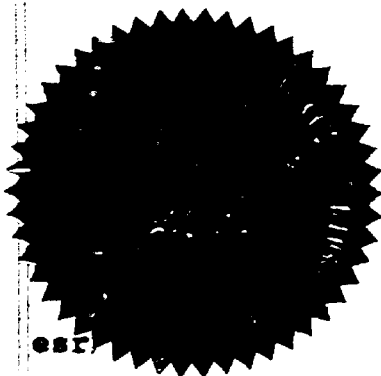
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION


DAVID E. CARGO, Chairman


ALEX J. ARMIJO, Member


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



Case 4078

Heard. 4-23-69

Rec. 4-23-69.

Grant J. Gregory Merion
permission to coomingle
in ~~with~~ the Mesquite oil zone with
the Devils Fork Gallup
zone in his NCR A Lf. #3
L-16-24K-6W-RA, Co. •

2" tubing shall be set at
approx. 5774 & both zones
pumped together.
Each zone shall be tested
before coomingle in
accordance with a
procedure approved by the
commission. Production
shall be reviewed at 6 mo.
intervals. If production
increases the zones shall
be retested to determine if
the Gallup zone has increased
in prod.

Test procedure shall be
~~set out in a cover letter~~

in accordance with the attached
Exhibit.

[Signature]

4. Determine monthly zone production factor from about tests:
 oil Prod. = monthly production
 of zone (PLG) See at Test # 2 - Sweet test #1
See at Test # 2

5. Determine monthly zone production.

(a) Point Lookout ^{oil} Prod. = PLG x Comm. Prod.

(b) " " " " = Point Lookout Oil Prod.
 x Point Lookout H.O.R.

(c) Gallup Oil Prod. = Comm. ^{oil} Prod. - Point Lookout
 Oil Prod.

d Gallup Gas Prod. = Comm. Gas Prod. - Point Lookout
 Gas Prod.

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 23, 1969

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, Alternate Examiner:

- CASE 4079: (Continued from the March 26, 1969, Examiner Hearing)
Application of Robert B. Holt for the creation of a new pool, assignment of a discovery allowable, and the promulgation of special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Middle Pennsylvanian oil pool for his Aztec State Well No. 2 located in Unit A of Section 26, Township 13 South, Range 32 East, Lea County, New Mexico, and for the assignment of an oil discovery allowable in the amount of approximately 48,715 barrels to said well. Applicant further seeks the promulgation of special pool rules for said pool, including a provision for 160-acre proration units and the assignment of 80-acre allowables.
- CASE 4106: Application of Southland Royalty Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Permo-Pennsylvanian formation in the perforated interval from approximately 9485 feet to 9713 feet in its Guye Well No. 4 located in Unit F of Section 12, Township 11 South, Range 33 East, In the Permo-Pennsylvanian Pool, Lea County, New Mexico.
- CASE 4107: Application of Coastal States Gas Producing Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the West Sawyer-San Andres Pool, Lea County, New Mexico, including a provision for 80-acre spacing and proration units.
- CASE 4108: Application of Humble Oil & Refining Company for the rededication of acreage, Lea County, New Mexico. Applicant, in the above-styled cause, seeks to recomplete its New Mexico "V" State Well No. 5, a non-commercial Wantz-Abo oil producer, to a Tubb gas producer and to consolidate the 40 acres presently dedicated to said well with the 120 acres presently dedicated to its New Mexico "V" State Well No. 11, a Tubb gas producer, to form a standard 160-acre proration unit comprising the SW/4 of Section 10, Township 21 South, Range 37 East, Tubb Gas Pool, Lea County, New Mexico. Applicant further seeks authority to produce the allowable assigned to said unit from either of said wells in any proportion.
- CASE 4109: Application of Humble Oil & Refining Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the South Lea Unit Area comprising 8,324.16 acres, more or less, of State, Federal, and Fee lands in Township 26 South, Range 36 East, Lea County, New Mexico.

- CASE 4110: Application of Atlantic-Richfield Company for a waterflood project and unorthodox injection well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pilot waterflood project by the injection of water into the Queen formation through one well to be drilled at an unorthodox location 100 feet from the North and West lines of Section 23, Township 18 South, Range 31 East, Shugart Pool, Eddy County, New Mexico.
- CASE 4111: Application of Tenneco Oil Company for a dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Morton Federal Well No. 1, located in Unit A of Section 12, Township 9 South, Range 35 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Vada-Pennsylvanian Pool and the disposal of produced salt water through the intermediate casing-production casing annulus into the San Andres, Abo and possibly other formations in the open-hole interval from approximately 4050 feet to 8120 feet.
- CASE 4112: Application of P-M Drilling Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Delaware formation in the perforated interval from approximately 5062 feet to 5100 feet in its James Federal Well No. 1 located in Unit A of Section 35, Township 23 South, Range 32 East, Triste Draw-Delaware Pool, Lea County, New Mexico.
- CASE 4113: Application of Texas Pacific Oil Company for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks to substitute its State "D" A/c-1 Well No. 1 located in Unit A of Section 2, Township 12 South, Range 33 East, in lieu of its State "C" A/c-1 Well No. 1 located in Unit B of said Section 2 as the producing well for the proration unit comprising the N/2 NE/4 of said Section 2, Bagley-Siluro-Devonian Pool, Lea County, New Mexico.
- CASE 4114: Application of Gulf Oil Corporation for two unorthodox oil well locations and amendment to Order No. R-2729, Lea County, New Mexico. Applicant in the above-styled cause, seeks authority to drill two producing oil wells at unorthodox locations in Township 19 South, Range 35 East, as infill wells in the West Pearl Queen Unit Waterflood Project, Pearl Queen Pool, Lea County, New Mexico, said wells to be located as follows:

West Pearl Queen Unit Well No. 164 to be located 1325 feet from the North line and 2635 feet from the West line of Section 32;

West Pearl Queen Unit Waterflood Well No. 165 to be located 1420 feet from the South line and 1325 feet from the West line of Section 29;

(Case 4114 continued)

Applicant also seeks the amendment of Order No. R-2729, which order authorized the aforesaid waterflood project, to establish a procedure whereby additional injection wells and producing wells at unorthodox infill locations, as may be necessary to complete an efficient injection and producing pattern, may be approved administratively.

CASE 4115: Application of Southern Union Production Company for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Dakota formation underlying the W/2 of Section 16, Township 29 North, Range 9 West, Basin-Dakota Pool, San Juan County, New Mexico. Said acreage to be dedicated to a well to be drilled at a standard location in the W/2 of said Section 16. Also to be considered will be the costs of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

CASE 4116: Application of Tesoro Petroleum Corporation for the amendment of Order No. R-2797 and for the extension of the South Hospah-Upper Sand Pool, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-2797, which order approved the Hospah Unit Agreement, to delete from said unit agreement 233.87 acres in the Southeast portion of Section 1, Township 17 North, Range 9 West, McKinley County, New Mexico. Applicant also seeks the extension of the South Hospah-Upper Sand Pool to include a portion of the Southeast quarter of said Section 1.

CASE 4117: Application of Eastern Petroleum Company for special pool rules, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special rules for the Rattlesnake-Dakota Pool, San Juan County, New Mexico, permitting the drilling of wells on 2½-acre spacing provided that no well be located nearer than 50 feet to the outer boundary of the quarter-quarter section and no nearer than 165 feet to another well producing from the same pool, and provided further, that a 40-acre proration unit would be subject to a 40-acre allowable regardless of the number of wells on the unit.

CASE 4118: Application of Dugan Production Corporation for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle gas production from undesignated Fruitland and Pictured Cliffs gas pools in the well-bore of its Federal "I" Well No. 4, located in the NE/4 NW/4 of Section 1, Township 29 North, Range 14 West, San Juan County, New Mexico.

CASE 4096: (Continued from the April 5, 1969, Examiner Hearing)

Application of Kersey & Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority

to institute a waterflood project by the injection of water into the Seven Rivers formation through four wells located in Units C, D, and F of Section 25, Township 17 South, Range 28 East, Aid (Yates-Seven Rivers) Pool, Eddy County, New Mexico.

← CASE 4078: (Continued from the April 9, 1969, Examiner Hearing)

Application of J. Gregory Merrion for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Devils Fork-Gallup Pool and an undesignated Mesaverde oil pool in the wellbore of his NCRA State Well No. 3 located in Unit L of Section 16, Township 24 North, Range 6 West, Rio Arriba County, New Mexico.

Docket No. 9-69

DOCKET: EXAMINER HEARING - WEDNESDAY - MARCH 26, 1969

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, Alternate Examiner:

CASE 4078: Application of J. Gregory Merrion for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Devils Fork-Gallup Pool and an undesignated Mesaverde oil pool in the well-bore of his NCRA State Well No. 3 located in Unit L of Section 16, Township 24 North, Range 6 West, Rio Arriba County, New Mexico.

CASE 4079: Application of Robert B. Holt for the creation of a new pool, assignment of a discovery allowable, and the promulgation of special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Middle Pennsylvanian oil pool for his Aztec State Well No. 2 located in Unit A of Section 26, Township 13 South, Range 32 East, Lea County, New Mexico, and for the assignment of an oil discovery allowable in the amount of approximately 48,715 barrels to said well. Applicant further seeks the promulgation of special pool rules for said pool, including a provision for 160-acre proration units and the assignment of 80-acre allowables.

CASE 3975: (Reopened)
In the matter of Case No. 3975 being reopened pursuant to the provisions of Order No. R-3618, which order established 80-acre spacing units for the East Bluitt-San Andres Pool, Roosevelt County, New Mexico, for a period of approximately two months. All interested parties may appear and present evidence as to whether the subject area is indeed a separate common source of supply or an extension of the Bluitt-San Andres Gas Pool. Further, in the event said East Bluitt-San Andres Pool is found to be an extension of said Bluitt-San Andres Gas Pool, the Commission will consider the amendment of the Special Rules and Regulations governing the Bluitt-San Andres Gas Pool to provide for the classification of oil and gas wells, spacing and well location requirements for oil and gas wells, and an allocation formula for withdrawals from the gas cap and oil rim.

CASE 4080: Application of Monsanto Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Black River Unit Area comprising 14,961.23 acres, more or less, of State, Federal and Fee lands

CASE 4080 - Continued

in Townships 25 and 26 South, Ranges 23 and 24 East,
Eddy County, New Mexico.

CASE 4081: Application of Curtis Hankamer for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Brushy Draw Deep Unit Area comprising 9,672.53 acres, more or less, of State and Federal lands in Township 26 South, Ranges 29 and 30 East, Eddy County, New Mexico.

CASE 4082: Application of Sam D. Ares for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to inject produced salt water into the Yates-Seven Rivers formation in the open-hole interval from approximately 3358 to 3495 feet in his Arnott Ramsey "A" Well No. 3, located 660 feet from the North and West lines of Section 2, Township 25 South, Range 36 East, Jalmat Yates Seven Rivers Pool, Lea County, New Mexico.

CASE 4083: Application of Gulf Oil Corporation for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Penrose Skelly Pool and the Paddock Pool in the well-bore of its Eunice King Well No. 7 located in Unit G of Section 28, Township 21 South, Range 37 East, Lea County, New Mexico, with the provision that no more than one allowable will be produced from said well.

CASE 4084: Application of Olen W. Featherstone for the creation of a new pool and for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Wolfcamp oil pool for his Cabot State Well No. 1 located in the NE/4 NW/4 of Section 29, Township 15 South, Range 32 East, Lea County, New Mexico, and for the promulgation of special rules therefor including a provision for 160-acre spacing and proration units and the assignment of 80-acre allowables.

CASE 4085: Application of Tamarack Petroleum Corporation, Inc. for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Queen formation in the perforated interval from approximately 4948 feet to 5043 feet in its Cabot 23 State Well No. 2 located in Unit C of Section 23, Township 19 South, Range 35 East, Pearl-Queen Pool, Lea County, New Mexico.

- CASE 4086: Application of Hanson Oil Company for a dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its CSA Federal Well No. 1 located in Unit 1 of Section 29, Township 26 South, Range 37 East, Scarborough Yates-Seven Rivers Pool, Lea County, New Mexico, in such a manner as to permit production of oil from the Yates formation and the disposal of produced salt water into the Seven Rivers formation through parallel strings of tubing.
- CASE 4087: Application of Solar Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its McCallister Well No. 1 located in Unit C of Section 7, Township 22 South, Range 38 East, Lea County, New Mexico, to produce oil from undesignated Drinkard and Abo oil pools through parallel strings of tubing.
- CASE 4071: (Continued from the March 19, 1969, Regular Hearing)
Application of T. J. Sivley for a dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete his Federal Silver Well No. 4 located in the SW/4 SE/4 of Section 28, Township 20 South, Range 34 East, Lynch Yates-Seven Rivers Pool, in such a manner as to permit production of oil from the Yates-Seven Rivers formations and the disposal of produced salt water into the Lower Seven Rivers formation.
- CASE 4088: Application of Paul M. Mershon, Jr., for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Upper Pennsylvanian formation underlying Section 21, Township 22 South, Range 23 East, Eddy County, New Mexico. Said acreage to be dedicated to a well to be drilled at an unorthodox gas well location 990 feet from the North and East lines of said Section 21, and within one mile of the Indian Basin-Upper Pennsylvanian Gas Pool. Also to be considered will be the costs of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.
- CASE 4089: Application of Paul M. Mershon, Jr., for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the special rules and regulations governing the Indian Basin-Upper Pennsylvanian Gas Pool to permit the drilling of a well at an unorthodox gas well location 990 feet from the North and East lines of Section

-4-

Docket No. 9-69

Examiner Hearing - March 26, 1969

21, Township 22 South, Range 23 East, Indian Basin-
Upper Pennsylvanian Gas Pool, Eddy County, New Mexico.

CASE 4090: Application of Getty Oil Company for an exception to Commission Order No. R-111-A, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the potash-oil area casing and cementing rules as set forth in Commission Order No. R-111-A. Applicant proposes to re-enter and deepen approximately 3500 feet in the Yates formation four wells located in Sections 19 and 30 of Township 20 South, Range 34 East, Lea County, New Mexico, in such a manner as to eliminate the necessity of running the salt protection string provided the production string would be cemented to the surface.

CASE 4091: Application of Union Oil Company of California for a dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Elliott Federal Well No. 1 located in Unit O of Section 27, Township 11 South, Range 38 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Field Ranch-Wolfcamp Pool and the disposal of produced salt water into the San Andres, Glorieta, Blinberry, Tubb and Abo formations in the open-hole interval from approximately 4458 feet to 8050 feet.

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 9, 1969

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or
Elvis A. Utz, Alternate Examiner:

- CASE 4092: Application of Phillips Petroleum Company for a capacity allowable, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the assignment of a capacity allowable to its U. S. Minerals Well No. 4 located in the SW/4 SE/4 of Section 30, Township 17 South, Range 33 East, Maljamar Grayburg-San Andres Pool, Lea County, New Mexico. Said well offsets a waterflood project operated by Cities Service Oil Company.
- CASE 4093: Application of BTA Oil Producers for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation in the intervals from approximately 12,240 feet to 12,275 feet in its State "E" Well No. 1 and from approximately 12,088 feet to 12,164 feet in its State "E" Well No. 2 located, respectively, in Units F and C of Section 5, Township 10 South, Range 36 East, adjacent to the West Crossroads-Devonian Pool, Lea County, New Mexico.
- CASE 4094: Application of Cayman Corporation for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from approximately 4184 feet to 4274 feet in its Hondo-State Well No. 1 located in Unit F of Section 31, Township 7 South, Range 33 East, Chaveroo-San Andres Pool, Roosevelt County, New Mexico.
- CASE 4095: Application of Tom Schneider for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Rustler formation in the perforated interval from approximately 1320 feet to 1340 feet in his SWD Well No. 1 located in Unit O of Section 16, Township 23 South, Range 36 East, Talmat Yates-Seven Rivers Pool, Lea County, New Mexico.
- CASE 4096: Application of Kersey & Company for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project

(Case 4096 continued)

by the injection of water into the Seven Rivers formation through four wells located in Units C, D, and F of Section 25, Township 17 South, Range 28 East, Aid (Yates-Seven Rivers) Pool, Eddy County, New Mexico.

CASE 4097: Application of Western States Producing Company for a dual completion and salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Smelting-State Well No. 1, located in Unit F of Section 9, Township 12 South, Range 34 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the East Bagley-Pennsylvanian Pool and the disposal of produced salt water through the intermediate casing-production casing annulus into the San Andres, Glorieta, Tubb, Abo, and possibly other formations in the interval from approximately 4199 feet to 8931 feet.

CASE 4098: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Walter J. Nelson and all other interested parties to appear and show cause why the Walter J. Nelson Lee Burns "A" Well No. 1 located in Unit P of Section 31, Township 6 North, Range 8 East, Torrance County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.

CASE 4078: (Continued from the March 26, 1969 Examiner Hearing)
Application of J. Gregory Mexrion for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Devils Fork-Gallup Pool and an undesignated Mesaverde oil pool in the well-bore of his NCRA State Well No. 3 located in Unit L of Section 16, Township 24 North, Range 6 West, Rio Arriba County, New Mexico.

Post Office Box 234
Zip Code 37401

DUGAN PRODUCTION CORP.

THOMAS A. DUGAN, President
709 BLOOMFIELD RD.
FARMINGTON, NEW MEXICO

March 24, 1969

TELEPHONE: 325-9184 Office
325-5694 Home
Area Code 505

Mr. A. L. Porter
Oil Conservation Commission
Box 2088
Santa Fe, New Mexico 87501

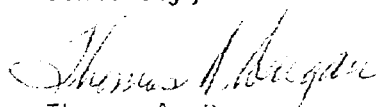
Re: Case 4078

Dear Mr. Porter:

We have noted the application of J. Gregory Herrion for down-hole commingling of the Devils Fork-Gallup Pool and an undesignated Mesaverde oil pool, to be heard in Case 4078 on March 26, 1969. As a producer in the San Juan Basin, we wish to encourage the New Mexico Oil Conservation Commission to approve this application. We believe the results of progressive approaches such as this would be beneficial to royalty owners and producers in the San Juan Basin, and would result in the recovery of oil and gas that is economically unfeasible under the present orders.

The Devils Fork Gallup Pool is nearing depletion and most of the wells are operated on a marginal financial basis. We believe that the labor and expense to continue the proration of the pool on volumetric drawdown basis is uncalled for at this time. The expense to the Commission for the calculation of the volumetric formula and the expense to the operator for measuring bottom-hole pressures is not necessary. We would like to see the volumetric formula dropped and the pool reverted to a non-prorated status.

Sincerely,


Thomas A. Dugan

sc

cc: Emery Arnold
J. Gregory Herrion

EXHIBIT DATED DOCKET MAILED

Date 4-10-69 Date 3/27/69

J. Gregory Merrion

NCRA- State #3 Well

990' FWL & 1650' FSL

Sec. 16, T-24N, R-6W

Rio Arriba Co., N.M.

Elev. 6803 G.L., 6813 K.B.

8 5/8" Csg @ 204
w 150 sax

Theoretical Top
Cement @ 2105'

Stage Collar 2451'

Top MV Squeeze
@ 3012'.

Chacra Perfs

← 3152-58 & 3235-39
Squeezed - 50 sax

← Cliffhouse Perfs

3876-88 Squeezed 50 sx.

Point Lookout Perfs.
@ 4541-47'.
Bottom MV Squeeze
@ 4800'.

← Point Lookout Perfs

4623-29 Swabbed Dry
Unable to treat w
Mud Acid.

**BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION**

Off EXHIBIT NO. *1 consisting of 9 pages*

CASE NO. *4078*

Theoretical Top
Cement @ 5100'.

Gallup Perfs.
@ 5774-96'.

P.B.D. @ 5850'.

4 1/2" Csg. @ 5871'
21120 sax

NO. OF COPIES RECEIVED	3
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SANTA FE	1
FILE	1
U.S.G.S.	
LAND OFFICE	
OPERATOR	1

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-101
Supersedes Old
C-102 and C-103
Effective 1-1-65

SUNDY NOTICES AND REPORTS ON WELLS 27 1968

DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.

OIL CON. COM. DIST. 3

1. <input checked="" type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER	5a. Indicate Type of Lease State <u>3</u> Fee <input type="checkbox"/>
2. Name of Operator <u>J. Gregory Merriam</u>	5. State Oil & Gas Lease No. <u>E-1207</u>
3. Address of Operator <u>Box 507, Farmington, New Mexico</u>	7. Unit Agreement Name
4. Location of Well UNIT LETTER <u>L</u> <u>990</u> FEET FROM THE <u>West</u> LINE AND <u>1650</u> FEET FROM THE <u>South</u> LINE, SECTION <u>16</u> TOWNSHIP <u>24N</u> RANGE <u>6W</u> NMPM.	8. Farm or Lease Name <u>UCRA State</u>
	9. Well No. <u>3</u>
	10. Field and Pool, or Wildcat <u>Devils Fork</u>
15. Elevation (Show whether DF, RT, GR, etc.) <u>6813 KB</u>	12. County <u>Do Arriba</u>

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input checked="" type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input checked="" type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input checked="" type="checkbox"/>	

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Well dead. On June 7, 1968, moved in Drake Well Service and circulated well with water. Circulated mud from hole. Pulled thg. Set bridge plug at 5696. Located hole in casing with packer at 4175 KB. Perforated 3 squeeze holes at 4800 and 3 holes at 4175. Set Baker retainer at 4744 and established circulation behind pipe. Placed 175 sax Class C cement behind pipe from 4800 to 4175. Picked up out of retainer and reversed out excess. Perforated 3 holes at 3012. Set Baker retainer at 2935 and placed 380 sax Class C cement from 4175 to 3012. Picked up out of retainer and reversed out excess. Spotted 50 sax Class C cement from 3030 to 2250 inside 4 1/2". Picked up tubing out of cement and bradenhead squeezed to 1500 psi. WOC 36 hrs. Drilled out cement and retainers and tested holes individually to 1500 psi Held OK.

Perforated Cliffhouse 3876-3888 with 20 holes. Ran tubing with packer and swabbed dry. Treated with 220 gal Mud Acid. Swab bed 6 bbls. salt water per hour. Tripped tubing. Ran in open ended and spotted 50 sax of Class C cement 3895 to 3100. Bradenhead squeezed to 1500 psi. WOC 36 hrs. Drilled out cement and tested to 1500 psi. Held OK.

Perforated Ft. Lookout 4541-4547 with 3 holes per foot. Ran tubing & packer and swabbed dry. Treated with 220 gal Mud Acid. Swabbed small amount of oil & gas cut mud. Sand water fracked down tubing under packer with 10,000 ga. water and 5000# 20-40 sand at 2500

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED J. Gregory Merriam TITLE Operator DATE 6-26-68

APPROVED BY Emmy C. Child TITLE SUPERVISOR DIST. #3 DATE 6-27-68

CONDITIONS OF APPROVAL IF ANY:

psi and 4 1/2 BPM. Swabbed back half of frack water and was swabbing at rate of 4 bbls. fluid per hour 30% oil, 70% frack water and small amount of gas.

Perforated 4623-29. Ran tubing & packer. Swabbed dry. Attempted to treat with mud acid, but could only get a few gallons away at 1500 psi.

Perforated Chacra 3152-58, 3235-9, & 3248-52 with 2 holes per foot. Ran tubing bull-plugged & packer with perforated nipple above. Swabbed dry. Treated with 330 gal. mud acid. Swabbed dry. Very slight show of gas.

Set bridge plug at 3356. Ran tubing open-ended to 3272 and spotted 50 sac Class A cement. Picked up out of cement and bradenhead squeezed to 1500 psi. WOC 36 hrs. Drilled out cement and tested to 1500 psi. Held OK. Drilled bridge plugs at 3356 and 5696.

Now cleaning out and testing.

J. Gregory Merrion

NCRA- State No. 3 Well

Chronological Well History

- 7-13-68 Moved in & rigged up B&R Well Service Swabbing Unit. Found fluid @ 2000'. Swabbed well three hours and recovered 15 bbls oil and 30 bbls water, slightly mud cut. Final fluid level @ 4500'.
- 7-14-68 Fluid level @ 2500'. Swabbed well 8 hours. Recovered 25 bbls oil and 40 bbls water, slightly mud cut. Final fluid level 5250'. Final swab rate 1 bbl oil per hour and 1 1/2 bbls water per hour. Well gassing slightly but not attempting to flow.
- 7-15-68 Fluid level @ 3000'. Swabbed well 10 hours. Recovered 25 bbls oil and 25 bbls water. Final fluid level @ 5300'. Final swab rate 1 bbl oil per hour and 1 bbl water per hour. Well still gassing slightly but not attempting to flow.
- 7-16-68 Well dead. Rigged down unit and roaded to yard.

J. Gregory Merrion

NCRA-State No. 3 Well

Chronological Well History

- 7-24-68 Moved in & rigged up B&R Well Service swabbing unit. Fluid level @ 1500'. Swabbed 30 bbls oil and 35 bbls water in 7 hrs. Final fluid level @ 5300'. Final swab rate 1 bbl oil and $\frac{1}{2}$ bbl water per hour.
- 7-25-68 Fluid level @ 4000'. Swabbed well 10 hours. Recovered 25 bbls oil and 10 bbls water. Final fluid level @ 5300'. Final swab rate 1 bbl oil per hour and 20% water cut.
- 7-26-68 Fluid level @ 4500'. Swabbed well 5 hours. Recovered 14 b bl oil and 3 bbl water. Final fluid level 5300'. Final swab rate 1 bbl oil per hour with 10% water cut. Well gassing slightly but not attempting to flow. Rigged down unit and roaded to yard.

J. Gregory Merrion
NCRA- State No. 3 Well
Chronological Well History

- 8-5-68 Moved in & rigged up Farmington Well Service. Pulled tubing and re-ran with mud anchor, perforated nipple, seating nipple, and Baker Model R Packer. Set tubing @ 5770', perforations @ 5736-5739', and packer @ 5732'.
- 8-6-68 Swabbed down tubing to seating nipple with no fluid entry. Rigged up Lybrook Hot Oil Service. Pumped 125 bbls oil down tubing and into formation at 1000 to 1100 psi. Swabbed back 100 bbls load oil and shut down for night.
- 8-7-68 Swabbed well 5 hours. Recovered 14 bbls load oil. Final rate 1 bbl oil per hour. 11 bbls load oil to recover. Rigged down and
- ~~8-8-68~~ moved off unit.

J. Gregory Merrion
NCRA-State No. 3 Well

Chronological Well History

- 8-15-68 Moved in B&R Well Service Swabbing Unit. Found fluid level @ 3800'. Swabbed well 6 hours. Recovered 10 bbls oil, 5% B.S.&W. 1 bbl load oil to recover.
- 8-16-68 Swabbed well 10 hours. Recovered 8 bbls oil, 5% B.S.&W. Recovered all load oil plus 7 bbls new oil.
- 8-17-68 Swabbed well 11 hours. Recovered 6 bbls oil, 3% B.S.&W. Last few hours, pulled swab once per hour with 50' oil per run.
- 8-18-68 Swabbed well 11 hours. Recovered 4 bbls oil, 1% B.S.&W. Pulled swab once per hour.
- 8-19-68 Swabbed well 8 hours. Recovered 3 bbls oil ~~xxxxxxx~~, 1% B.S.&W. Rigged down unit and roaded to yard.

NCRA - State #3

- 10-2-68 Moved in, rigged up Aztec Well Service. Ran swab and found FL at 3500'. Swabbed oil-water emulsion to 5500 with no entry of fluid and practically no show of gas. Rigged up Dowell and fracked well through tubing and under Baker Model R Packer with 12,500 gal. water with 30#/1000 gal. J-133 gel and 2 gal./1000 gal. F-59 surfactant and 14000# 20-40 mesh sand. Fracked at 8 BPM and 2800 psi. Instantaneous shut in pressure 950 psi, bled to vacuum in 30 minutes. 380 bbls. load water to recover. Swabbed well down to 4000' recovering 27 bbls. frack water and set down on frack sand. Shut down for nite. 353 bbls. to recover.
- 10-3-68 Pkr. at 5671 bottom jt. at 5702. Unseated packer and reversed sand from hole using TWT kill truck. Ran bottom of tubing to 5820. Used 75 bbls. water and 75 bbls. oil. 102 bbls. returned to tank 15 to fill tubing, 33 bbls. lost to formation. 401 bbls. to recover. Reset packer at 5728, swabbed well 4 hrs. to 5500'. Recovered 35 bbls. frack water cut with oil and foamy gas. Rigged down Aztec. 366 bbls. to recover.
- 10-4-68 Moved in B & R Service swab unit. Raining too hard to pour rope socket. Shut down.
- 10-5-68 Fluid level at 3000'. Swabbed well down to 5500. Swabbed 15 bbls. water in 8 hrs. Final rate 1 bbl./hr. Water was soapy with 2% oil cut, very little gas. 351 bbls. to recover.
- 10-6-68 Fluid level at 3800'. Swabbed well down to 5500. Swabbed 11 bbls. water in 8 hrs. Final rate 1 bbl./hr. Water was heavy soapy emulsion cut 10% with oil. Well making small blow of gas. 340 bbls. to recover.
- 10-7-68 Fluid level at 4500. Swabbed well down to 5500. Swabbed 8 bbls. fluid in 8 hrs. Final rate 3/4 bbl. / hr., 50% oil, 50% soapy water small blow of gas. 336 bbls. load water to recover. Released rig.

J. GREGORY MERRION
SAN JUAN COUNTY
DISTRICT 2
HOME ADDRESS:
P.O. BOX 507
504 McDONALD ROAD
TELEPHONE 327-9094
FARMINGTON, NEW MEXICO



COMMITTEES:
MEMBER:
LABOR
TAXATION AND REVENUE

State of New Mexico
House of Representatives

TWENTY-NINTH LEGISLATURE

Santa Fe

February 27, 1969

Case 4078

Mr. A. L. Porter, Jr., Executive Secretary
Oil Conservation Commission
Land Office Building
Santa Fe, New Mexico

Re: Application to comingle NCRA
State #3 well, Devils Fork, Gallup
Field

Dear Mr. Porter:

The subject well is presently capable of producing oil from the Mesa Verde zone at an approximate rate of twenty barrels of oil per day if pumped. The Gallup zone does not appear capable of producing as a result of drilling mud damage after a casing leak. A sand-water fracture treatment of the Gallup zone failed to restore production.

It is currently my desire to set a pumping unit to artificially lift production from the Point Lookout zone in hopes that prolonged pressure reduction against the sand face of the Gallup will allow the Gallup to gradually clear up and produce again.

It is my desire to obtain permission to comingle both zones inside the 4 1/2 inch casing. Therefore, please schedule a hearing so that we might consider this.

Yours very truly,

J. Gregory Merrion
J. Gregory Merrion

JGM/ms

DOCKET LABEL

Date 4-10-69

DOCKET MAILED DOCKET MAILED

Date 3/27/69 Date 3/14/69

J. Gregory Merriam

Application to Comingle

Point Lookout & Gallup

NCRA-State No. 8

Proposed Testing Procedure

1. Take 72 hour GOR test of Point Lookout while flowing through casing ~~at~~ *obtain oil from casing*
2. Swab test Gallup 8 hours and record swab rate at end of 8 hours. (Swab rate #1.)
3. Unseat packer & pull tubing to point Lookout. Reset packer above Point Lookout perfs. Swab test Point Lookout and Gallup comingled for 8 hours and record swab rate at end of test. (Swab rate #2.)

4. Initial allocation of production as follows:

- a.) Point Lookout Oil = ~~(Swab Rate #1)~~ ^{Swab Rate #2} Swab Rate #2) x Total Oil
- b.) Point Lookout Gas = (Point Lookout Oil as determined in 4a)
GOR
x (Point Lookout ~~GOR~~ as determined in #1)
- c.) Gallup Oil = Total Oil Less Point Lookout Oil
- d.) Gallup Gas = Total Gas Less Point Lookout Gas.

- 6/ 5. Quarterly GOR Tests to be taken in accordance with Devils Fork Field Rules and ~~split~~ ^{allocation} according to formula in #4.
- 7/ 6. If ~~after one year~~ ^{1, 1979}, decline curve indicates increased production from well, zones to be again separated by packer and retested by swabbing. Allocation between zones to be adjusted retroactively as warranted.

P.L. 46.5 - 55.9°F.
G x H 113.2 - 60.9°F.

DRAFT

GMH/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. 4078

Order No. R-3741

APPLICATION OF J. GREGORY MERRION
FOR DOWNHOLE COMMINGLING, RIO ARRIBA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 23, 1969,
at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this _____ day of April, 1969, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, 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, J. Gregory Merrion, is the owner
and operator of the NCRA State Well No. 3, located in Unit L of
Section 16, Township 24 North, Range 6 West, NMPM, Rio Arriba
County, New Mexico,

(3) That the subject well was originally completed for
production from the Devils Fork-Gallup Pool, but production was
~~lost due to mudding up~~ ^{during redemial work} and treatment has not restored production.

(4) That the well was subsequently perforated in an undesig-
nated Mesaverde oil pool and ^{marginal} ~~limited~~ production achieved.

(5) That the applicant proposes to set a single string of
2-inch tubing opposite the Devils Fork-Gallup perforations and

attempt

to produce both of the subject zones through said tubing, commingling production from the subject zones in the 4 1/2-inch casing.

(6) That the proposed method of production may restore the producing capability of the subject well in the Devils Fork-Gallup Pool.

(7) That the reservoir characteristics of each of the two zones are such that underground waste would not be caused by the proposed commingling in the well-bore.

(8) That the proposed commingling may result in the recovery of additional oil and gas from the Devils Fork-Gallup Pool, thereby preventing waste, and will not violate correlative rights.

(9) That production tests should be conducted, prior to commingling and periodically thereafter, to determine the production from each zone.

IT IS THEREFORE ORDERED:

(1) That the applicant, J. Gregory Merrion, is hereby authorized to complete his NCRA State Well No. 3, located in Unit L of Section 16, Township 24 North, Range 6 West, NMPM, Rio Arriba County, New Mexico, in such a manner as to produce *and gas* oil from an undesignated Mesaverde oil pool through perforations from 4541 feet to 4629 feet and to produce oil and gas from the Devils Fork-Gallup Pool through perforations from 5774 feet to 5796 feet, commingling the production from each of said zones in the well-bore until further order of the Commission;

PROVIDED HOWEVER, that the production of each zone shall be established and future production allocated to the Mesaverde and Gallup zones of the subject well in accordance with the following ~~testing~~ procedure:

1. Prior to commingling, the productivity, gravity, and gas-oil ratio of the Mesaverde zone shall be determined from a 72-hour gas-oil ratio test flowing through the casing.
2. Determine the rate of Gallup ^{oil} production by means of an 8-hour swab test of said zone.
(Swab rate #1.)
3. Determine the rate of the commingled ^{oil} production by means of an 8-hour swab test of the commingled Gallup and Mesaverde zones.
(Swab rate #2.)
4. Determine the Mesaverde allocation of production factor as follows:

$$(MV_f) = \frac{\text{Swab rate \#2} - \text{Swab rate \#1}}{\text{Swab rate \#2}}$$

5. Determine the monthly allocation of production as follows:
 - a. Mesaverde oil production = $MV_f \times$ commingled production.
 - b. Mesaverde gas production = Mesaverde oil production \times Mesaverde GOR.
 - c. Gallup oil production = commingled oil production ^{less} ~~the~~ Mesaverde oil production.
 - d. Gallup gas production = commingled gas production ^{less} ~~the~~ Mesaverde gas production.

(2) The operator shall take gas-oil ratio tests quarterly in accordance with the special rules and regulations governing the Devils Fork-Gallup Pool and the results thereof used in the ~~subsequent~~ ^{subsequent} computations of allocation of production.

(3) That should production curves indicate on February 1, 1970, that the productivity of the well has increased, the aforementioned swab tests shall be repeated and allocation to the various zones adjusted retroactively, as warranted.

(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 hereinabove designated.