

CASE 7101: CONSOLIDATED OIL & GAS, INC. *Inc.*  
FOR DOWNHOLE COMMINGLING, RIO ARRIBA  
COUNTY, NEW MEXICO

Case No.

7101

Application

Transcripts

Small Exhibits

ETC



STATE OF NEW MEXICO  
**ENERGY AND MINERALS DEPARTMENT**  
 OIL CONSERVATION DIVISION

BRUCE KING  
 GOVERNOR

LARRY KEHOE  
 SECRETARY

January 16, 1981

POST OFFICE BOX 2088  
 STATE LAND OFFICE BUILDING  
 SANTA FE, NEW MEXICO 87501  
 (505) 827-2434

Re: CASE NO. 7101  
 ORDER NO. R-6559

Ms. Lynn Teeschendorf, Attorney  
 Consolidated Oil & Gas, Inc.  
 1860 Lincoln Street, #1300  
 Denver, Colorado 80295

Applicant:

~~Consolidated Oil & Gas, Inc.~~

Dear Sir:

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

Yours very truly,

*Joe D. Ramey*  
 JOE D. RAMEY  
 Director

JDR/fd

Copy of order also sent to:

Hobbs OCD \_\_\_\_\_  
 Artesia OCD \_\_\_\_\_  
 Aztec OCD \_\_\_\_\_

Other \_\_\_\_\_

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 7101  
Order No. R-6559

APPLICATION OF CONSOLIDATED OIL & GAS,  
INC. FOR DOWNHOLE COMMINGLING, RIO  
ARRIBA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on December 10,  
1980, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 14th day of January, 1981, the Division  
Director, 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 Division has jurisdiction of this cause and the  
subject matter thereof.
- (2) That the applicant, Consolidated Oil & Gas, Inc., is  
the owner and operator of the Tribal "C" Well No. 4-E, located  
in Unit H of Section 6, Township 26 North, Range 3 West, NMPM,  
Rio Arriba County, New Mexico.
- (3) That the applicant seeks authority to commingle Gallup  
and Basin-Dakota production within the wellbore of the above-  
described well.
- (4) That from the Gallup zone, the subject well is capable  
of low rates of production only.
- (5) That from the Basin-Dakota zone, the subject well is  
capable of low rates of production only.
- (6) That the proposed commingling may result in the recovery  
of additional hydrocarbons from each of the subject pools, thereby  
preventing waste, and will not violate correlative rights.

-2-

Case No. 7101  
Order No. R-6559

(7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(8) That to afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Division any time the subject well is shut-in for 7 consecutive days.

(9) That in order to allocate the commingled production to each of the commingled zones in the well, applicant should consult with the supervisor of the Aztec district office of the Division and determine an allocation formula for each of the production zones.

IT IS THEREFORE ORDERED:

(1) That the applicant, Consolidated Oil & Gas, Inc., is hereby authorized to commingle Gallup and Basin-Dakota production within the wellbore of the Tribal "C" Well No. 4-E, located in Unit H of Section 6, Township 26 North, Range 3 West, NMPM, Rio Arriba County, New Mexico.

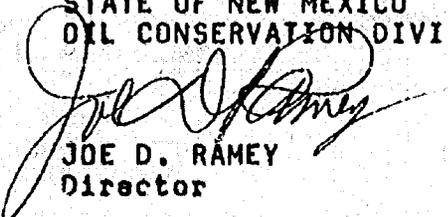
(2) That the applicant shall consult with the Supervisor of the Aztec district office of the Division and determine an allocation formula for the allocation of production to each zone in the subject well.

(3) That the operator of the subject well shall immediately notify the Division's Aztec district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Division, a plan for remedial action.

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

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

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
JOE D. RAMEY  
Director

S E A L  
fd/

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION  
STATE LAND OFFICE BLDG.  
SANTA FE, NEW MEXICO  
10 December 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Consolidated Oil and  
Gas, Inc., for downhole commingling,  
Rio Arriba County, New Mexico.

CASE  
7101

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation  
Division:

Ernest L. Padilla, Esq.  
Legal Counsel to the Division  
State Land Office Bldg.  
Santa Fe, New Mexico 87501

For the Applicant:

Lynn Teschendorf, ESQ.  
CONSOLIDATED OIL & GAS, INC.  
Denver, Colorado

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I N D E X

JOHN WEY

Direct Examination by Ms. Teschendorf

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Cross Examination by Mr. Stamets

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E X H I B I T S

Applicant Exhibit One, Plat

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Applicant Exhibit Two, Sketch

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Applicant Exhibit Three, Test

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2 MR. STAMETS: We'll call next Case 7101.

3 MR. PADILLA: Application of Consolidated  
4 Oil & Gas, Inc., for a downhole commingling, Rio Arriba County,  
5 New Mexico.

6 MS. TESCHENDORF: Lynn Teschendorf,  
7 appearing on behalf of the applicant.

8 I have one witness to be sworn in.

9  
10 (Witness sworn.)

11  
12 JOHN WEY

13 being called as a witness and being duly sworn upon his oath,  
14 testified as follows, to-wit:

15  
16 DIRECT EXAMINATION

17 BY MS. TESCHENDORF:

18 Q Would you please state your name, by whom  
19 you're employed, and in what capacity?

20 A My name is John Wey, spelled W-E-Y. I'm  
21 employed by Consolidated Oil & Gas as the Rocky Mountain  
22 Division Operations Engineer.

23 Q Mr. Wey, have you previously testified  
24 before the Division?

25 A No.

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Q For the record would you state your educational background and your work experience?

A I was graduated from the University of Oklahoma in 1948. I worked five years for the U. S. Bureau of Mines in Bartlesville in secondary recovery field studies. I worked three years for ARCO in California as a production and secondary recovery engineer. I worked for five years as Production Superintendent for the Honolulu Oil Corporation, and three years after that for Standard of California as a development engineer. I worked fourteen years for Butte Gas and Oil Company in northern California and the Rocky Mountains, handling gas and oil operations and drilling operations.

For the past two years I've been employed by two companies in Denver, one of them being Consolidated Oil & Gas.

Q Are you familiar with the facts surrounding this particular case?

A Yes.

MS. TESCHENDORF: Is the witness considered qualified?

MR. STAMETS: Yes.

Q What is Consolidated seeking with this application?

A We're seeking the approval for the down-

1  
2 hole commingling of Gallup and Basin Dakota production in the  
3 wellbore of its Tribal "C" Well No. 4-E in Unit H of Section  
4 6, Township 26 North, Range 3 West.

5 Q Would you please refer to what has been  
6 marked as Exhibit One and describe what that shows?

7 A Exhibit One shows a location plat of the  
8 Tribal "C" 4-E, located in Section 6 of 26 North, 3 West, Rio  
9 Arriba County.

10 Q What unit is dedicated to this well?

11 A The east half of Section 6.

12 Q Will you now refer to Exhibit Two and  
13 describe that?

14 A This is a completion schematic for com-  
15 mingling of the Basin Dakota and the Gallup. It shows that  
16 we have drilled the well to a depth of 4196 feet and cemented  
17 7-5/8ths inch casing there. At that point we air-drilled the  
18 well to the total depth of 8400 feet and cemented the 4-1/2  
19 inch liner at that depth with the top being at 3257. We have  
20 perforated the Basin Dakota and have fractured it, and we've  
21 also perforated the Gallup and fractured it. We have set a  
22 Baker Model D between the two zones and have run 1-1/2 inch  
23 tubing to a depth there of 8269 feet with a seating nipple  
24 at 8238. There is a sliding sleeve opposite the Gallup per-  
25 forations there at 7622.

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Q When was this well spudded?

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A December the 8th, 1980, was the date

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that we have that this was made up.

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Q Well, do you have a spud date on the well?

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A Yes, I have the spud date. I don't show

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it on here, I don't believe.

8

Q Have you got the information in your

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folder?

10

A Yes. I'll look in my folder here.

11

I'm sorry, Lynn, I don't have it.

12

Q Okay, it was fairly recently, was it not?

13

A Yes. It was spudded, I believe, I'll

14

give a date as June the 8th of 1980, and was completed here

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just recently.

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Q Okay. What were your original intentions

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for zone completion in the well?

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A The original intent was to drill the

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well and complete only in the Basin Dakota, and the perfora-

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tions there are shown.

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When the open hole log was run, the Gallup

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Q Okay, what problems resulted from this

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A. Well, originally the well was drilled and a 7-5/8ths inch casing was set and the program was to set 4-1/2 inch liner. With the 4-1/2 inch liner in there, we now find that we cannot run a dual string to dually complete the Basin Dakota through a separate string from the Gallup. The only thing we can run down inside the 4-1/2 inch liner there is our inch and a half production string, which we have in this completion schematic.

Q And that is why we are seeking to down-hole commingle the well, is that right?

A. That's right.

Q Would you now refer to Exhibit Three and describe what that shows?

A. Exhibit Three is a back pressure test, which was run just recently, on the Basin Dakota. It was -- test date was December the 6th, 1980, and we have an absolute open flow on the Basin Dakota of 469 Mcf per day.

Q Is this expected to decline rapidly?

A. Yes, it will decline rather rapidly.

Q Have you been able to run a similar test on the Gallup formation?

A. No. At the present time we are attempting to get an absolute open flow test on the Gallup. We have set a plug in the inch and a half to shut off the Basin Dakota,

1  
2 and we have opened the sleeve to test the Gallup, but this is  
3 just the present state of the well at this time. We do not  
4 have a test. We expect to have a test completed here by  
5 Monday or Tuesday of next week.

6 Q Can we submit the data to the Examiner  
7 at that time?

8 A Yes.

9 Q Do you expect those tests to show that  
10 production from the Gallup will be marginal?

11 A Yes.

12 Q Would you please refer to Exhibit Three  
13 and give us the results of pressure tests that have been run  
14 on the Dakota formation?

15 A The back pressure test was run here on  
16 12-6 of 1980. The shut-in, 7-day shut-in pressure at that  
17 time was 1575 with a packer on the casing side.

18 We flowed the well for 3 hours with a  
19 tubing pressure at the end of 3 hours of 190 psi, and the cal-  
20 culations show at that point that the well was producing 439  
21 Mcf.

22 Q You also do not have the pressure inform-  
23 ation on the Gallup. Will you submit that, also, to the Exa-  
24 miner as soon as possible?

25 A Yes, as soon as we get a bottom hole

1  
2 pressure on that, then we will submit that also.

3 Q Do you expect the pressures to be fairly  
4 similar to those found in the Dakota zone?

5 A Yes.

6 Q I believe a 3-hour fluid test has been  
7 run on this well. Would you please give the results of those  
8 tests?

9 A In most -- or the production from the  
10 Dakota is gas with very little condensate and water, and we  
11 have run tests on the Gallup there with the same type of re-  
12 sults, gas with very little condensate; no water.

13 Q Historically in this area, what are the  
14 water and condensate rates of production from these zones?

15 A Water is minimal to a trace, maybe anywhere  
16 from 1/2 a barrel or less, to a trace, and the condensate rates  
17 initially may run as high as 3 barrels a day, declining down  
18 to maybe less than 1 barrel per day.

19 Q Do you expect the Gallup zone to produce  
20 more condensate than the Dakota?

21 A Yes.

22 Q In your opinion will the gas lift provided  
23 by the Dakota production be sufficient to flow the well?

24 A Yes.

25 Q In your opinion will the commingled fluids

1  
2 be compatible?

3 A. Yes, they will both be condensate and gas.

4 Q. At this time can you recommend a per-  
5 centage of allocation between the zones?

6 A. No.

7 Q. As soon as those tests are run would you  
8 consult with the Aztec District Office and -- in order to set  
9 a percentage?

10 A. Yes, as soon as we obtain the tests and  
11 they're approved by the Commission, we would set a percentage  
12 of the two zones.

13 MS. TESCHENDORF: Would that be acceptable  
14 to the Examiner?

15 MR. STAMETS: It certainly will be.

16 MS. TESCHENDORF: We'll consult with you,  
17 if you prefer.

18 MR. STAMETS: No.

19 MS. TESCHENDORF: Okay.

20 Q. Is the ownership in both these zones  
21 identical?

22 A. Yes.

23 Q. If this application should be denied,  
24 what does Consolidated seek in the alternative?

25 A. We could run on the well down to the top

1 of the liner an inch and a half or inch and a quarter string  
2 and attempt to produce the Gallup, and I think we'd have  
3 serious problems trying to lift any fluids on the Gallup, and  
4 also for the amount of gas.

5 The other difficulty, the only thing we  
6 could do would be to shut-in one zone and produce it for  
7 awhile and then shut in the other zone, and this entails quite  
8 a bit of expense switching from zone to zone, if we have to  
9 do it that way.

10 Q And that is why you do prefer the down-  
11 hole commingling?

12 A Yes.

13 Q Would you request an expedited approval  
14 of this application?

15 A I would like to get one as soon as possible.  
16 We do have the sleeve open with the plug set in the inch and  
17 a half tubing. As soon as we get the test on the Gallup we  
18 would go in and of course pull the plug and if we knew that  
19 we had commingling, then we could leave the sleeve open and  
20 not have to go to the expense of coming back and opening it  
21 again.

22 Q Has a copy of this application been sent  
23 to all offset operators?

24 A Yes.

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Q To whom has this been sent and when?

3

A Well, the offset operators in this is

4

I believe Supron, Southern Union, and Mobil.

5

Q And when were the notices sent?

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A I believe they were sent at the time the

7

application was filed.

8

Q In your opinion will the granting of this

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application prevent waste, allow a greater recovery of oil

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and gas and what otherwise results, and protect correlative

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rights?

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A Yes.

13

Q Were Exhibits One through Three prepared

14

by you or under your supervision?

15

A Yes.

16

MS. TESCHENDORF: At this time I'll offer

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Exhibits One through Three in evidence.

18

MR. STAMETS: These exhibits will be

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admitted.

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MS. TESCHENDORF: And I have nothing

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further.

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CROSS EXAMINATION

24

BY MR. STAMETS:

25

Q Mr. Wey, before we're going to be able

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2 to approve this application we're going to have to have bottom  
3 hole pressures on both the zones submitted. I'd like to see  
4 an analysis of the liquids on the Gallup zone and also indi-  
5 cation of how much you expect that to make.

6 A. All right. We'll submit those.

7 Q. In your opinion with the preliminary  
8 evidence you have at this point, do you feel it would be econ-  
9 omical to try and produce this well as a dual completion or  
10 produce it as separate zones?

11 A. With the sleeve closed at this time?

12 Q. Right.

13 A. And with the Dakota produced on the inch  
14 and a half?

15 Q. Would it be an economical situation to  
16 produce one zone and then the other?

17 A. I do not believe so. I believe there  
18 would be quite a bit of expense and also there would be quite  
19 a bit of decrease in our production from each zone.

20 Q. Are there any other Gallup producers in  
21 the area?

22 A. I think there are some. Let's see, how  
23 many. There are none right here within, oh, I don't believe  
24 within a mile or two miles of this. This is the -- this is  
25 something that showed up and we decided to a completion in the

1  
2 Gallup at this time.

3 Q And the Gallup zone is gas in the area.

4 A The Gallup is gas, yes.

5 Q Okay. We will hold the record open for  
6 the additional information that is submitted and assuming that  
7 that information is adequate at that time, the case will be  
8 then taken under advisement.

9 MR. STAMETS: Is there any other -- any  
10 questions of this witness at this time? He may be excused.

11 Anything further in this case?

12 MS. TESCHENDORF: We appreciate you  
13 holding the record open. We should be able to get that stuff  
14 to you by the end of next week, I would think?

15 A I would think so, yes.

16 MR. STAMETS: Okay, with the provision  
17 for the submittal of the additional evidence and with the as-  
18 sumption that it will be adequate, we will take the case under  
19 advisement.

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21 (Hearing concluded.)  
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C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 7101, heard by me on 12-10 19 86.

Richard P. Stum, Examiner  
Oil Conservation Division

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION  
STATE LAND OFFICE BLDG.  
SANTA FE, NEW MEXICO  
10 December 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Consolidated Oil and  
Gas, Inc., for downhole commingling,  
Rio Arriba County, New Mexico.

CASE  
7101

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation  
Division:

Ernest L. Padilla, Esq.  
Legal Counsel to the Division  
State Land Office Bldg.  
Santa Fe, New Mexico 87501

For the Applicant:

Lynn Teschendorf, ESQ.  
CONSOLIDATED OIL & GAS, INC.  
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I N D E X

JOHN WEY

Direct Examination by Ms. Teschendorf	3
Cross Examination by Mr. Stamets	12

E X H I B I T S

Applicant Exhibit One, Plat	5
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4 Oil & Gas, Inc., for a downhole commingling, Rio Arriba County,  
5 New Mexico.

6 MS. TESCHENDORF: Lynn Teschendorf,  
7 appearing on behalf of the applicant.

8 I have one witness to be sworn in.

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10 (Witness sworn.)

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12 JOHN WEY

13 being called as a witness and being duly sworn upon his oath,  
14 testified as follows, to-wit:

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16 DIRECT EXAMINATION

17 BY MS. TESCHENDORF:

18 Q Would you please state your name, by whom  
19 you're employed, and in what capacity?

20 A My name is John Wey, spelled W-E-Y. I'm  
21 employed by Consolidated Oil & Gas as the Rocky Mountain  
22 Division Operations Engineer.

23 Q Mr. Wey, have you previously testified  
24 before the Division?

25 A NO.

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2 Q For the record would you state your edu-  
3 cational background and your work experience?

4 A I was graduated from the University of  
5 Oklahoma in 1948. I worked five years for the U. S. Bureau  
6 of Mines in Bartlesville in secondary recovery field studies.  
7 I worked three years for ARCO in California as a production  
8 and secondary recovery engineer. I worked for five years as  
9 Production Superintendent for the Honolulu Oil Corporation,  
10 and three years after that for Standard of California as a  
11 development engineer. I worked fourteen years for Butte Gas  
12 and Oil Company in northern California and the Rocky Mountains,  
13 handling gas and oil operations and drilling operations.

14 For the past two years I've been employed  
15 by two companies in Denver, one of them being Consolidated  
16 Oil & Gas.

17 Q Are you familiar with the facts surrounding  
18 this particular case?

19 A Yes.

20 MS. TESCHENDORF: Is the witness consider-  
21 ed qualified?

22 MR. STAMETS: Yes.

23 Q What is Consolidated seeking with this  
24 application?

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2 hole commingling of Gallup and Basin Dakota production in the  
3 wellbore of its Tribal "C" Well No. 4-E in Unit H of Section  
4 6, Township 26 North, Range 3 West.

5 Q Would you please refer to what has been  
6 marked as Exhibit One and describe what that shows?

7 A Exhibit One shows a location plat of the  
8 Tribal "C" 4-E, located in Section 6 of 26 North, 3 West, Rio  
9 Arriba County.

10 Q What unit is dedicated to this well?

11 A The east half of Section 6.

12 Q Will you now refer to Exhibit Two and  
13 describe that?

14 A This is a completion schematic for com-  
15 mingling of the Basin Dakota and the Gallup. It shows that  
16 we have drilled the well to a depth of 4196 feet and cemented  
17 7-5/8ths inch casing there. At that point we air-drilled the  
18 well to the total depth of 8400 feet and cemented the 4-1/2  
19 inch liner at that depth with the top being at 3257. We have  
20 perforated the Basin Dakota and have fractured it, and we've  
21 also perforated the Gallup and fractured it. We have set a  
22 Baker Model D between the two zones and have run 1-1/2 inch  
23 tubing to a depth there of 8269 feet with a seating nipple  
24 at 8238. There is a sliding sleeve opposite the Gallup per-  
25 forations there at 7622.

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Q When was this well spudded?

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A December the 8th, 1980, was the date that we have that this was made up.

4

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Q Well, do you have a spud date on the well?

6

A Yes, I have the spud date. I don't show it on here, I don't believe.

7

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Q Have you got the information in your

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folder?

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A Yes. I'll look in my folder here.

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I'm sorry, Lynn, I don't have it.

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Q Okay, it was fairly recently, was it not?

13

A Yes. It was spudded, I believe, I'll

give a date as June the 8th of 1980, and was completed here just recently.

14

15

Q Okay. What were your original intentions

for zone completion in the well?

16

A The original intent was to drill the

well and complete only in the Basin Dakota, and the perforations there are shown.

17

When the open hole log was run, the Gallup showed to be possibly productive and at that point we decided to also complete in the Gallup.

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Q Okay, what problems resulted from this

decision?

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1  
2 A Well, originally the well was drilled  
3 and a 7-5/8ths inch casing was set and the program was to set  
4 4-1/2 inch liner. With the 4-1/2 inch liner in there, we now  
5 find that we cannot run a dual string to dually complete the  
6 Basin Dakota through a separate string from the Gallup. The  
7 only thing we can run down inside the 4-1/2 inch liner there  
8 is our inch and a half production string, which we have in  
9 this completion schematic.

10 Q And that is why we are seeking to down-  
11 hole commingle the well, is that right?

12 A That's right.

13 Q Would you now refer to Exhibit Three and  
14 describe what that shows?

15 A Exhibit Three is a back pressure test,  
16 which was run just recently, on the Basin Dakota. It was --  
17 test date was December the 6th, 1980, and we have an absolute  
18 open flow on the Basin Dakota of 469 Mcf per day.

19 Q Is this expected to decline rapidly?

20 A Yes, it will decline rather rapidly.

21 Q Have you been able to run a similar test  
22 on the Gallup formation?

23 A No. At the present time we are attempting  
24 to get an absolute open flow test on the Gallup. We have set  
25 a plug in the inch and a half to shut off the Basin Dakota,

1

8

2 and we have opened the sleeve to test the Gallup, but this is  
3 just the present state of the well at this time. We do not  
4 have a test. We expect to have a test completed here by  
5 Monday or Tuesday of next week.

6 Q Can we submit the data to the Examiner  
7 at that time?

8 A Yes.

9 Q Do you expect those tests to show that  
10 production from the Gallup will be marginal?

11 A Yes.

12 Q Would you please refer to Exhibit Three  
13 and give us the results of pressure tests that have been run  
14 on the Dakota formation?

15 A The back pressure test was run here on  
16 12-6 of 1980. The shut-in, 7-day shut-in pressure at that  
17 time was 1575 with a packer on the casing side.

18 We flowed the well for 3 hours with a  
19 tubing pressure at the end of 3 hours of 190 psi, and the cal-  
20 culations show at that point that the well was producing 439  
21 Mcf.

22 Q You also do not have the pressure inform-  
23 ation on the Gallup. Will you submit that, also, to the Exa-  
24 miner as soon as possible?

25 A Yes, as soon as we get a bottom hole

1  
2 pressure on that, then we will submit that also.

3 Q Do you expect the pressures to be fairly  
4 similar to those found in the Dakota zone?

5 A Yes.

6 Q I believe a 3-hour fluid test has been  
7 run on this well. Would you please give the results of those  
8 tests?

9 A In most -- or the production from the  
10 Dakota is gas with very little condensate and water, and we  
11 have run tests on the Gallup there with the same type of re-  
12 sults, gas with very little condensate; no water.

13 Q Historically in this area, what are the  
14 water and condensate rates of production from these zones?

15 A Water is minimal to a trace, maybe anywhere  
16 from 1/2 a barrel or less, to a trace, and the condensate rates  
17 initially may run as high as 3 barrels a day, declining down  
18 to maybe less than 1 barrel per day.

19 Q Do you expect the Gallup zone to produce  
20 more condensate than the Dakota?

21 A Yes.

22 Q In your opinion will the gas lift provided  
23 by the Dakota production be sufficient to flow the well?

24 A Yes.

25 Q In your opinion will the commingled fluids

1  
2 be compatible?

3 A. Yes, they will both be condensate and gas.

4 Q. At this time can you recommend a per-  
5 centage of allocation between the zones?

6 A. No.

7 Q. As soon as those tests are run would you  
8 consult with the Aztec District Office and -- in order to set  
9 a percentage?

10 A. Yes, as soon as we obtain the tests and  
11 they're approved by the Commission, we would set a percentage  
12 of the two zones.

13 MS. TESCHENDORF: Would that be acceptable  
14 to the Examiner?

15 MR. STAMETS: It certainly will be.

16 MS. TESCHENDORF: We'll consult with you  
17 if you prefer.

18 MR. STAMETS: No.

19 MS. TESCHENDORF: Okay.

20 Q. Is the ownership in both these zones  
21 identical?

22 A. Yes.

23 Q. If this application should be denied,  
24 what does Consolidated seek in the alternative?

25 A. We could run on the well down to the top

1  
2 of the liner an inch and a half or inch and a quarter string  
3 and attempt to produce the Gallup, and I think we'd have  
4 serious problems trying to lift any fluids on the Gallup, and  
5 also for the amount of gas.

6 The other difficulty, the only thing we  
7 could do would be to shut-in one zone and produce it for  
8 awhile and then shut in the other zone, and this entails quite  
9 a bit of expense switching from zone to zone, if we have to  
10 do it that way.

11 Q And that is why you do prefer the down-  
12 hole commingling?

13 A Yes.

14 Q Would you request an expedited approval  
15 of this application?

16 A I would like to get one as soon as possible.  
17 We do have the sleeve open with the plug set in the inch and  
18 a half tubing. As soon as we get the test on the Gallup we  
19 would go in and of course pull the plug and if we knew that  
20 we had commingling, then we could leave the sleeve open and  
21 not have to go to the expense of coming back and opening it  
22 again.

23 Q Has a copy of this application been sent  
24 to all offset operators?

25 A Yes.

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Q To whom has this been sent and when?

A Well, the offset operators in this is I believe Supron, Southern Union, and Mobil.

Q And when were the notices sent?

A I believe they were sent at the time the application was filed.

Q In your opinion will the granting of this application prevent waste, allow a greater recovery of oil and gas and what otherwise results, and protect correlative rights?

A Yes.

Q Were Exhibits One through Three prepared by you or under your supervision?

A Yes.

MS. TESCHENDORF: At this time I'll offer Exhibits One through Three in evidence.

MR. STAMETS: These exhibits will be admitted.

MS. TESCHENDORF: And I have nothing further.

CROSS EXAMINATION

BY MR. STAMETS:

Q Mr. Wey, before we're going to be able

1  
2 to approve this application we're going to have to have bottom  
3 hole pressures on both the zones submitted. I'd like to see  
4 an analysis of the liquids on the Gallup zone and also indi-  
5 cation of how much you expect that to make.

6 A. All right. We'll submit those.

7 Q. In your opinion with the preliminary  
8 evidence you have at this point, do you feel it would be econ-  
9 omical to try and produce this well as a dual completion or  
10 produce it as separate zones?

11 A. With the sleeve closed at this time?

12 Q. Right.

13 A. And with the Dakota produced on the inch  
14 and a half?

15 Q. Would it be an economical situation to  
16 produce one zone and then the other?

17 A. I do not believe so. I believe there  
18 would be quite a bit of expense and also there would be quite  
19 a bit of decrease in our production from each zone.

20 Q. Are there any other Gallup producers in  
21 the area?

22 A. I think there are some. Let's see, how  
23 many. There are none right here within, oh, I don't believe  
24 within a mile or two miles of this. This is the --- this is  
25 something that showed up and we decided to a completion in the

1  
2 Gallup at this time.

3 Q And the Gallup zone is gas in the area.

4 A The Gallup is gas, yes.

5 Q Okay. We will hold the record open for  
6 the additional information that is submitted and assuming that  
7 that information is adequate at that time, the case will be  
8 then taken under advisement.

9 MR. STAMETS: Is there any other -- any  
10 questions of this witness at this time? He may be excused.

11 Anything further in this case?

12 MS. TESCHENDORF: We appreciate you  
13 holding the record open. We should be able to get that stuff  
14 to you by the end of next week, I would think?

15 A I would think so, yes.

16 MR. STAMETS: Okay, with the provision  
17 for the submittal of the additional evidence and with the as-  
18 sumption that it will be adequate, we will take the case under  
19 advisement.

20  
21 (Hearing concluded.)  
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C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd C.S.R.

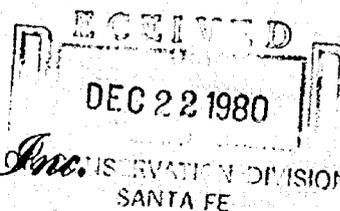
I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. \_\_\_\_\_ heard by me on \_\_\_\_\_ 19\_\_\_\_.

\_\_\_\_\_, Examiner  
Oil Conservation Division



LINCOLN TOWER BUILDING  
1860 LINCOLN STREET  
DENVER, COLORADO 80295  
(303) 861-5232

*Consolidated Oil & Gas, Inc.*



December 19, 1980

Mr. R.L. Stamets  
Oil Conservation Division  
Santa Fe, NM 87501

Re: Case No. 7101

Dear Mr. Stamets:

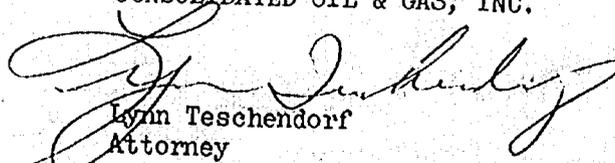
Enclosed is Form C-122, Multipoint and One Point Back Pressure Test for Gas Well, for the Gallup zone in Consolidated's Tribal "C" Well No. 4-E. The gravity of the condensate was 63.4 degrees; the gravity in the Dakota zone was 57.3 degrees.

The AOF test indicated 594 MCFD from the Gallup zone. This is expected to decline rapidly. The BHP at 7668 feet (mid perms) was 1766 pounds in the Gallup. In the Dakota, it was 2096 pounds at 8040 feet, and 2112 pounds at 8290 feet.

Please let me know if you need anything further. We appreciate very much your permitting us to submit this data after the hearing.

Very truly yours,

CONSOLIDATED OIL & GAS, INC.

  
Lynn Teschendorf  
Attorney

LHT/mek  
xc: Floyd E. Ellison  
John Wey

NEW MEXICO OIL CONSERVATION COMMISSION  
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122  
Revised 9-1-65

DEC 22 1980

Type Test <input type="checkbox"/> Initial <input type="checkbox"/> Annual <input checked="" type="checkbox"/> Special			Test Date 12/17/80		OIL CONSERVATION DIVISION SANTA FE	
Company Consolidated Oil & Gas, Inc.			Connection Northwest Pipeline Company			
Pool Basin Dakota			Formation Gallup		Unit Jicarilla Contract #97	
Completion Date 11/28/80		Total Depth 8386'		Plug Back TD 8384'	Elevation 7211'	Farm or Lease Name Tribal "C"
Csq. Size 4 1/2"	Wt. 10.5 lb.	d 4.052	Set At 8386'	Perforations: From 7655' To 7681'		Well No. 4E
Tbg. Size 1 1/2"	Wt. 2.9 lb.	d 1.610	Set At 8269'	Perforations: From To		Unit Sec. Twp. Rge. H 6 26N 3W
Type Well - Single - Bradenhead - G.G. or G.O. Multiple G.G.				Packer Set At 7750'		County Rio Arriba
Producing Thru Tbg.		Reservoir Temp. °F 179 @ 7600'	Mean Annual Temp. °F	Baro. Press. - P <sub>2</sub> 12		State New Mexico
L	H	C <sub>2</sub>	% CO <sub>2</sub>	% H <sub>2</sub>	% H <sub>2</sub> S	Prover OWT
						Meter Run Taps
FLOW DATA			TUBING DATA			CASING DATA
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F
SI	7 days					
1.						1363
2.						280
3.						60
4.						1349
5.						492
						3 hrs.
RATE OF FLOW CALCULATIONS						
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Super Compress. Factor, F <sub>pv</sub>
1	2" x 1" OWT	----	25" Hg			
2.						
3.						
4.						
5.						
NO.	P <sub>1</sub>	Temp. °R	T <sub>1</sub>	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.	
1.					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.	
2.					Specific Gravity Separator Gas _____ XXXXXXXXXX	
3.					Specific Gravity Flowing Fluid _____ XXXXX	
4.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.	
5.					Critical Temperature _____ R _____ R	
P <sub>1</sub>	1375	P <sub>2</sub>	1891			
NO	P <sub>1</sub> <sup>2</sup>	P <sub>w</sub>	R <sub>w</sub> <sup>2</sup>	R <sub>1</sub> <sup>2</sup> - R <sub>w</sub> <sup>2</sup>	(1) $\frac{P_1^2}{R_1^2 - R_w^2} = 1.1552$	
1		504	254	1637	(2) $\left[ \frac{R_1^2}{R_1^2 - R_w^2} \right]^n = 1.1142$	
2						
3						
4						
5					AOF = Q $\left[ \frac{R_1^2}{R_1^2 - R_w^2} \right]^n = 594$	
Absolute Open Flow _____ 594 _____ Mcfd @ 15.025				Angle of Slope @ _____		Slope, n _____ 0.75
Remarks: Produced 2.5 bbls. condensate (API Gravity @ 60°F, 63.4°). Trace water.						
Approved By Commission:		Conducted By: Steve Baird		Calculated By: Tefteller		Checked By: -----

NEW MEXICO OIL CONSERVATION COMMISSION  
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122  
Revised 9-1-65

DEC 22 1980

Type Test <input type="checkbox"/> Initial <input type="checkbox"/> Annual <input checked="" type="checkbox"/> Special			Test Date 12/17/80		Oil Co. SUNBELT OIL COMPANY	
Company Consolidated Oil & Gas, Inc.			Connection Northwest Pipeline Company			
Pool Basin Dakota			Formation Gallup		Unit Jicarilla Contract#97	
Completion Date 11/28/80		Total Depth 8386'	Plug Back TD 8384'	Elevation 7211'	Farm or Lease Name Tribal "C"	
Csg. Size 4 1/2"	Wt. 10.5 lb.	d 4.052	Set At 8386'	Perforations: From 7655'	To 7681'	
Tbg. Size 1 1/2"	Wt. 2.9 lb.	d 1.610	Set At 8269'	Perforations: From	To	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple G.G.			Packer Set At 7750'		County Rio Arriba	
Producing Thru Tbg.		Reservoir Temp. °F 179 @ 7600'	Mean Annual Temp. °F	Baro. Press. - P <sub>a</sub> 12	State New Mexico	
L	H	G <sub>g</sub>	% CO <sub>2</sub>	% N <sub>2</sub>	% H <sub>2</sub> S	
Prover OWT		Meter Run	Taps			
FLOW DATA			TUBING DATA		CASING DATA	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	
	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	
51	7 days			1363	1349	
1.				280	60	
2.					492	
3.						
4.						
5.						
					3 hrs.	
RATE OF FLOW CALCULATIONS						
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	
	Super Compress. Factor, F <sub>pv</sub>	Rate of Flow Q, Mcfd				
1	2" x 1" OWT	---	25" Hg			
2.						
3.						
4.						
5.						
NO.	P <sub>1</sub>	Temp. °R	T <sub>1</sub>	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.	
					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.	
1.					Specific Gravity Separator Gas _____ XXXXXXXXXX	
2.					Specific Gravity Flowing Fluid _____ XXXXX	
3.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.	
4.					Critical Temperature _____ R _____ R	
5.						
NO.	P <sub>1</sub> <sup>2</sup>	P <sub>w</sub>	R <sub>w</sub> <sup>2</sup>	P <sub>1</sub> <sup>2</sup> - R <sub>w</sub> <sup>2</sup>	(1) $\frac{P_1^2}{P_1^2 - R_w^2} = 1.1552$	
1		504	254	1637	(2) $\left[ \frac{P_1^2}{P_1^2 - R_w^2} \right]^n = 1.1142$	
2						
3						
4						
5						
Absolute Open Flow	594	Mcf/d @ 15.025	Angle of Slope	Slope, n	0.75	
Remarks: Produced 2.5 bbls. condensate (API Gravity @ 60°F, 63.4°). Trace water.						
Approved By Commission:		Conducted By: Steve Baird		Calculated By: Teffeller	Checked By: -----	

NEW MEXICO OIL CONSERVATION COMMISSION  
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-127  
Revised 9-1-69

WELL NO. 221980  
OIL CONSERVATION COMMISSION  
SANTA FE

Type Test <input type="checkbox"/> Initial <input type="checkbox"/> Annual <input checked="" type="checkbox"/> Special			Test Date 12/17/80		SANTA FE					
Company Consolidated Oil & Gas, Inc.			Connection Northwest Pipeline Company							
Pool Basin Dakota			Formation Gallup		Unit Jicarilla Contract #97					
Completion Date 11/28/80		Total Depth 8386'		Plug Back TD 8384'	Elevation 7211'	Farm or Lease Name Tribal "C"				
Csq. Size 4 1/2"	Wt. 10.5 lb.	d 4.052	Set At 8386'	Perforations: From 7655' To 7681'		Well No. 4E				
Tbg. Size 1 1/2"	Wt. 2.9 lb.	d 1.610	Set At 8269'	Perforations: From                      To		Unit H	Sec. Twp. Rge. 6 26N 3W			
Type Well - Single - Bradenhead - G.G. or G.O. Multiple G.G.				Packer Set At 7750'		County Rio Arriba				
Producing Thru Tbg.		Reservoir Temp. °F 179 @ 7600'		Mean Annual Temp. °F		Baro. Press. - P <sub>a</sub> 12	State New Mexico			
L	H	G <sub>g</sub>	% CO <sub>2</sub>	% N <sub>2</sub>	% H <sub>2</sub> S	Prover OWT	Meter Run Taps			
FLOW DATA			TUBING DATA			CASING DATA		Duration of Flow		
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.		Temp. °F	Press. p.s.i.g.
SI	7 days						1363		1349	
1.							280	60	492	
2.										
3.										
4.										
5.										
RATE OF FLOW CALCULATIONS										
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Super Compress. Factor, F <sub>pv</sub>	Rate of Flow Q, Mc/d			
1	2" x 1" OWT	----	25" Hg				533			
2.										
3.										
4.										
5.										
NO.	R <sub>f</sub>	Temp. °R	T <sub>f</sub>	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.					
1.					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.					
2.					Specific Gravity Separator Gas _____ XXXXXXXXXX					
3.					Specific Gravity Flowing Fluid _____ XXXXX					
4.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.					
5.					Critical Temperature _____ R _____ R					
$P_c = 1375$ $P_c^2 = 1891$										
NO.	P <sub>c</sub> <sup>2</sup>	P <sub>w</sub>	R <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> - R <sub>w</sub> <sup>2</sup>	(1) $\frac{P_c^2}{P_c^2 - R_w^2} = 1.1552$ (2) $\left[ \frac{R_c^2}{P_c^2 - R_w^2} \right]^n = 1.1142$					
1		504	254	1637	AOF = Q $\left[ \frac{R_c^2}{P_c^2 - R_w^2} \right]^n = 594$					
2										
3										
4										
5										
Absolute Open Flow <u>594</u> Mc/d @ 15.025					Angle of Slope @ _____			Slope, n <u>0.75</u>		
Remarks: <u>Produced 2.5 bbls. condensate (API Gravity @ 60°F, 63.4°). Trace water.</u>										
Approved By Commission:			Conducted By: Steve Baird			Calculated By: Tefteller			Checked By: -----	

N.

EL PASO

PHILLIPS

EXHIBIT

MAP SHOWING LOCATION OF WELLS

Hearing on Commingling of Gallup and Dakota TRIBAL "C" 4-E

Sec. 6, T26N, R3W

EL PASO Rio Arriba County, New Mexico

CASE NO.

(1850' FNL, 800' FEL)

EL PASO

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CONSOLIDATED

CONSOLIDATED

N.W. F

BEFORE EXAMINER, STAMETS OIL CONSERVATION DIVISION

CASE NO. 7101

Submitted by

Hearing Date

MOBIL

MOBIL

MCHUGH

MCHUGH CONSOLIDATED

N.W. F

T. 26 N.

MOBIL

MOBIL

(N.W. PRODUCTION)

JEROME MCHUGH

SOUTHERN UNION

SOUTHERN UNION

N.W. PRODUCTION

N.W. SA

30

29

28

SOUTHERN UNION

SOUTHERN UNION

N.W. PRODUCTION

N.W. F

Elevations: GL - 7211'  
KB - 7224'

COMPLETION SCHEMATIC  
FOR COMMINGLING

TRIBAL "C" 4-E  
Sec. 6, T26N, R3W  
Rio Arriba County,  
New Mexico.  
Gallup and Dakota Formations

December -8, 1980

300 sx Cl "B", 2% CaCl<sub>2</sub>,  
1/4 lb/sx circulated to  
surface.

14-3/4" hole to 330'

10-3/4", 32.75#, K-55,  
cemented at 324'.

9-7/8" hole to 4217'. Top  
of 4-1/2", 10.5# & 11.6#,  
K-55, N-80 liner at 3257'.

Cemented with 730 sx of  
50-50 Pozmix, 2% gel, 10 lb  
per sx Gilsonite, 0.6%  
D-60.

7-5/8", 26.4#, K-55, ST&C  
cemented at 4196' with  
175 sx 65-35 Pozmix, 12% gel  
1/4 lb/sx celloflake, follow-  
ed by 100 sx Cl "B", 2%  
CaCl<sub>2</sub>, 1/4 lb. per sx  
celloflake

6-3/4" hole to 8400'

Baker Model "L" sliding  
sleeve at 7622'

Baker Retrieval-D packer set  
at 7750'.  
Seating nipple at 8238'

PBTD-CIBP at 8375'.  
4-1/2", 10.5# & 11.6#, K-55  
N-80 liner shoe at 8385'.

264 jt. of 1-1/2", 2.9#, EUE, 10 rd.  
thd landed at 8269'. Seating  
nipple at 8238'. Sliding sleeve at  
7622'.

Gallup Perfs: 7655'-7681', 15 holes.  
Fractured with 1321 bbl. and  
60,000# 20-40 mesh sand.

Dakota Perfs: 8164'-8228', 20 holes.  
Fractured with 3160 bbl. and  
145,000# 20-40 mesh sand.

Total depth - 8400'

BEFORE EXAMINER STAMETS  
OIL CONSERVATION DIVISION  
EXHIBIT NO. 2  
CASE NO. 7101  
Submitted by COG  
Hearing Date 12-10-80

J. Wey

NEW MEXICO OIL CONSERVATION COMMISSION  
 MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELLS  
 Form C-122  
 Revised 9-1-65

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special				Test Date 12/6/80		7101	
Company Consolidated Oil & Gas, Inc.			Connection Northwest Pipeline			COG	
Pool Basin Dakota			Formation Dakota			Unit 12H-10-3D	
Completion Date 11/28/80		Total Depth 8386'		Plug Back TD 8384'		Elevation 7211 Grd.	
Farm or Lease Name Tribal "C" 4-E		Well No. 4-E					
Csq. Size 4-1/2"	Wt. 10.5 & 11.6	d 4.000"	Set At 8386	Perforations: From 8252 To 8328			
Tbg. Size 1-1/2"	Wt. 2.9	d 1.610	Set At 8269	Perforations: From To		Unit H	Sec. Twp. Rge. 6 26N 3W
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Gas - Multiple				Packer Set At 7750'		County Rio Arriba	
Producing Thru Tbg.		Reservoir Temp. °F a		Mean Annual Temp. °F		Baro. Press. - P <sub>a</sub> New Mexico	
L	H	Gg 0.600 Est.	% CO <sub>2</sub>	% N <sub>2</sub>	% H <sub>2</sub> S	Prover 1" orifice tester	Meter Run Taps

FLOW DATA				TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	
St	7 days					1575	-	Pkr.
1.	2" with 1"					190	600	Pkr.
2.								
3.								
4.								
5.								

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor Ft.	Gravity Factor Fg	Super Compress. Factor, F <sub>sv</sub>	Rate of Flow Q, Mcfd
1	-		18" Hg	1.000			439
2.							
3.							
4.							
5.							

NO.	P <sub>f</sub>	Temp. °R	T <sub>f</sub>	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1.					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.
2.					Specific Gravity Separator Gas _____ XXXXXXXXX
3.					Specific Gravity Flowing Fluid _____ XXXXX
4.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
5.					Critical Temperature _____ R _____ R

P <sub>c</sub> 15.37	P <sub>c</sub> <sup>2</sup> 251.9	(1) $\frac{P_c^2}{P_e^2 - P_w^2} = 1.0909$	(2) $\left[ \frac{P_e^2}{P_e^2 - P_w^2} \right]^n = 1.0674$	
NO.	P <sub>f</sub> <sup>2</sup>	P <sub>w</sub>	R <sub>w</sub> <sup>2</sup>	P <sub>e</sub> <sup>2</sup> - R <sub>w</sub> <sup>2</sup>
1			21.0	230.9
2				
3				
4				
5				

AOF = Q  $\left[ \frac{R_e^2}{R_e^2 - R_w^2} \right]^n = 469$

Absolute Open Flow _____ Mcfd @ 15.025	Angle of Slope @ _____	Slope, n _____
--	------------------------	----------------

Remarks: Producing through production unit. Gas measured with orifice well tester. Calculated at temperature of 60° F, 0.600 Sp. Gr.

Approved By Commission:	Conducted By:	Calculated By: Neil Tefteller	Checked By:
-------------------------	---------------	----------------------------------	-------------

N.

EL PASO

PHILLIPS

EXHIBIT

MAP SHOWING LOCATION OF WELLS

Hearing on Commingling of Gallup and Dakota TRIBAL "C" 4-E

Sec. 6, T26N, R3W

EL PASO Rio Arriba County, New Mexico

CASE NO.

(1850' FNL, 800' FEL)

EL PASO

31

32

EL PASO 33

93

CONSOLIDATED

CONSOLIDATED

N.W. 5

G-O-K

MOBIL

MOBIL

N.W.

MOBIL

MOBIL

N.W. P

R3W

T. 26 N.

ABBOTT

(N.W. PRODUCTION) JEROME MCHUGH

SOUTHERN UNION

SOUTHERN UNION

BEFORE EXAMINER STATES  
OIL CONSERVATION DIVISION

N.W. PRODUCTION NO. 1 N.W. PRODUCTION

CASE NO. 9101 SA

Submitted by COG

Hearing Date 12-10-88

SOUTHERN UNION

SOUTHERN UNION

N.W. PRODUCTION

N.W. P

Elevations: GL - 7211'  
KB - 7224'

**COMPLETION SCHEMATIC  
FOR COMMINGLING**

TRIBAL "C" 4-E  
Sec. 6, T26N, R3W  
Rio Arriba County,  
New Mexico.  
Gallup and Dakota Formations  
December -8, 1980

300 sx Cl "B", 2% CaCl<sub>2</sub>,  
1/4 lb/sx circulated to  
surface.  
14-3/4" hole to 330'

10-3/4", 32.75#, K-55,  
cemented at 324'.

9-7/8" hole to 4217'. Top  
of 4-1/2", 10.5# & 11.6#,  
K-55, N-80 liner at 3257'.  
Cemented with 730 sx of  
50-50 Pozmix, 2% gel, 10 lb  
per sx Gilsonite, 0.6%  
D-60.

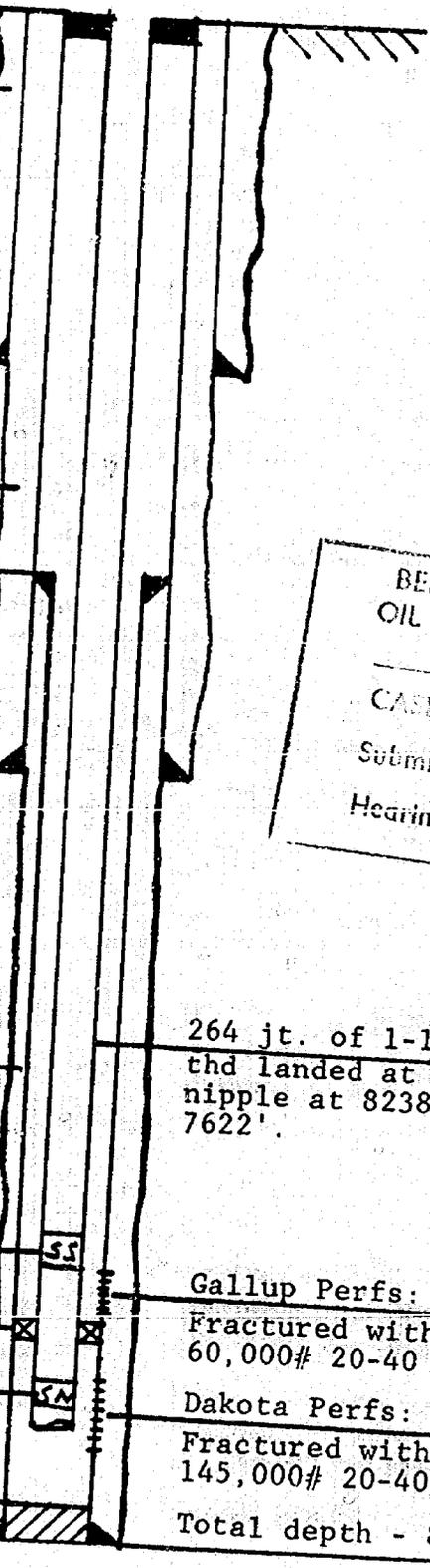
7-5/8", 26.4#, K-55, ST&C  
cemented at 4196' with  
175 sx 65-35 Pozmix, 12% gel  
1/4 lb/sx celloflake, follow-  
ed by 100 sx Cl "B", 2%  
CaCl<sub>2</sub>, 1/4 lb. per sx  
celloflake

6-3/4" hole to 8400'

Baker Model "L" sliding  
sleeve at 7622'

Baker Retrie-a-D packer set  
at 7750'  
Seating nipple at 8238'

PBTD-CIBP at 8375'.  
4-1/2", 10.5# & 11.6#, K-55  
N-80 liner shoe at 8385'.



264 jt. of 1-1/2", 2.9#, EUE, 10 rd.  
thd landed at 8269'. Seating  
nipple at 8238'. Sliding sleeve at  
7622'.

Gallup Perfs: 7655'-7681', 15 holes.  
Fractured with 1321 bbl. and  
60,000# 20-40 mesh sand.

Dakota Perfs: 8164'-8228', 20 holes.  
Fractured with 3160 bbl. and  
145,000# 20-40 mesh sand.

Total depth - 8400'

BEFORE EXAMINER STAMETS  
OIL CONSERVATION DIVISION  
EXHIBIT NO. 2  
CASE NO. 7101  
Submitted by COG  
Hearing Date 12-10-80

J. Wey

NEW MEXICO OIL CONSERVATION COMMISSION EXAMINER STAMPED  
 MULTIPPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL  
 OIL CONSERVATION DIVISION

Form C-122 Revised 9-1-65

EXAMINER NO. 3

Type Test:  Initial  Annual  Special

Company: Consolidated Oil & Gas, Inc. Test Date: 12/6/80

Pool: Basin Dakota Connection: Northwest Pipeline

Formation: Dakota Hearing Date: 12-10-80

Completion Date: 11/28/80 Total Depth: 8386' Plug Back TD: 8384' Elevation: 7211 Grd.

Csq. Size: 4-1/2" Wt. 10.5 & 11.6 Set At: 8386 Perforations: From 8252 To 8328

Tbg. Size: 1-1/2" Wt. 2.9 Set At: 8269 Perforations: From To

Type Well: Gas - Multiple

Producing Thru: Tbg. Reservoir Temp. °F: Mean Annual Temp. °F: Packer Set At: 7750'

Baro. Press. - P<sub>g</sub>: Unit: H Sec: 6 Twp: 26N Rge: 3W

County: Rio Arriba State: New Mexico

Well No.: 4-E

FLOW DATA				TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	Orifice Size	Press. p.s.i.g.	Diff. hw	Temp. °F	Press. p.s.i.g.	Temp. °F	
1	7 days					1575		
2	2" with 1"					190	600	
3								3 hrs.
4								
5								

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor Ft.	Gravity Factor F <sub>g</sub>	Super Compress. Factor, F <sub>pv</sub>	Rate of Flow Q, Mcfd
1	-		18" Hg	1.000			439
2							
3							
4							
5							

NO. 1, 2, 3, 4, 5

Gas Liquid Hydrocarbon Ratio \_\_\_\_\_ Mcf/bbl.

A.P.I. Gravity of Liquid Hydrocarbons \_\_\_\_\_ Deg.

Specific Gravity Separator Gas \_\_\_\_\_

Specific Gravity Flowing Fluid \_\_\_\_\_ XXXXX

Critical Pressure \_\_\_\_\_ P.S.I.A.

Critical Temperature \_\_\_\_\_ P.S.I.A.

P<sub>c</sub> 15.87 P<sub>c</sub><sup>2</sup> 251.9

NO.	P <sub>t</sub> <sup>2</sup>	P <sub>w</sub>	R <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> - R <sub>w</sub> <sup>2</sup>
1			21.0	230.9
2				
3				
4				
5				

(1)  $\frac{P_c^2}{P_c^2 - R_w^2} = 1.0909$  (2)  $\left[ \frac{P_c^2}{P_c^2 - R_w^2} \right]^n = 1.0674$

AOF = Q  $\left[ \frac{P_c^2}{P_c^2 - R_w^2} \right]^n = 469$

Absolute Open Flow \_\_\_\_\_ Mcfd @ 15.025

Remarks: Producing through production unit. Gas measured with orifice well tester. Calculated at temperature of 60° F, 0.600 Sp. Gr.

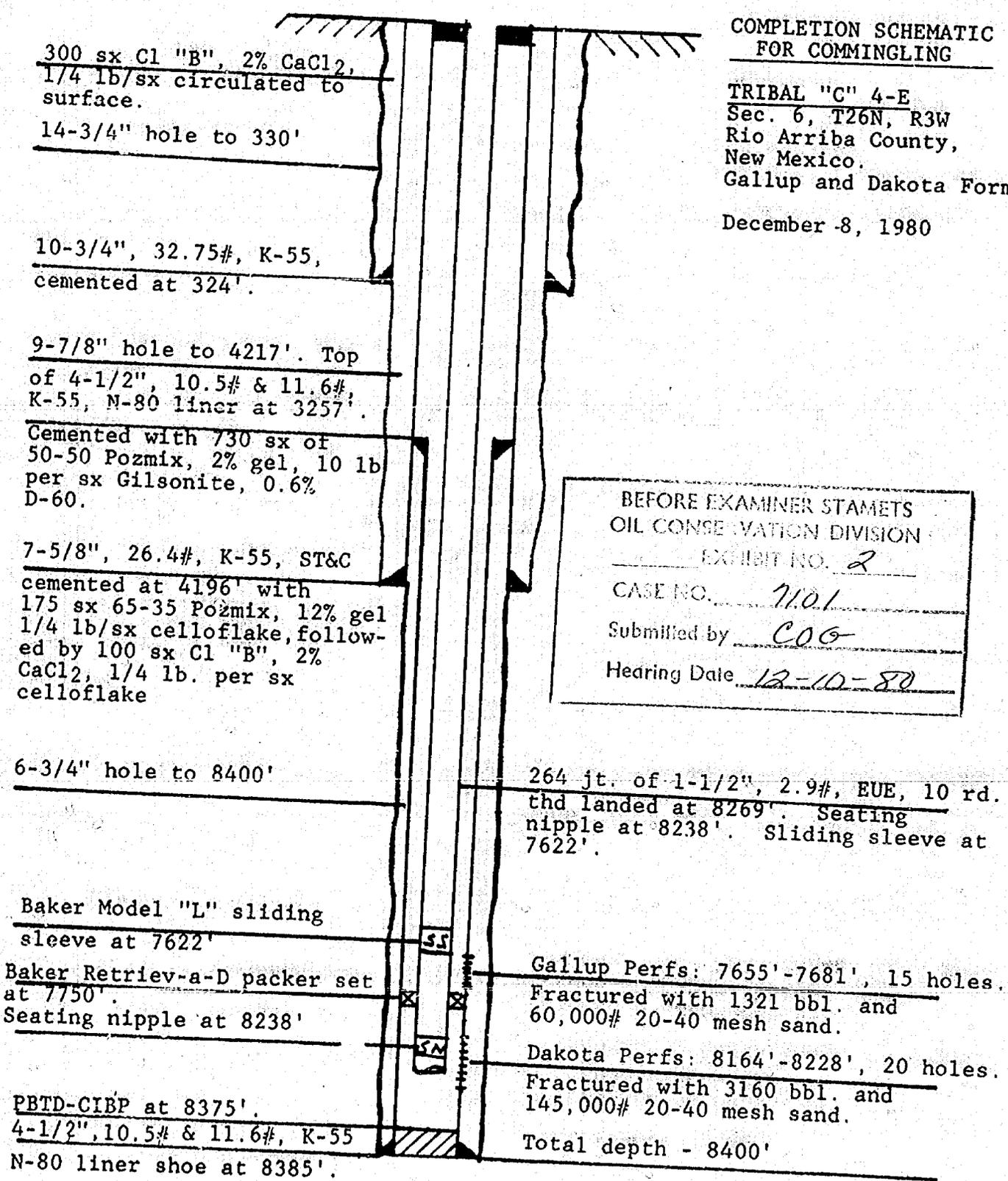
Angle of Slope  $\phi$  \_\_\_\_\_ Slope, n \_\_\_\_\_

Approved By Commission: \_\_\_\_\_ Conducted By: \_\_\_\_\_

Calculated By: Neil Tefteller Checked By: \_\_\_\_\_



Elevations: GL - 7211'  
KB - 7224'



COMPLETION SCHEMATIC  
FOR COMMINGLING

TRIBAL "C" 4-E  
Sec. 6, T26N, R3W  
Rio Arriba County,  
New Mexico.  
Gallup and Dakota Formations

December -8, 1980

BEFORE EXAMINER STAMETS  
OIL CONSERVATION DIVISION

EXHIBIT NO. 2

CASE NO. 7101

Submitted by COG

Hearing Date 12-10-80

J. Wey

NEW MEXICO OIL CONSERVATION COMMISSION  
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122  
Revised 9-1-65

BEFORE EXAMINER STAMETS  
OIL CONSERVATION DIVISION

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special				Test Date 12/6/80		EXHIBIT NO: 3					
Company Consolidated Oil & Gas, Inc.			Connection Northwest Pipeline			CASE NO: 7101					
Pool Basin Dakota			Formation Dakota			Submitted By: CAG					
Completion Date 11/28/80		Total Depth 8386'		Plug Back TD 8384'		Elevation Hearing D 7211 Grd.					
Csg. Size 4-1/2"		Wt. 10.5 & 11.6		Set At 4.000"		Perforations: From 8252 To 8328					
Tbg. Size 1-1/2"		Wt. 2.9		Set At 1.610		Well No. 4-E					
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Gas - Multiple				Packer Set At 7750'		County Rio Arriba					
Producing Thru Tbg.		Reservoir Temp. °F		Mean Annual Temp. °F		Baro. Press. - P <sub>a</sub>					
L		H		G <sub>g</sub>		Taps					
		0.600 Est.		% CO <sub>2</sub>		% H <sub>2</sub> S					
FLOW DATA				TUBING DATA		CASING DATA					
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
1.	7 days						1575	-	Pkr.	-	
1.	2" with 1"						190	600	Pkr.		3 hrs.
2.											
3.											
4.											
5.											
RATE OF FLOW CALCULATIONS											
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor Fl.	Gravity Factor F <sub>g</sub>	Super Compress. Factor, F <sub>pv</sub>	Rate of Flow Q, Mcfd				
1.	-		18" Hg	1.000			439				
2.											
3.											
4.											
5.											
NO.	P <sub>r</sub>	Temp. °R	T <sub>r</sub>	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.						
1.					A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.						
2.					Specific Gravity Separator Gas _____ XXXXXXXXXXXX						
3.					Specific Gravity Flowing Fluid _____ XXXXX						
4.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.						
5.					Critical Temperature _____ R _____ R						
P <sub>c</sub> 15.87		P <sub>c</sub> <sup>2</sup> 251.9									
NO.	P <sub>r</sub> <sup>2</sup>	P <sub>w</sub>	R <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> - R <sub>w</sub> <sup>2</sup>	(1) $\frac{P_r^2}{P_c^2 - R_w^2} = 1.0909$ (2) $\left[\frac{P_r^2}{P_c^2 - R_w^2}\right]^n = 1.0674$						
1.			21.0	230.9	AOF = Q $\left[\frac{P_r^2}{P_c^2 - R_w^2}\right]^n = 469$						
2.											
3.											
4.											
5.											
Absolute Open Flow _____ Mcfd @ 15.025				Angle of Slope @ _____				Slope, n _____			
Remarks: Producing through production unit. Gas measured with orifice well tester. Calculated at temperature of 60° F, 0.600 Sp. Gr.											
Approved By Commission:			Conducted By:			Calculated By: Neil Teffeller			Checked By:		

Dockets Nos. 42-80 and 43-80 are tentatively set for December 30, 1980 and January 14, 1981. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - DECEMBER 10, 1980

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

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

- ALLOWABLE: (1) Consideration of the allowable production of gas for January, 1981, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.
- (2) Consideration of the allowable production of gas for January, 1981, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.
- CASE 7095: In the matter of the hearing called by the Oil Conservation Division on its own motion to permit Bill G. Isler, United States Fidelity and Guaranty Company, and all other interested parties to appear and show cause why the Spears State Well No. 2 in Unit B of Section 28, Township 11 South, Range 27 East, Chaves County, should not be plugged and abandoned in accordance with a Division-approved plugging program.
- CASE 7096: Application of Read & Stevens, Inc. for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the North Baum Unit Area, comprising 637 acres, more or less, of State lands in Township 13 South, Ranges 32 and 33 East.
- CASE 7097: Application of Mesa Petroleum Co. for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Jackson Unit Area, comprising 2,560 acres, more or less, of State lands in Township 24 South, Range 33 East.
- CASE 7098: Application of The Wiser Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion of its McQuatters Well No. 4 located in Unit C of Section 11, Township 21 South, Range 36 East, to produce oil from the Oil Center-Glorieta and Hardy-Drinkard Pools through parallel strings of tubing.
- CASE 7077: (Continued from November 25, 1980, Examiner Hearing)
- Application of Threshold Development Company for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion of its Conoco "10" State Com Well No. 1 located in Unit I of Section 10, Township 19 South, Range 29 East, Turkey Track Field, to produce oil from the Wolfcamp formation and gas from the Atoka formation through parallel strings of tubing.
- CASE 7089: (Continued from November 25, 1980, Examiner Hearing)
- Application of Summit Energy, Inc. for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Blinbry formation through its Gulf Bunin Well No. 2 located in Unit C of Section 13, Township 21 South, Range 37 East.
- CASE 7099: Application of Harvey E. Yates Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Duncan Unit Area, comprising 7,679 acres, more or less, of State, Federal, and fee lands in Townships 13 and 14 South, Range 35 East.
- CASE 7100: Application of Harvey E. Yates Company for downhole commingling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Atoka and Morrow production in the wellbore of its Travis 24 State Com Well No. 1 in Unit H of Section 24, Township 18 South, Range 28 East.
- CASE 7101: Application of Consolidated Oil & Gas, Inc. for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Gallup and Basin-Dakota production in the wellbore of its Tribal "C" Well No. 4-E in Unit H of Section 6, Township 26 North, Range 3 West.
- CASE 7102: Application of Consolidated Oil & Gas, Inc. for approval of infill drilling and an exception to Rule 9(E) of Order No. R-1670-T, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks a finding that the drilling of its Jacquez Well No. 2 to be located in Unit K of Section 2, Township 31 North, Range 13 West, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the two existing wells on the unit. Applicant further seeks an exception to Rule 9(E) of Division Order No. R-1670-T to permit calculating the proration unit's allowable on the basis of three Mesaverde wells on the unit.

# Memo

*From*

FLORENE DAVIDSON  
ADMINISTRATIVE SECRETARY

*To*

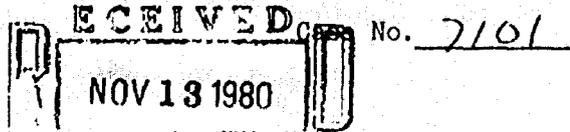
11/17/80

Lynn Teschendorf called  
and said she was sending  
copies to offset operators  
today.

OIL CONSERVATION COMMISSION-SANTA FE

BEFORE THE  
OIL CONSERVATION DIVISION  
STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION  
OF CONSOLIDATED OIL & GAS, INC.  
FOR DOWNHOLE COMMINGLING, RIO  
ARRIBA COUNTY, NEW MEXICO



APPLICATION DIVISION  
SANTA FE

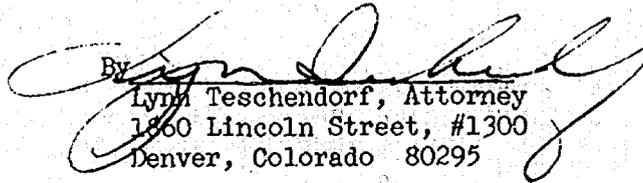
Comes now Consolidated Oil & Gas, Inc. by and through its undersigned attorney and seeks an order approving the downhole commingling of Gallup and Basin-Dakota production in the wellbore of its Tribal "C" Well No. 4-E located in Unit H of Section 6, Township 26 North, Range 3 West, Rio Arriba County, New Mexico and as grounds therefor states:

1. Applicant is the operator and an owner of interest in and under the E/2 of said Section 6.
2. Applicant has dedicated said unit to its Tribal "C" Well No. 4-E, spudded on September 29, 1980.
3. This well was originally drilled as a Dakota producer and 4½ inch casing has been set. Tests now show that the Gallup may be economically producible, but the casing is too narrow for a dual completion with two strings of tubing. The applicant therefore wishes to downhole commingle the well.
4. Both the Gallup and Dakota zones are expected to be capable of marginal production only.
5. The pressures in both zones are similar.
6. Some liquids may be produced from either or both zones, but the gas lift provided by the Dakota production will be sufficient to flow the well, and the commingled fluids will be compatible.
7. The ownership of both zones is identical.
8. In the alternative, applicant seeks approval to run one string of tubing to the Dakota, and set a packer below the Gallup with a sliding sleeve. Should the Gallup load up, the sliding sleeve could be opened, allowing the brief commingling of Dakota and Gallup production in order to lift the accumulated fluids.
9. The granting of this application will be in the best interests of conservation, the prevention of waste, and the protection of correlative rights.

WHEREFORE, applicant requests that this matter be set for hearing before the Division or its duly appointed examiner, and that the Division enter its order granting the relief sought herein.

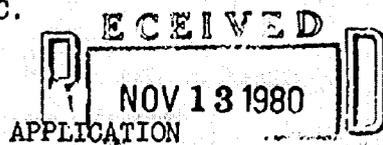
Respectfully submitted,

CONSOLIDATED OIL & GAS, INC.

By   
Lynn Teschendorf, Attorney  
1800 Lincoln Street, #1300  
Denver, Colorado 80295

BEFORE THE  
OIL CONSERVATION DIVISION  
STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION  
OF CONSOLIDATED OIL & GAS, INC.  
FOR DOWNHOLE COMMINGLING, RIO  
ARRIBA COUNTY, NEW MEXICO



Case No. 7101

OIL CONSERVATION DIVISION

Comes now Consolidated Oil & Gas, Inc. and through its undersigned attorney and seeks an order approving the downhole commingling of Gallup and Basin-Dakota production in the wellbore of its Tribal "C" Well No. 4-E located in Unit H of Section 6, Township 26 North, Range 3 West, Rio Arriba County, New Mexico and as grounds therefor states:

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WHEREFORE, applicant requests that this matter be set for hearing before the Division or its duly appointed examiner, and that the Division enter its order granting the relief sought herein.

Respectfully submitted,  
CONSOLIDATED OIL & GAS, INC.

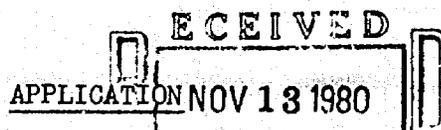
Lynn Teschendorf

By  
Lynn Teschendorf, Attorney  
1860 Lincoln Street, #1300  
Denver, Colorado 80295

BEFORE THE  
OIL CONSERVATION DIVISION  
STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION  
OF CONSOLIDATED OIL & GAS, INC.  
FOR DOWNHOLE COMMINGLING, RIO  
ARRIBA COUNTY, NEW MEXICO

Case No. 7101



Comes now Consolidated Oil & Gas, Inc. by and through its undersigned attorney and seeks an order approving the downhole commingling of Gallup and Basin-Dakota production in the wellbore of its Tribal "C" Well No. 4-E located in Unit H of Section 6, Township 26 North, Range 3 West, Rio Arriba County, New Mexico and as grounds therefor states:

1. Applicant is the operator and an owner of interest in and under the E/2 of said Section 6.
2. Applicant has dedicated said unit to its Tribal "C" Well No. 4-E, spudded on September 29, 1980.
3. This well was originally drilled as a Dakota producer and 4½ inch casing has been set. Tests now show that the Gallup may be economically producible, but the casing is too narrow for a dual completion with two strings of tubing. The applicant therefore wishes to downhole commingle the well.
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9. The granting of this application will be in the best interests of conservation, the prevention of waste, and the protection of correlative rights.

WHEREFORE, applicant requests that this matter be set for hearing before the Division or its duly appointed examiner, and that the Division enter its order granting the relief sought herein.

Respectfully submitted,

CONSOLIDATED OIL & GAS, INC.

By Lynn Teschendorf  
Lynn Teschendorf, Attorney  
1860 Lincoln Street, #1300  
Denver, Colorado 80295

dr/

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
DIVISION FOR THE PURPOSE OF  
CONSIDERING:

CASE NO. 7101

Order No. R-6559

APPLICATION OF CONSOLIDATED OIL & GAS, INC.

FOR DOWNHOLE COMMINGLING, RIO ARRIBA

COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on December 10  
19 80, at Santa Fe, New Mexico, before Examiner Richard L.  
Stamets.

NOW, on this \_\_\_\_\_ day of December, 19 80, the  
Division Director, 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 Division has jurisdiction of this cause and the  
subject matter thereof.

(2) That the applicant, Consolidated Oil & Gas, Inc., is  
the owner and operator of the Tribal "C" Well No. 4-E,  
located in Unit H of Section 6, Township 26 North,  
Range 3 West, NMPM, Rio Arriba County, New Mexico.

(3) That the applicant seeks authority to commingle  
Gallup and Basin-Dakota production  
within the wellbore of the above-described well.

(4) That from the Gallup zone, the subject well is capable of low <sup>rates of</sup> ~~marginal~~ production only.

(5) That from the Basin-Dakota zone, the subject well is capable of low <sup>rates of</sup> ~~marginal~~ production only.

(6) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(8) That to afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Division any time the subject well is shut-in for 7 consecutive days.

(9) That in order to allocate the commingled production to each of the commingled zones in the subject well, \_\_\_\_\_ percent of the commingled \_\_\_\_\_ production should be allocated to the Gallup zone, and \_\_\_\_\_ percent of the commingled \_\_\_\_\_ production to the Basin-Dakota zone.

(ALTERNATE)

(9) That in order to allocate the commingled production to each of the commingled zones in the wells, applicant should consult with the supervisor of the Aztec district office of the Division and determine an allocation formula for each of the production zones.

IT IS THEREFORE ORDERED:

(1) That the applicant, Consolidated Oil & Gas, Inc., is hereby authorized to commingle Gallup and Basin-Dakota production within the wellbore of the Tribal "C" Well No. 4-E, located in Unit H of Section 6, Township 26 North, Range 3 West, NMPM, Rio Arriba County, New Mexico.

(2) That the applicant shall consult with the Supervisor of the Aztec district office of the Division and determine an allocation formula for the allocation of production to each zone in each of the subject wells.

(ALTERNATE)

(2) That \_\_\_\_\_ percent of the commingled production shall be allocated to the Gallup zone and \_\_\_\_\_ percent of the commingled production shall be allocated to the Basin-Dakota zone.

(3) That the operator of the subject well shall immediately notify the Division's Aztec district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Division, a plan for remedial action.

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

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