

CASE No.

4820

Application,

Transcripts,

Small Exhibits

ETC.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
CONFERENCE HALL, STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO
September 13, 1972

EXAMINER HEARING

IN THE MATTER OF:

Application of Anadarko Production
Company for the creation of an
associated pool, special rules
therefor, downhole and surface
commingling, Eddy County, New
Mexico.

CASE NO. 4820

BEFORE: Daniel S. Nutter
Examiner

TRANSCRIPT OF HEARING

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1 MR. NUTTER: The hearing will come to order,
2 please. The first case this afternoon will be Case 4820.

3 MR. HATCH: Case 4820: Application of Anadarko
4 Production Company for the creation of an associated pool,
5 special rules therefor, downhole and surface commingling,
6 Eddy County, New Mexico.

7 MR. KELLAHIN: If the Examiner please, Jason
8 Kellahin, appearing for the Applicant. We have one witness
9 to be sworn.

10 C. W. STUMHOFFER,
11 was called as a witness and, having been duly sworn according
12 to law, testified as follows:

13 DIRECT EXAMINATION

14 BY MR. KELLAHIN:

15 Q Would you state your name, please?

16 A My name is C. W. Stumhoffer.

17 Q And by whom are you employed and in what position?

18 A I am employed by Anadarko Production Company as a
19 secondary recovery petroleum engineer in Houston,
20 Texas.

21 Q Have you testified before the Oil Conservation
22 Commission and made your qualifications as an engineer
23 a matter of record?

24 A Yes, I have.

25 MR. KELLAHIN: Are the witness' qualifications

1 acceptable?

2 MR. NUTTER: Yes, they are.

3 Q (By Mr. Kellahin) Mr. Stumhoffer, are you familiar
4 with Anadarko's Application in Case 4820?

5 A Yes, I am.

6 Q Now, briefly, what does the Applicant propose in this
7 case?

8 A In Case Number 4820, Anadarko seeks the creation of
9 a new associated pool for the production of oil and
10 gas from the Yates and Seven Rivers formations for its
11 Loco Hills Federal B Wells Numbers 1 and 8, located,
12 respectively, in the SE/SE and the NE of the SW of
13 Section 9, Township 17 South, Range 30 East, Eddy
14 County, New Mexico. We seek rules for oil and gas
15 classification based on statewide rules where gas wells
16 are automatically classified as gas wells when the
17 GOR is over 100,000 to 1 and 40 acres spaced for oil
18 and 60 acres spacings for gas, and exempt gas-oil ratio.

19 We further seek the authority from the
20 Commission to commingle downhole the Yates and Seven
21 Rivers production in Well Number 1 with production
22 from the Grayburg-Jackson Pool and to commingle on the
23 surface the Yates-Seven Rivers production from Well
24 Number 8 with production from the Grayburg-Jackson
25 Pool in the Loco Hills Federal B lease.

1 MR. NUTTER: Let's see. You propose to
2 commingle this new proposed pool with the Grayburg-Jackson?

3 THE WITNESS: Yes, sir.

4 MR. NUTTER: And Well Number 8?

5 THE WITNESS: And the production from Well Number
6 8 will be produced as a single, Yates. The Yates-Seven
7 Rivers will be produced as a single production in Number 8,
8 at the surface, we propose.

9 Q (By Mr. Kellahin) You will commingle the production
10 with the Grayburg-Jackson?

11 A No, sir. We are asking for a pool designation to
12 include the Yates and Seven Rivers formation. In
13 Well Number 8, this will be a single zone completion if
14 the Well is so designated. We will produce this as
15 a single completion in Well Number 8 at the surface.
16 We would like to be allowed to commingle the production
17 from the Well Number 8 with the lease production from
18 the Grayburg-Jackson Pool.

19 MR. NUTTER: The Number 8 will not be commingled
20 downhole?

21 MR. KELLAHIN: Only the Number 1.

22 MR. NUTTER: And will the production from the
23 Number 1 be produced into the same battery?

24 THE WITNESS: Yes, the Number 1 Yates-Seven Rivers
25 only make gas, which I will cover later in the testimony.

1 This is the reason for asking for an associated reservoir.
2 The Yates-Seven Rivers and the Well Number 1 only produce
3 gas, no liquid at all.

4 Q (By Mr. Kellahin) Now, referring to Applicant's
5 Exhibit Number 1, will you discuss that, please, sir?

6 A Exhibit Number 1 is a map of the area around the town
7 site of Loco Hills, New Mexico, showing the location
8 of Well Number 1 and 8 on our Loco Hills Federal B
9 lease, in relation to the nearest Yates-Seven Rivers
10 production in the Fren field, which is located to the
11 south and east of our Loco Hills Federal B.

12 MR. NUTTER: And that's shown in blue?

13 THE WITNESS: That's blue. That's the Fren Pool.

14 MR. NUTTER: That's Yates and Seven-Rivers Pool?

15 THE WITNESS: It's just Seven Rivers.

16 Q (By Mr. Kellahin) And that's more than one mile
17 from your production in the subject wells, is that
18 correct?

19 A Yes, sir, it is.

20 Q Do you know what the GOR limitation in that field is?

21 A The limitation, GOR limitation, in the Fren Pool is
22 exempt.

23 Q Now, referring to what has been marked as Exhibit Number
24 2, will you identify that exhibit?

25 A Exhibit Number 2 is a map on which we have shown our

Loco Hills Federal B lease in showing the offset operations and the location of wells that have been included in a cross-section to show the production horizon which will be shown further in Exhibit 3.

Q Now, refer to what has been marked as Exhibit 3, would you identify that?

A Exhibit 3 is a cross-section, as indicated in Exhibit 2, it includes Anadarko's Loco Hills Federal B Number 8 located in the NE of the SW of Section 9; Well Number 6, located in the SW of the SE of 9; Well Number 1, located in the SE of the SE of 9. That's all on Anadarko's Loco Hills Federal B lease and then Well Number 1 on our Loco Hills Federal A lease, located in the SW of the SW of Section 10. And this cross-section runs through these four wells.

Now, on this cross-section we've shown -- we'll review the wells from left to right. Well Number 8 on Loco Hills Federal B lease -- you will have to excuse, on our data we've shown 8-9, that's an inner company numbering system. The Commission, I think, refers to it as Number 8. We've shown the tops, the formations, the top of the Yates, the top of the Seven Rivers, the top of the Queen and the top of the Grayburg. On this particular well, this is the oil well, that we are requesting to be allowed to surface commingle with

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1 the Grayburg on the Loco Hills Federal B lease, this
2 well has been completed in the Grayburg, but the
3 Grayburg has not been tested after completion. It is
4 now plugged off and I will not discuss it any further.
5 In this particular well, the Yates-Seven Rivers has
6 been perforated from 1,501 to 1,968. That's the
7 present perforation. The initial perforations were
8 from 1,883 to 1,900. We tested this zone for awhile,
9 this is in the Seven Rivers. We tested this zone and
10 it was making approximately 25 barrels of oil a day and
11 a GOR of less than 2,000 to 1. I don't have the
12 exact GOR on that zone, after testing this zone with
13 the Grayburg still plugged off, we came back and about
14 two weeks ago opened up some additional perforations
15 in the Yates Seven Rivers which gave you an overall
16 perforation from 1,501 to 1,968. We are testing this
17 well at the present time and it looks like it is
18 going to make about 20 barrels a day at a GOR in
19 excess of 5,000 to 1. Now, that's not accurate, but
20 we're testing, we're recovering low water and it looks
21 like we increased the gas a little bit, but we didn't
22 pick up any additional oil by opening up these
23 additional sections in the Yates and Seven Rivers.
24 The next well, Well Number 6, is a Grayburg completion
25 and it is merely shown to tie these wells across and

show the relation of the completed intervals in the wells we are asking for commingling. The next well, Well Number 1 on the Loco Hills Federal B was completed and tested before we perforated the Grayburg. We perforated in the Seven Rivers. There are no Yates perforations in this particular well. We perforated from 1,902 to 1,972 and 1,744 to 1,748. We treated the intervals from 1,902 to 1,972 with acid and tested it separately from the 1,744 to 1,748 perforations and recovered nothing. That's all we did to these perforations. They are presently open and our treating pressures were such that we feel like they probably will cause no problem in cross-flow because the initial shut-in pressure and the ten minute and 15 minute shut-down pressure were almost the same. So it's about 1,300 pounds, so we feel it's not going to cause any problems. The zone from 1,744 to 1,748 tested gas and I would like to refer you to Exhibit 4 at this time. That shows an analysis of this gas and it is 50 percent nitrogen. We tested and on a test this zone made 180 MCF per day with no liquids. The shut-in pressure on this zone surface was 580 pounds and we calculated the bottomhole pressure to be approximately 600 pounds.

Q Now, that's in what zone?

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1 A That's the Seven Rivers. Well, the perforation from
2 1,744 to 1,748. We assume that the perforations from
3 1,902 to 1972 are not giving us any liquids or gas at
4 all. We swabbed it dry and we didn't recover any
5 hydrocarbon or any fluid of any type. We feel like,
6 of course, this will come up later again, but we feel
7 like this zone will not take any fluid either because
8 of the initial shut-down pressure and the 15 minute
9 shut-in pressure after treatment with the acid. It
10 looks pretty tight. And then, subsequent to this time,
11 the completion and testing of this high nitrogen gas
12 zone in the Seven Rivers, we opened up the Grayburg
13 in Well Number 1 through overall perforations from
14 2,612 to 2,834 and we then completed this well with
15 the zones open and the test was, 100 barrels of oil
16 per day, 20 barrels of hole water per day, 490 MCF
17 of gas which includes the 180 MCF of gas which was
18 tested from the Seven Rivers perforations.

19 Now Seven Rivers gave up no fluids at all and
20 it's approximately 60 percent nitrogen in this
21 particular one.

22 Q Now, this is a well in which you propose to commingle
23 production from the two pools downhole?

24 A That is correct.

25 Q Would that gas, in your opinion, be marketable?

1 A The Seven Rivers by itself would not be marketable,
2 but commingling with the Grayburg, it would be, and
3 the pipeline company has advised that they would buy
4 a limited quantity of this gas.

5 Q And how would you propose to allocate production
6 to the Grayburg and the Yates Seven Rivers?

7 A I would like to refer you to Exhibit 5, you'll have
8 to excuse this in pencil, but we didn't have time. We
9 had some recent tests of the offset wells. We propose
10 to allocate production of Number 1, or Yates-Seven
11 Rivers, because of the GOR of the offset wells that
12 produce only from the Grayburg. Those wells are
13 the Number 1 Loco Hills Federal A that produced at a
14 gas-oil ratio of 2,030 to 1, 9-9-72; the Loco Hills
15 Federal B Number 2, located to the north of Well Number
16 1 on the B lease has a GOR of 2,510 based on tests
17 on 9-10-72; the Loco Hills Federal B Number 6, the
18 west offset to the Number 1 well on the B lease has
19 a GOR of 2,795 based on tests of 9-11-72. Further
20 on Exhibit 5 I show the producing GOR of Well Number 1
21 on the B lease at the present time, based on a test
22 of the 12th of September. It was producing 47 barrels
23 of oil per day and a GOR of 9,450. Now, this includes
24 the gas produced from the Seven Rivers, based on
25 this well having an approximate GOR of 2,500 to 1 on

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1 Grayburg wells in the area, this amount multiplied
2 by the kinds of oil production from the Number 1 wells
3 on the B. We would propose to use that as an
4 allocation of gas to the Grayburg and the balance of
5 the gas produced by this well would be allocated to
6 the Seven Rivers.

7 Q Would that be subject to revision based on future GOR
8 tests?

9 A Yes, sir.

10 Q You propose to make periodic tests?

11 A We would propose and request that the Commission
12 approve to allow us to do this on a quarterly basis.

13 Q And make your allocation based on the current tests?

14 A Yes, on the most current tests.

15 Q Now, turning to what has been marked as Exhibit 6,
16 would you explain that Exhibit?

17 A Exhibit Number 6 is a schematic diagram of our downhole
18 commingling completion. We propose to have 2 and 3/8
19 inch O.D. tubing set through all perforations of the
20 Grayburg and Seven Rivers, for pumping production.
21 The oil will be pumped, the oil that the Grayburg
22 produces will be pumped up through the tube and
23 through the flow line. The casinghead gas from the
24 Grayburg and the gas produced from the Seven Rivers
25 with the high nitrogen will be commingled and brought

1 to the surface and then recombined with the oil before
2 it goes to the Loco Hills Federal B tank for the
3 Grayburg-Jackson Pool where the oil and gas will be
4 separated and sold. Of course, the combined Seven
5 Rivers gas and the Grayburg gas from Well Number 1
6 will be sold with the other casinghead gas from the
7 Grayburg-Jackson Pool production.

8 Q With the type of production, would it be economical
9 for you to make a dual completion of the Number 1
10 Well?

11 A No, we do not feel it is economical. In fact, no
12 one would buy the gas.

13 Q It would have to be commingled at the surface, correct?

14 A Yes, in order to market it. Plus, the cost to dually
15 complete, we feel, would be prohibitive. It's just
16 not that much economically involved in the gas that
17 we are talking about. We feel like it should be produced
18 at a conservation manner. We feel like we can make a
19 little money out of it. But we just couldn't make a
20 separate completion for it in this particular well.

21 Q Now, referring to Exhibit Number 7, would you discuss
22 that Exhibit?

23 A Exhibit Number 7 relates to the proposed surface
24 commingling of the oil and gas production from the
25 Yates-Seven Rivers completion in Well Number 8,

1 Loco Federal B lease. We propose to bring this
2 oil and gas to the surface, separate the oil and the
3 gas, meter the gas, meter the oil, recombine it, and
4 pump it to the Grayburg-Jackson Pool tank battery on
5 the Loco Hills Federal B lease for sale.

6 MR. NUTTER: Would you meter it or measure it
7 in the tanks?

8 THE WITNESS: We would measure it in the tanks
9 actually.

10 Q (By Mr. Kellahin) Your oil production would be based
11 on measurement in the tanks?

12 A Yes, we would guage the whole tank, as we guage all
13 our tank batteries.

14 Q And your gas allocation would be based on the metering?
15 A Yes, and it would be continuous metering of the gas
16 and daily gauging of the oil.

17 Q Now, what are the gravities of the fluid from the
18 two different pools?

19 A The Grayburg-Jackson oil is approximately 37 degrees
20 API, the Yates-Seven Rivers oil from the Number 8 well
21 is approximately 33 degrees API.

22 Q Now, would the commingling result in any reduction
23 in the price you receive for the oil?

24 A It would be negligible because we are talking about
25 20 barrels of oil per day at the present time from

Well Number 8 whereas the Grayburg-Jackson Pool production from the Loco Hills Federal B lease is about 400 barrels a day at the present time. The gravity reduction will be very minor, although there is a price differential, or gravity reduction.

Q As I understand your testimony, you have two wells completed in the Yates and Seven Rivers formation, one is a gas well and one is an oil well; is that correct?

A That's correct.

Q And you are proposing on that basis, an associated pool?

A That is correct.

Q And you are not proposing to have two separate pools made?

A No.

Q Do you feel they are in the same common reservoir?

A They are in the Seven Rivers formation. The gas

zone in Well Number 1 is not open in the oil well,

Number 8 well, but it is in the Seven Rivers formation.

I feel that it is not in communication with the oil zone itself.

Q Do you think it would be practical, though, to create two separate pools?

A I do not feel, for the type of production we are talking about, it would be.

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1 Q Do you feel it would be practical to create two
2 separate pools, one for production from the Yates,
3 and one from the Seven Rivers?

4 A No, I do not. The reason we are requesting the Yates
5 to be included in the new pool designation is that we
6 have one set of perforations in the Number 8 well that
7 possibly could be in a reservoir part of the Yates
8 formation. It's right on the border line and that's
9 the reason we ask for the Yates to be included. We
10 do not know of any Yates production in this immediate
11 area otherwise.

12 Q The Fren Pool to the south is also Seven Rivers?

13 A Yes.

14 Q Now, your proposal, as I take it, would rule on the
15 classification of a gas well of 100,000 to 1?

16 A That's correct.

17 Q And you are proposing an unlimited GOR, or unrestricted
18 GOR, is that correct?

19 A That's correct, based on the fact that the other
20 Seven Rivers Pool in this area is also exempt from
21 limiting GORs.

22 Q And you are asking for an associated pool with 40 acre
23 spacing for oil wells and 160 acre spacing for gas
24 wells?

25 A That's correct.

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- 1 Q Do you recommend dual dedication of acreage?
- 2 A Yes, sir, I do.
- 3 Q Let me clarify that. If you have a 160 acre unit,
- 4 would you dedicate 160 of that unit to gas and 40 acres
- 5 of that same unit to oil?
- 6 A We would like to be allowed to do this because we
- 7 feel like that we would like to go in, probably, on
- 8 this 160 acres that would be dedicated to Number 1 and
- 9 probably complete in the oil zone and be allowed to have
- 10 an allowable without penalizing the gas-oil allowable.
- 11 Q Do you think that the two zones are in communication,
- 12 you testified you did not.
- 13 A I do not think they are in communication, although
- 14 they are in the Seven Rivers communication.
- 15 Q So dual dedication, in your opinion, would that do
- 16 any harm to either zone?
- 17 A No.
- 18 Q In the alternative, would you propose non-standard units
- 19 for your gas, probably, if you complete an oil well
- 20 in the same
- 21 In the alternative?
- 22 Q Yes, sir.
- 23 A We would accept that.
- 24 Q Were Exhibits 1 through 7 prepared by you or under
- 25 your supervision?

1 A Yes.

2 MR. KELLAHIN: At this time, I would like to
3 offer in evidence Exhibits 1 through 7 inclusive.

4 MR. NUTTER: Exhibits 1 through 7 will be
5 admitted into evidence.

6 (Whereupon, Exhibits 1 through 7 were marked
7 and admitted into evidence.)

8 MR. KELLAHIN: That completes the Direct
9 Examination..

10 * * * * *

11 CROSS-EXAMINATION

12 BY MR. NUTTER:

13 Mr. Stumhoffer, refer to the cross-section Exhibit
14 there. This zone 1,902 to 1,972 in the Number 1 Well
15 is producing nothing, you stated?

16 A Yes.

17 Q That is the major zone of perforations in the Number 8,
18 and it appears also there is a set of perforations
19 at 1,600 and the ones up here near the border between
20 the Seven Rivers and the Yates?

21 A That's correct.

22 Q Do you think these perforations down here at 1,9-something
23 and the Number 8 Well are producing in this, the
24 equivalent zone?

25 A The equivalent zone in Number 8?

1 Q To the one that doesn't produce in Number 1?

2 A I do not think. My opinion, like I say, we've just
3 recently, I'd like to review this Number 8 completion
4 again. We perforated from 1,883 to 1,900 initially.
5 This was before we went down the hole completely and
6 we tested this zone and it was making 25 barrels of
7 oil per day with no water and very nominal GOR less
8 than 2,000. We thought possibly these other zones,
9 based on the log interpretation would be productive.
10 Those are the perforations on the right in the Yates-
11 Seven Rivers section, the one up at the contact between
12 the Yates-Seven Rivers and also the one right below
13 the original perforations. And I feel like the zones
14 that were perforated down below the original
15 perforations in the Seven Rivers are not producing
16 anything. That's my opinion and the only thing we
17 picked up, possibly, was a little gas; but we also
18 picked up some nitrogen in this gas and it's probably
19 coming out of those perforations, out of the top of
20 the Seven Rivers. And we have not gotten into talking
21 to the pipeline about this extra nitrogen we picked
22 up in this particular well.

23 We did not pick up any oil, so this, to me, verifies
24 the fact that this zone that we perforated from 1,902
25

1 to 1,972 in Well Number 1 is not productive.

2 Q Well, now, are these perforations on the well's side
3 of well Number 8, are they still open?

4 A Yes, they are still open. I feel like this zone's
5 productivity is real tight. It was fracture-treated
6 in the Number 8 well and the Number 1 is only acidized.
7 I feel like we did not get into the zone by artificial
8 stimulation, and this is, I think, that's different.
9 I think this zone here with fracture stimulation would
10 produce.

11 Q So, what you think then, on the production from the
12 Number 8 here is that these three sets of perforations
13 up at the top and the one on the left down at the
14 1,900 is everything that's producing in this well?

15 A I think so.

16 Q And the perforations at the right at the bottom are
17 not giving anything?

18 A And you did point out the top set of the perforations
19 in the group from the 1,902. The perforations from
20 1,902 in Number 1 Well, from 1,902 to 1,914 with the
21 stimulation we gave it is not producing right now
22 and we swabbed it dry and it did not give anything;
23 but this same zone was perforated in Number 8 from
24 1,883 to 1,900 and was fracture-treated and tested
25 and produced about 25 barrels of oil a day and a very

1 low gas-oil ratio, that this zone in the Number 1 well
2 will probably produce. Because this is the reason
3 we are asking because we may simply want to go back
4 and open this zone up in some other wells in this, on
5 this lease in this area. It is marginal-type
6 production, but we will not do that, probably, until
7 the Grayburg production pool falls to a level where it
8 is marginal.

9 Q Now, the only reason you suggest no GOR limits for
10 this new pool is because the Fren of the south has
11 no GOR limits?

12 A That's correct.

13 Q Do you think this area is in communication with the
14 Fren Seven Rivers of the south?

15 A (No response.)

16 Q Well, put it this way, is there any evidence that
17 they are in direct communication with the other?

18 A I don't think so, I don't believe it is. What data
19 I have checked, it's so far away that I just don't
20 believe it could be. It's over two miles away.

21 Q With no intervening Seven Rivers wells at all?

22 A No, no wells at all.

23 Q Now, they have made one analysis of the gas that's
24 produced from the Number 1 Well and found it to be
25 60 percent nitrogen.

1 A That's correct, that was Exhibit 4.

2 Q Now, will they take any further tests of this gas or
3 will they just buy it from the MCF and meter it only?

4 A They will probably run tests, I'm sure, to see how
5 much -- we have not negotiated into a final contract
6 on the purchase of this gas. I'm sure there will be
7 provisions made for this. They did say they wanted
8 to limit the takes to 250 MCF a day.

9 Q In that type of gas?

10 A Right.

11 Q Now, they will be able to measure it, the total stream
12 coming from this well and analyze the nitrogen content
13 and tell exactly how much is coming from this zone,
14 won't they?

15 A That's right.

16 Q But if the gas company is going to limit the amount
17 of nitrogen gas that goes into the line, they will
18 be able to tell you almost the MCF, how much came from
19 that zone?

20 A Right.

21 Q And that would be a more accurate measurement of what
22 is produced from the lower Grayburg?

23 A Well, see, we will be commingling the casinghead gas
24 from the Grayburg to the Seven Rivers.

25 Q Well, the Grayburg doesn't take nitroger, though, does

1 it?

2 A No.

3 Q So when they measure the nitrogen, they will be able
4 to tell how much nitrogen was there in the Seven Rivers?

5 A Yes.

6 Q And the gas from this well will be metered separately,
7 won't it?

8 A The number 1, no, we plan to recombine it at the surface
9 and bring it to the tank battery.

10 Q Well, the gas from the total battery would be metered
11 separate?

12 A We could, at the time, test periodically and we propose
13 to at the time as we proposed to do the other Grayburg
14 wells which we will do to allocate the production. We
15 will test it periodically, as we proposed to test the
16 Grayburg producers for allocation of production to the
17 Seven Rivers formation. I feel like it would be easier
18 to allocate it and, to me, it would be officially
19 accurate, that would be another method of determining
20 the amount of nitrogen from the well stream of the
21 Number 1 well. It would be another method of doing
22 it.

23 Q Even determination of the nitrogen from all the wells
24 wouldn't show how much was coming from that well?

25 A We have some nitrogen produced in the other wells, it's

1 pretty low content.

2 Q I believe you mentioned there was a little nitrogen
3 produced from the Number 8?

4 A Well, yes, sir, since we've opened the other
5 perforations up the hole, the perforations on the left,
6 the nitrogen and the perforations from the zone 1,883
7 to 1,900 was about 6 percent of the gas associated
8 with the oil produced by this zone. But since we've
9 opened the other zone up on the right, our nitrogen
10 content has gone to 45 percent.

11 Q Well, now, the only zone that would be producing in
12 the Number 1 would be this little perforated interval
13 from 44 to 48, right?

14 A Yes, sir.

15 Q That's the only one that's producing?

16 A Yes, sir.

17 Q And that zone is not open in the Number 8 Well?

18 A We did not open it because the pipeline advised that
19 they did not want anymore of that type. Of course,
20 when we opened the additional zone --

21 Q This zone in Number 8?

22 A Yes, we did pick up some nitrogen, so we have not
23 discussed this. We have just recently completed this
24 work and we are testing this well now and we have
25 to discuss this with the pipeline, gas purchaser.

1 Q How far does this cement come up on the pipe here on
2 this Number 8?

3 A I don't have that figure handy, we cemented with
4 enough to cover above the Yates. We have the data
5 available, if you like; but we fractured these zones
6 so we do have cement on top of the perforations at
7 1,500 in the Number 8 well.

8 Q You wouldn't think it would be this same zone, then,
9 that's producing nitrogen in the Number 1 and it could
10 be migrating down into your perforations in the Number
11 8 well?

12 A No, sir, I don't believe so. Apparently, what we found
13 here is a characteristic of the Yates zones in this
14 area and the upper Seven Rivers, that they are gas
15 productive with a high nitrogen content, which we
16 apparently -- and if we can't, if we are not allowed
17 to commingle, I doubt if the pipeline will purchase
18 much of it. Although there is approximately 50 percent
19 of the gas is hydrocarbon gas, we feel like it, we
20 would like to be allowed to produce it.

21 MR. NUTTER: Are there further questions of
22 Mr. Stumhoffer?

23 (No response.)

24 MR. NUTTER: He may be excused.

25 Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: That's all, Mr. Nutter.

MR. NUTTER: Does anyone have anything they wish to offer in Case Number 4820?

(No response.)

MR. NUTTER: We will take the Case under advisement and call Case 4821.

dearnley, meier & mc cormick

209 SIMMS BLDG. P.O. BOX 1092 PHONE 243-6601 ALBUQUERQUE, NEW MEXICO 87103
1216 FIRST NATIONAL BANK BLDG. EAST ALBUQUERQUE, NEW MEXICO 87108

1 STATE OF NEW MEXICO)
 2) ss
 3 COUNTY OF BERNALILLO)

4 I, JOHN DE LA ROSA, a Court Reporter, in and for the
 5 County of Bernalillo, State of New Mexico, do hereby certify
 6 that the foregoing and attached Transcript of Hearing
 7 before the New Mexico Oil Conservation Commission was
 8 reported by me; and that the same is a true and correct record
 9 of the said proceedings to the best of my knowledge, skill
 10 and ability.

11 John De La Rosa
 12 Court Reporter

dearnley, meier & mc cormick

209 SIMMS BLDG. • P.O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO 87103
 1219 FIRST NATIONAL BANK BLDG. EAST • ALBUQUERQUE, NEW MEXICO 87108

23 9/13
 24 John De La Rosa

4820
 72

I N D E XWITNESS:PAGEC. W. STUMHOFFER

Direct Examination by Mr. Kellahin

3

Cross-Examination by Mr. Nutter

18

E X H I B I T SAPPLICANT'S:OFFEREDADMITTED

Anadarko Production Company

Exhibit Number 1

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Exhibit Number 2

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Exhibit Number 3

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Exhibit Number 4

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Exhibit Number 5

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Exhibit Number 6

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Exhibit Number 7

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18



OIL CONSERVATION COMMISSION

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

**GOVERNOR
BRUCE KING
CHAIRMAN
LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER
STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR**

October 30, 1972

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: Case No. 4820
Order No. R-4411
Applicant:
Anadarko Production Company

Dear Sir:

Dear Sir:

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

very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x
Artesia OCC x
Aztec OCC

other_

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 4820
Order No. R-4411

NOMENCLATURE

APPLICATION OF ANADARKO PRODUCTION
COMPANY FOR THE CREATION OF AN
ASSOCIATED POOL, SPECIAL RULES
THEREFOR, DOWNHOLE AND SURFACE
COMMINGLING, EDDY COUNTY, NEW
MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 13, 1972, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 27th October, 1972, 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, Anadarko Production Company, seeks the creation of a new associated pool for the production of oil and gas from the Yates and Seven Rivers formations for its Loco Hills Federal "B" Wells Nos. 1 and 8, located, respectively, in Units P and K of Section 9, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico, and the promulgation of Special Rules and Regulations therefor including provisions for the classification of oil and gas wells, oil and gas well spacing, and an unlimited gas-oil ratio.

(3) That the applicant further seeks authority to commingle on the surface the Yates-Seven Rivers production from said Well No. 8 with Grayburg-Jackson production from the same lease after separately metering the Yates-Seven Rivers production.

(4) That the applicant further seeks authority to dually complete said Well No. 1 in such a manner as to produce the Yates-Seven Rivers production from the newly created pool

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Case No. 4820

Order No. R-4411

through the casing-tubing annulus and the Grayburg-Jackson Pool through tubing, with separation of zones by a packer set at approximately 2200 feet and to commingle on the surface the Yates-Sevens River gas production with Grayburg-Jackson casing-head gas production after separately metering the Yates-Seven Rivers production.

(5) That the above-described Well No. 1, having its top perforations in the Seven Rivers formation at 1,744 feet and the above-described Well No. 8, having its top perforations in the Yates formation at 1,501 feet have discovered a separate common source of supply which should be designated the North Fren Yates-Seven Rivers Associated Pool; that the vertical limits of said pool should be the Yates-Seven Rivers formation and that the horizontal limits of said pool should comprise the SE/4 and E/2 SW/4 of said Section 9.

(6) That the reservoir characteristics of the subject pool indicate that the gas area can be efficiently and economically drained and developed on 160-acre spacing, and that the oil area can be efficiently and economically drained and developed on 40-acre spacing.

(7) That the reservoir characteristics of the subject pool presently available justify the definition of a gas well as a well producing with a gas-liquid ratio of 100,000 or more cubic feet of gas per barrel of liquid hydrocarbons.

(8) That the reservoir characteristics of the subject pool presently available justify the establishment of a gas-liquid ratio limitation of 2000 cubic feet of gas per barrel of liquid hydrocarbons rather than an unrestricted gas-oil ratio limitation as requested.

(9) That special rules and regulations providing for 160-acre gas well spacing and 40-acre oil well spacing should be promulgated for the subject pool in order to prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, prevent reduced recovery which might result from the drilling of too few wells, and otherwise prevent waste and protect correlative rights.

(10) That the special rules and regulations should provide for the classification of a gas well as a well producing with a gas-liquid ratio of 100,000 or more cubic feet of gas per barrel of liquid hydrocarbons and should provide for a gas-liquid ratio of 2,000 cubic feet of gas per barrel of liquid hydrocarbons in order to afford to the owner of each property in the pool the opportunity to produce his just and equitable share of the oil or gas, or both, and for this purpose to use his just and equitable share of the reservoir energy.

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Case No. 4820
Order No. R-4411

(11) That the special rules and regulations should establish proration rules for gas wells in order to prevent waste and protect correlative rights.

(12) That the mechanics of the proposed dual completion and the proposed surface commingling are feasible and in accord with good conservation practices.

(13) That the proposed dual completion and surface commingling will neither cause waste nor violate correlative rights and should be approved.

IT IS THEREFORE ORDERED:

(1) That, effective November 1, 1972, a new pool in Eddy County, New Mexico, classified as an associated pool for the production of oil and gas, is hereby created and designated the North Fren Yates-Seven Rivers Associated Pool, with vertical limits comprising the Yates-Seven Rivers formation and horizontal limits comprising the SE/4 and E/2 SW/4 of Section 9, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico.

(2) That, effective November 1, 1972, Special Rules and Regulations for the North Fren Yates-Seven Rivers Associated Pool, Eddy County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
NORTH FREN YATES-SEVEN RIVERS ASSOCIATED POOL

RULE 1. Each well completed or recompleted in the Associated Pool or in the Yates-Seven Rivers formation within one mile thereof, and not nearer to or within the limits of another designated Yates-Seven Rivers pool, shall be spaced, drilled, operated, and produced in accordance with the Special Rules and Regulations hereinafter set forth.

RULE 2. (a) Each gas well shall be located on a standard unit containing 160 acres, more or less, substantially in the form of a square, which is a quarter section being a legal subdivision of the United States Public Land Surveys.

(b) Each oil well shall be located on a standard unit containing 40 acres, more or less, consisting of a governmental quarter-quarter section.

RULE 3. The Secretary-Director of the Commission may grant an exception to the requirements of Rule 2(a) without notice and hearing when an application has been filed for a non-standard unit and the unorthodox size or shape of the unit is necessitated by a variation in the legal subdivision of the United States Public Land Surveys, or the following facts exist and the following provisions are complied with:

(a) The non-standard unit consists of quarter-quarter sections or lots that are contiguous by a common bordering side.

(b) The non-standard unit lies wholly within a governmental quarter section and contains less acreage than a standard unit.

(c) The applicant presents written consent in the form of waivers from all offset operators and from all operators owning interests in the quarter section in which the non-standard unit is situated and which acreage is not included in said non-standard unit.

(d) In lieu of paragraph (c) of this rule, the applicant may furnish proof of the fact that all of the aforesaid operators were notified by registered or certified mail of his intent to form such non-standard unit. The Secretary-Director may approve the application if no such operator has entered an objection to the formation of such non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well, oil or gas, shall be located no nearer than 330 feet to any quarter-quarter section line, except that any well drilled in a known gas production area shall be located within 150 feet of the center of a quarter-quarter section.

RULE 5. A well shall be classified as a gas well if it has a gas-liquid ratio of 100,000 or more cubic feet of gas per barrel of liquid hydrocarbons. A well shall be classified as an oil well if it has a gas-liquid ratio of less than 100,000 cubic feet of gas per barrel of liquid hydrocarbons. The simultaneous dedication of any acreage to an oil well and a gas well is prohibited.

RULE 6. That the limiting gas-oil ratio shall be 2,000 cubic feet of gas for each barrel of oil produced.

RULE 7. An oil well which has 40 acres dedicated to it shall be permitted to produce only that amount of gas determined by multiplying the top unit oil allowable for the pool by the limiting gas-liquid ratio for the pool. In the event there is more than one oil well on a 40-acre oil proration unit, the operator may produce the allowable assigned to the 40-acre unit from the wells on the unit in any proportion.

A gas well shall be permitted to produce that amount of gas obtained by multiplying the top unit oil allowable for the pool by the limiting gas-liquid ratio for the pool and by a fraction, the numerator of which is the number of acres dedicated to the particular gas well and the denominator of which is 40. In the event there is more than one gas well on a 160-acre gas proration unit, the operator may produce the amount of gas assigned to the unit from the wells on the unit in any proportion.

RULE 8. The operator of each newly completed well shall cause a gas-liquid ratio test to be taken on the well upon recovery of all load oil from the well, provided however, that in no event shall the test be commenced later than 30 days from the date of first production unless the well is connected to a gas-gathering facility and is producing under a temporary gas allowable assigned in accordance with Rule 11. Any well which is shut in shall be exempted from the gas-liquid ratio test requirement so long as it remains shut in. The initial gas-liquid ratio test shall be taken in the manner prescribed by Rule 9. If the gas-liquid ratio is 100,000 cubic feet of gas per barrel of liquid hydrocarbons, or more, the operator shall not produce the well until beneficial use can be made of the gas.

RULE 9. Gas-liquid ratio test shall be taken on all wells during the month of November of each year. The initial gas-liquid ratio test shall suffice as the first annual test. Tests shall be 24-hour tests, being the final 24 hours of a 72-hour period during which the well shall be produced at a constant normal rate of production. Results of such tests shall be filed on Commission Form C-116 on or before the 10th day of the following month. At least 72 hours prior to commencement of any such gas-liquid ratio tests, each operator shall file with the appropriate district office of the Commission a test schedule for its wells specifying the time each of its wells is to be tested. Copies of the test schedule shall also be furnished to all offset operators. The supervisor of the Artesia district office of the Commission may grant an exception to the above test requirements where it is demonstrated that the well produces no liquids.

Special tests shall also be taken at the request of the Secretary-Director and may also be taken at the option of the operator. Such special tests shall be taken in accordance with the procedures outlined hereinabove, including notification to the Commission and offset operators.

RULE 10. An initial shut-in pressure test shall be taken on each gas well and shall be reported to the Commission on Form C-125.

RULE 11. Any well completed after the effective date of these rules shall receive an allowable only upon receipt by the appropriate Commission district office of Commission Forms C-104 and C-116, properly executed. The District Supervisor of the Commission's district office is hereby authorized to assign a temporary gas allowable to wells connected to a gas transportation facility during the recovery of load oil, which allowable shall not exceed the number of cubic feet of gas obtained by multiplying the daily top unit allowable for the pool by the limiting gas-liquid ratio for the pool.

RULE 12. That the initial gas proration period shall be from 7:00 a.m. November 1, 1972, to 7:00 a.m. January 1, 1974. Subsequently, the date 7:00 a.m. January 1 of each year shall be known as the balancing date, and the twelve months following this date shall be known as the gas proration period.

RULE 13. Any gas well which has an underproduced status as of the end of a gas proration period shall be allowed to carry such underproduction forward into the next gas proration period and may produce such underproduction in addition to the allowable assigned during such succeeding period. Any allowable carried forward into a gas proration period and remaining unproduced at the end of such gas proration period shall be cancelled.

RULE 14. Production during any one month of a gas proration period in excess of the allowable assigned to a well for such month shall be applied against the underproduction carried into such period in determining the amount of allowable, if any, to be cancelled.

RULE 15. Any well which has an overproduced status as of the end of a gas proration period shall carry such overproduction forward into the next gas proration period, provided that such overproduction shall be compensated for during such succeeding period. Any well which has not compensated for the overproduction carried into a gas proration period by the end of such proration period shall be shut in until such overproduction is compensated for. If, at any time, a well is overproduced an amount equalling three times its current monthly allowable, it shall be shut in during that month and each succeeding month until the well is overproduced less than three times its current monthly allowable.

RULE 16. The allowable assigned to a well during any one month of a gas proration period in excess of the production for the same month shall be applied against the overproduction carried into such period in determining the amount of overproduction, if any, which has not been compensated for.

RULE 17. The Commission may allow overproduction to be compensated for at a lesser rate than would be the case if the well were completely shut in upon a showing after notice and hearing that complete shut in of the well would result in material damage to the well or reservoir.

RULE 18. The monthly gas production from each gas well shall be metered separately and the gas production therefrom shall be reported to the Commission on Form C-115 so as to reach the Commission on or before the 24th day of the month next succeeding the month in which the gas was produced. The operator shall show on such report what disposition has been made of the produced gas.

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Case No. 4820
Order No. R-4411

RULE 19. Each purchaser or taker of gas shall submit a report to the Commission so as to reach the Commission on or before the 15th day of the month next succeeding the month in which the gas was purchased or taken. Such report shall be filed on Form C-111 with the wells being listed in the same order as they are listed on the appropriate proration schedule.

RULE 20. Failure to comply with any provision of these rules shall result in the immediate cancellation of allowable assigned to the affected well. No further allowable shall be assigned until all rules and regulations have been complied with. The Secretary-Director shall notify the operator of the well and purchaser in writing of the date of allowable cancellation and the reason therefor.

RULE 21. All transporters or users of gas shall file gas well-connection notices with the Commission as soon as possible after the date of connection.

RULE 22. Allowables to wells whose classification has changed from oil to gas or from gas to oil as the result of a gas-liquid ratio test shall commence on the first day of the month following the month in which such test was reported, provided that a plat (Form C-102) showing the acreage dedicated to the well and the location of all wells on the dedicated acreage has been filed.

IT IS FURTHER ORDERED:

(1) That the locations of all wells presently drilling to or completed in the North Fren Yates-Seven Rivers Associated Pool or in the Yates-Seven Rivers formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the appropriate district office of the Commission in writing of the name and location of the well on or before November 15, 1972.

(2) That all operators shall, prior to November 15, 1972, file with the Commission Form C-102 for each well showing the acreage dedicated to the well.

(3) That the applicant is hereby authorized to commingle the Yates-Seven Rivers production from its Well No. 8 located in Unit K of Section 9, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico, with Grayburg-Jackson production from the same lease in a central tank battery after separately metering the production from said Well No. 8.

PROVIDED HOWEVER, that said installation shall be operated in accordance with the provisions of the Commission's "Manual for the Installation and Operation of Commingling Facilities."

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Case No. 4820
Order No. R-4411

(4) That the applicant is hereby authorized to complete its Well No. 1 located in Unit P of Section 9, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico, as a dual completion in such a manner as to produce gas from the North Fren Yates-Seven Rivers Pool through the casing-tubing annulus and oil from the Grayburg-Jackson Pool through tubing with separation of zones by a packer set at approximately 2200 feet, commingling on the surface the Yates-Seven Rivers gas production with the Grayburg-Jackson casinghead gas production after separately metering the Yates-Seven Rivers production.

PROVIDED HOWEVER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order;

PROVIDED FURTHER, that the applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Shut-In Pressure Test Period for the North Fren Yates-Seven Rivers Pool.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



Bruce King
BRUCE KING, Chairman

Alex J. Armijo
ALEX J. ARMIJO, Member

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

S E A L

dr/

(Case 4816 continued from Page 2)

to establish a limiting gas-oil ratio limitation of 6,000 cubic feet of gas per barrel of oil in said pool.

- CASE 4817: Application of Phillips Petroleum Company for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Drag "B" Well No. 1 located in Unit K of Section 18, Township 23 South, Range 27 East, Eddy County, New Mexico, in such a manner as to produce gas from the South Carlsbad-Morrow Gas Pool through tubing and an undesignated Canyon gas pool through the casing-tubing annulus.
- CASE 4818: Application of Tipperary Land and Exploration Corporation for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the North Bagley-Pennsylvanian Pool by the injection of water into the Strawn and possibly other formations by the injection of water through its Bess Well No. 1 located 660 feet from the North line and 1980 feet from the East line of Section 20, Township 11 South, Range 33 East, Lea County, New Mexico.
- CASE 4819: Application of D. L. Hannifin for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in and under the S/2 of Section 24, Township 22 South, Range 26 East, South Carlsbad Field, Eddy County, New Mexico, to be dedicated to a well to be drilled 1980 feet from the South and East lines of said Section 24. 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 4820: Application of Anadarko Production Company for the creation of an associated pool, special rules therefor, downhole and surface commingling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new associated pool for the production of oil and gas from the Yates and Seven Rivers formations for its Loco Hills Federal "B" Wells Nos. 1 and 8 located, respectively, in Units P and K of Section 9, Township 17 South, Range 30 East, Eddy County, New Mexico, and the promulgation of special rules therefor including provisions for the classification of oil and gas wells, oil and gas well spacing, and an unlimited gas-oil ratio.
- Applicant further seeks authority to commingle in the well-bore of said Well No. 1 the Yates-Seven Rivers production from the newly created pool and the Grayburg-Jackson Pool and to commingle on the surface the Yates-Seven Rivers production from said Well No. 8 with production from the Grayburg-Jackson Pool.
- CASE 4821: Application of Getty Oil Company for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks as an exception

(Case 4821 continued from Page 3)

to Rule 303 of the Commission Rules and Regulations, authority to commingle production from the North Vacuum-Abo, Vacuum-Wolfcamp, and Vacuum-Pennsylvanian Pools in the wellbore of its State "BA" Well No. 8 located in Unit B of Section 36, Township 17 South, Range 34 East, Lea County, New Mexico.

CASE 4822: Application of Getty Oil Company for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox location for its State "BA" Well No. 9 located 660 feet from the North line and 2310 feet from the East line of Section 36, Township 17 South, Range 34 East, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico. Said well being nearer than 660 feet to another well capable of producing from the same pool.

CASE 4823: Application of Getty Oil Company for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox location for its A. B. Coates "C" Well No. 28 located 1820 feet from the North and West lines of Section 24, Township 25 South, Range 37 East, Justis Blinbry Pool, Lea County, New Mexico. Said well being located nearer than 660 feet to another well capable of producing from the same pool.

CASE 4824: Application of Getty Oil Company for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of an unorthodox location for its H. D. McKinley Well No. 11 located 760 feet from the North line and 550 feet from the East line of Section 30, Township 18 South, Range 38 East, Hobbs Grayburg-San Andres Pool, Lea County, New Mexico. Said well being nearer than 660 feet to another well capable of producing from the same pool.

CASE 4825: Application of Hanagan Petroleum Corporation for dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Catclaw Draw Unit Well No. 3 located in Unit D of Section 36, Township 21 South, Range 25 East, Eddy County, New Mexico, in such a manner as to produce gas from an undesignated Strawn gas pool through tubing and from the Catclaw Draw-Morrow Gas Pool through the casing-tubing annulus.

CASE 4826: Application of Hanagan Petroleum Corporation for pool creation, special pool rules, and an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Strawn gas pool for its well located 920 feet from the North and West lines of Section 36, Township 21 South, Range 25 East, Eddy County, New Mexico, and the promulgation of special rules therefor, including a provision for 640-acre spacing units. Applicant further seeks approval of an unorthodox location for the above-described well.

CASE 4827: Application of Robert N. Enfield for an unorthodox location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks

Examiner Hearing - Wednesday - September 13, 1972
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Docket No. 20-72

(Case 4827 continued from Page 4)

authority to drill a gas well at an off-pattern unorthodox location 990 feet from the North and East lines of Section 11, Township 15 South, Range 27 East, Buffalo Valley-Pennsylvanian Gas Pool, Chaves County, New Mexico, with the E/2 of said Section 11 to be dedicated to the well.

CASE 4828: Application of Inexco Oil Company for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority for the dual completion of its McMinn State Well No. 1 located 1980 feet from the South and West lines of Section 18, Township 21 South, Range 26 East, Eddy County, New Mexico, in such a manner as to produce gas from the Strawn formation and the Morrow formation adjacent to the Catclaw Draw-Morrow Gas Pool.

Docket No. 20-72

DOCKET: EXAMINER HEARING - WEDNESDAY - SEPTEMBER 13, 1972

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:

- ALLOWABLE: (1) Consideration of the allowable production of gas for October, 1972, from seventeen prorated pools in Lea, Eddy, Chaves and Roosevelt Counties, New Mexico;
- (2) Consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico, for October, 1972.

CASE 4808: Application of Skelly Oil Company for a waterflood expansion and dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks to expand its Grayburg-Jackson Skelly Unit Waterflood Project, Grayburg-Jackson Pool, Eddy County, New Mexico, by the injection of water through its Unit Well No. 114 located in Unit D of Section 14, Township 17 South, Range 31 East. Said Well No. 114 to be completed as a dual completion in such a manner as to permit the production of oil from the Fren-Sevens Rivers Pool and the injection of water into the Grayburg-Jackson Pool.

CASE 4809: Application of Saturn Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Antebellum Unit Area comprising 3,840 acres, more or less, of State and Federal lands in Township 23 South, Range 34 East, Lea County, New Mexico.

CASE 4810: In the matter of the application of the Oil Conservation Commission on its own motion to consider the revision of the special rules for the Devils Fork Gallup Associated Pool and the Escrito Gallup Associated Pool, Rio Arriba and San Juan Counties, New Mexico, promulgated by Orders Nos. R-1670-B and R-1793-A, respectively, to permit taking of gas-oil ratio and bottom-hole pressure tests on an annual basis rather than quarterly and semi-annually, as is now required.

CASE 4747: (Continued from the July 26, 1972, Examiner Hearing)

Application of Union Texas Petroleum, a Division of Allied Chemical Corporation for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests below the base of the Devonian formation underlying the N/2 of Section 33, Township 25 South, Range 37 East, Crosby Field, Lea County, New Mexico. Said acreage to be dedicated to its well to be located 1650 feet from the North line and 2310 feet from the East line of said Section 33. 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 4577: (Reopened)

In the matter of Case 4577 being reopened pursuant to the provisions of Order No. R-4181, which order established special rules and regulations for the Parkway-Wolfcamp Pool, Eddy County, New Mexico, including a provision for 160-acre spacing units. All interested persons may appear and show cause why said pool should not be developed on 40-acre or 80-acre spacing units.

CASE 4811: Application of Atlantic Richfield Company for a non-standard proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 120-acre non-standard gas proration unit comprising the N/2 SE/4 and NE/4 SW/4 of Section 36, Township 21 South, Range 37 East, Blinbry Gas Pool, Lea County, New Mexico, to be dedicated to its State 367 Well No. 3 located in Unit K of said Section 36.

CASE 4812: Application of Midwest Oil Corporation for an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks as an exception to Rule 104, authority to drill a wildcat gas well to test the Morrow formation at an unorthodox location 1320 feet from the South and East lines of Section 1, Township 18 South, Range 28 East, Eddy County, New Mexico, with the S/2 of said Section 1 to be dedicated to the well.

CASE 4813: Application of Inexco Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Sitting Bull Unit Area comprising 6,665 acres, more or less, of Federal lands in Sections 28, 29, 31, 32, and 33 of Township 23 South, Range 22 East, and Sections 4 through 9 of Township 24 South, Range 22 East, Eddy County, New Mexico.

CASE 4814: Application of Inexco Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of the Four Forks Unit Area comprising 3,133 acres, more or less, of Federal and Fee lands in Sections 3, 10, 11, 14 and 15 of Township 22 South, Range 25 East, Eddy County, New Mexico.

CASE 4815: Application of Inexco Oil Company for pool creation and special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Strawn gas pool for its well located 1980 feet from the South and West lines of Section 18, Township 21 South, Range 26 East, Eddy County, New Mexico. Applicant further seeks the promulgation of special rules therefor, including a provision for 640-acre spacing units.

CASE 4816: Application of Penroc Oil Corporation for a special gas-oil ratio limitation increase, Lea County, New Mexico. Applicant, in the above-styled cause, seeks amendment of the special rules and regulations for the Hobbs-Drinkard Pool promulgated by Order No. R-3811, as amended,

ANADARKO PRODUCTION COMPANY

Map Showing
Location of Fren Seven Rivers Field Oil and Gas Production
to
Undesignated Seven Rivers Oil and Gas Production
Anadarko's Loco Hill Federal "B" Well Nos. 1 and 8
SE $\frac{1}{4}$ SE $\frac{1}{4}$ and NE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 9-T17S-R30E
Eddy County, New Mexico

The map displays a grid of land sections with various labels indicating ownership and production status. Notable features include:

- Square Lake #3 UNIT**: Located in the upper left quadrant.
- GRAYBURG-JACKSON (SA) UNIT**: Located in the middle right section.
- LOCO HILLS**: A large area circled in the lower middle section, containing several well locations.
- Wells and Owners**: Numerous wells are marked with dots and labels such as "Newmont S/R", "Anadarko", "Sinclair", "PETCO", "Gen. Amer.", "U.S.", "Allied Chem.", etc.
- Handwritten Annotations**: Large handwritten numbers "17", "30", "15", "16", "13", "12", "11", "10", "9", "8", "7", "6", "5", "4", "3", "2", "1" are scattered across the map, likely corresponding to specific sections or leases.
- Exhibit Information**: A box at the bottom right contains the following text:
EXHIBIT 1
New Mexico Oil Conservation Commission
September 13, 1972 Examiner Hearing
Creation of Associated Pool
for
Production Oil and Gas from Yates-Seven Rivers
and
Authority to Commingle Production
Anadarko Production Company
Loco Hill Federal "B" Lease
SE $\frac{1}{4}$ and E/2 SW $\frac{1}{4}$ Section 9-T17S-R30E
Eddy County, New Mexico

Location of Fren Seven Rivers Field Oil and Gas Production to

SQUARE
LAKE 31
UNIT

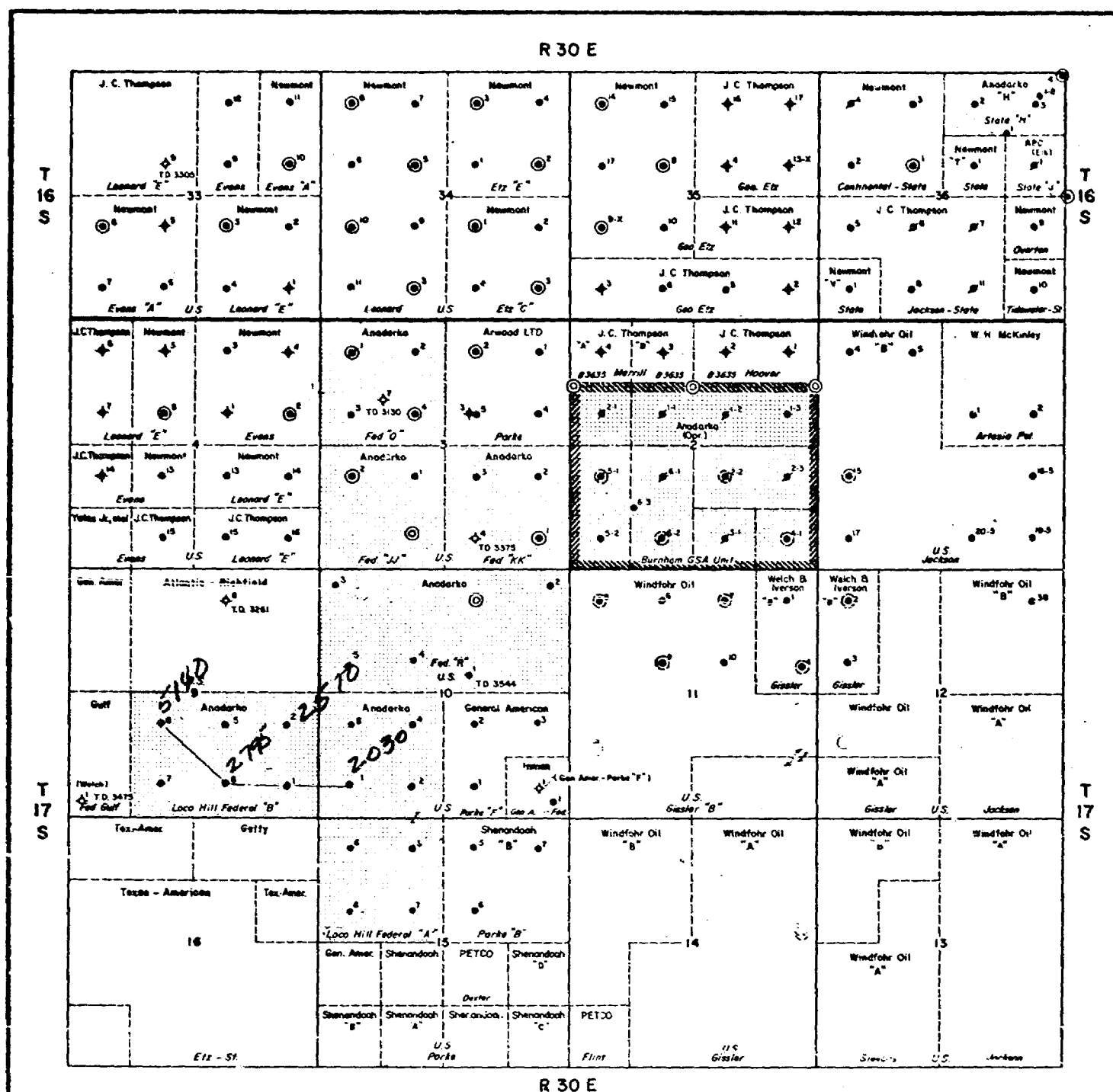
GRAYBURG-JACKSON
(SA) UNIT

2140
SQUARE LAKE 12 UNIT
(GRAYBURG)

ANDERSON

EXHIBIT 1

New Mexico Oil Conservation Commission
September 13, 1972 Examiner Hearing
Creation of Associated Pool
for
Production Oil and Gas from Yates-Seven Rivers
and
Authority to Commingle Production
Anadarko Production Company
Loco Hill Federal "B" Lease
SE/4 and E/2 SW/4 Section 9-T17S-R30E
Eddy County, New Mexico



ANADARKO PRODUCTION COMPANY

EXHIBIT 2

New Mexico Oil Conservation Commission
September 13, 1972 Examiner Hearing
Creation of Associated Pool

for
Production Oil and Gas from Yates-Seven Rivers
and

Authority to Commingle Production
Anadarko Production Company
Loco Hill Federal "B" Lease
SE/4 and E/2 SW/4 Section 9-T17S-R30E
Eddy County, New Mexico

LEGEND

- Oil Well
- ◆ Plugged & Abandoned
- ⊠ Temporarily Abandoned
- ◇ Dry & Abandoned
- ⊙ Water Injection Well
- ⊖ Proposed WIW
- Proposed Producing Well
- ⊙ Proposed Conversion
- ⊙ Producing Well to WIW
- Anadarko Acreage

EXHIBIT _____

NEW MEXICO OIL CONSERVATION COMMISSION
 SEPTEMBER 13, 1972 EXAMINER HERRING
 CREATION OF ASSOCIATED POOL
 FOR
 PRODUCTION OIL AND GAS FROM YATES-SEVEN RIVERS
 AND
 AUTHORITY TO COMMENCE PRODUCTION
 ANADARKO PRODUCTION COMPANY LOCO HILL FEDERAL "B" LEASE
 SE/4 AND E/2 SW/4 SECTION 9-T17S-R30E
 EDDY COUNTY, NEW MEXICO

WELL	ZONE	GAS-OIL RATIOS			DATE
		BARRELS OIL PER DAY	MCF GAS PER DAY	GOR	
Loco Hill Federal "A" #1	G&G.	10	20.3	2030	9-9-72
Loco Hill Federal "B" #2	G&G.	75	187.9	2510	9-10-72
Loco Hill Federal "B" #6	G&G.	44	123.2	2795	9-11-72
Loco Hill Federal "B" #8	Y-SR	22	113.0	5140	9-12-72
Loco Hill Federal "B" #1	SR-G&G.	47	444.0 *	9450	9-12-72

* INCLUDES GAS PRODUCTION FROM YATES - SEVEN
 RIVERS PERFORATIONS

BEFORE EXAMINER NUTTER OIL CONSERVATION COMMISSION	
ANADARKO	EXHIBIT NO. 5
CASE NO.	4820
Submitted by	STUM HOFFER
Filing Date	13 Sep 72

ANADARKO PRODUCTION COMPANY

SCHEMATIC DIAGRAM

DOWNHOLE COMMINGLING

SEVEN RIVERS GAS

WITH

GRAYBURG OIL AND GAS

LOCO HILL FEDERAL "B" WELL NO. 1

SE/4 SE/4 SECTION 9-T17S-R30E

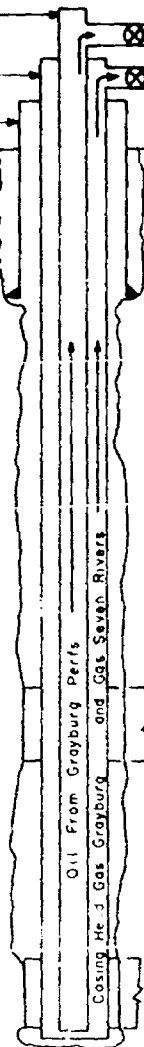
EDDY COUNTY, NEW MEXICO

2 3/8" O.D. Tubing
Set at 2845'

5 1/2" O.D. 14" Oil String Set
at 2860' G.L. Cemented w/
450 Sacks

8 5/8" O.D. 24" Surface Casing
Set at 462' G.L. Cemented w/
250 Sacks

Grayburg Oil and Gas and
Seven Rivers Gas
to Loco Hill Federal "B"
Grayburg-Jackson Field
Tank Battery No. 1



Seven Rivers Perforations

1744'-48'
1902'-14', 1930'-34', 1940'-42', 1968'-72'
Tested 179 MCFGPD on 10/64" Choke, TBG
Pressure 300, PSIG - Gas 59.63 % Nitrogen
From 1744'-48' Perfs after Acid. Perfs
1902'-72' Overall Produced No fluid After
Acid. 72-Hour SI Surface Pressure 580
PSIG - BHP Est. 600 PSI w/1744'-1972'
Perfs Overall Open

Grayburg Perforations

2612'-16', 2624'-28', 2634'-38', 2686'-90',
2724'-34', 2760'-64', 2786'-90', 2828'-34'.
Potential 100 BOPD, 20 BWPD, 490 MCFGPD
(Gor 4900) Includes Gas From Seven Rivers
Perfs 1744'-48' Shown Above.

EXHIBIT

NEW MEXICO OIL CONSERVATION COMMISSION

SEPTEMBER 13, 1972 EXAMINER HEARING

CREATION OF ASSOCIATED POOL

FOR

PRODUCTION OIL AND GAS FROM YATES-SEVEN RIVERS

AND

AUTHORITY TO COMMINGLE PRODUCTION

ANADARKO PRODUCTION COMPANY

LOCO HILL FEDERAL "B" LEASE

SE/4 AND E/2 SW/4 SECTION 9-T17S-R30E

EDDY COUNTY, NEW MEXICO

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION

ANADARKO EXHIBIT NO. 6

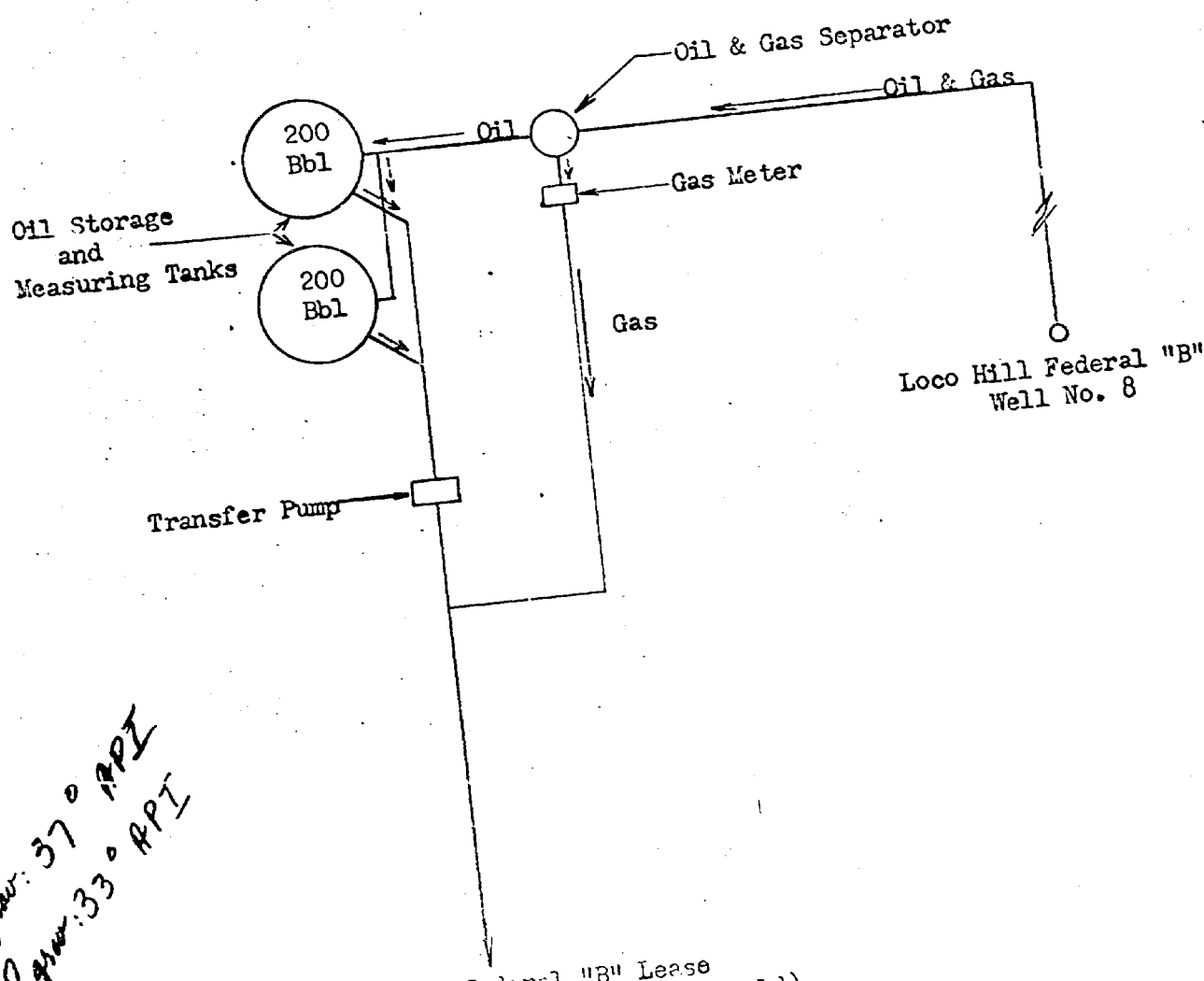
CASE NO. 4820

Submitted by STUM HOFFER

Hearing Date 13 Sep 72

ANADARKO PRODUCTION COMPANY

Schematic Diagram
Surface Commingling
Yates-Seven Rivers Oil and Gas
Loco Hill Federal "B" Well No. 8
NE/4 SW/4 Section 9-T17S-R30E
Eddy County, New Mexico
with
Loco Hill Federal "B" Lease
Grayburg-Jackson Field Production



AB gas: 37° API
H-SR gas: 33° API

To Loco Hill Federal "B" Lease
Tank Battery No. 1 (Grayburg-Jackson Field)

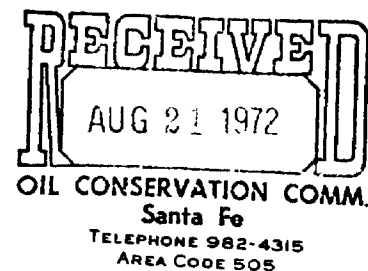
EXHIBIT
New Mexico Oil Conservation Commission
September 13, 1972 Examiner Hearing
Creation of Associated Pool
for
Production Oil and Gas from Yates-Seven Rivers
and
Authority to Commingle Production
Anadarko Production Company
Loco Hill Federal "B" Lease
SE/4 and E/2 SW/4 Section 9-T17S-R30E
Eddy County, New Mexico

ANADARKO

7.
H820
STUM HOFFER
13 Sep 72

JASON W. KELLAHIN
ROBERT E. FOX
W. THOMAS KELLAHIN

KELLAHIN AND FOX
ATTORNEYS AT LAW
500 DON GASPAR AVENUE
POST OFFICE BOX 1769
SANTA FE, NEW MEXICO 87501
Aug. 18. 1972



Case 4820

Oil Conservation Commission of
New Mexico
P. O. Box 1088
Santa Fe, New Mexico 87501

Gentlemen:

Enclosed is the application of Anadarko Production Company for the creation of a new pool for the production of oil and gas from the Yates and Seven Rivers formations, Eddy County, New Mexico, and for down-hole and surface commingling with production from the Grayburg-Jackson Pool.

It will be appreciated if this application can be set for hearing at the September 13, Examiner hearing.

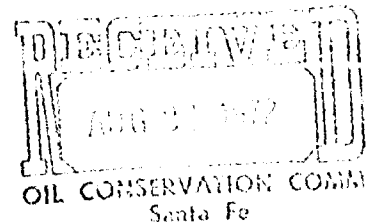
Yours very truly,

Jason W. Kellahin
Jason W. Kellahin

JWK:ss
Encls.

DOCKET NUMBER

Date *8-31-72*



BEFORE THE
OIL CONSERVATION COMMISSION OF NEW MEXICO

Case 4820

IN THE MATTER OF THE APPLICATION
OF ANADARKO PRODUCTION COMPANY
FOR CREATION OF AN ASSOCIATED POOL
FOR THE PRODUCTION OF OIL AND GAS
FROM THE YATES-SEVEN RIVERS FORMATION
AND FOR AUTHORITY TO COMMINGLE
PRODUCTION, EDDY COUNTY, NEW MEXICO

A P P L I C A T I O N

Comes now Anadarko Production Company and applies to the Oil Conservation Commission of New Mexico for the creation of a new pool for the production of oil and gas from the Yates and Seven Rivers formations from an undesignated Yates-Seven Rivers Pool, to be designated and operated as an associated pool, with the adoption of appropriate pool rules, together with an order permitting the commingling of production from the new pool with production from the Grayburg-Jackson Pool, Eddy County, New Mexico, and in support thereof would show the Commission:

*creation
rules*

1. Applicant has completed its Loco Hills Federal "B" Well No. 1, located 660 feet from the South line and 660 feet from the East line of Section 9, Township 17 South, Range 30 East, N.M.P.M., Eddy County, New Mexico.

2. Applicant has completed its Loco Hills Federal "B" Well No. 8, located 1980 feet from the South line and 1980 feet from the West line of Section 9, Township 17 South, Range 30 East, N.M.P.M., Eddy County, New Mexico.

3. The No. 1 well is perforated in the Seven Rivers formation in an undesignated pool in the interval from 1744 feet to 1748 feet, and from 1902 feet to 1972 feet. The

well has been potentialized at 179 mcf of gas per day, with tubing pressure of 300 psi. Gas produced tests 60% nitrogen, and no fluids were produced;

The No. 8 well is perforated in the Seven Rivers formation in an undesignated pool in the interval from 1883 feet to 1900 feet. The well was potentialized for oil production at about 30 barrels per day, with production increasing subsequent to completion. Applicant proposes to make additional perforations in the Yates formation.

4. The two wells are completed more than one mile from the exterior boundaries of any other Yates-Seven Rivers oil or gas pool, and the formations are productive of both oil and gas in the area of the two wells.

5. An associated pool, with the adoption of suitable pool rules, including a provision for 40-acre spacing and proration units for oil production, and 160-acre spacing and proration units for gas should be created, with no limiting gas-oil ratio, as is the case with other pools in the area.

*no GOR
limit*

6. Applicant further seeks authority to commingle production from the Yates-Seven Rivers formations with production from the Grayburg-Jackson Pool, as follows:

a. Applicant proposes to commingle production from the Seven Rivers formation and the Grayburg-Jackson in the No. 1 well, in the wellbore. The subject well is presently completed in the Grayburg-Jackson pool, with perforations through the interval from 2612 feet to 1834 feet, recovering 100 barrels of oil, 20 barrels of water on test, with gas production of 490 mcf per day, including gas produced from the Seven Rivers formation. The gas-oil

*downhole
commingling*

ratio of the well is 4900 to 1, including the Seven Rivers gas production. Due to the nature and volume of the gas production, being largely nitrogen, it is uneconomical to drill for and produce this gas from the Seven Rivers, and the gas must be commingled with other gas to raise its quality sufficiently to make it marketable; commingling production in the well bore is an economical means of handling the production.

Applicant proposes to allocate production to the two zones on the basis of the producing gas-oil ratios of offsetting wells producing solely from the Grayburg-Jackson pool, the balance of the gas produced from the No. 1 well to be allocated to the Yates-Seven Rivers associated pool.

b. Applicant proposes to commingle production of both oil and casinghead gas from the No. 8 well, at the surface, the Yates-Seven Rivers production to be commingled with Grayburg-Jackson production from other wells in the area in a common tank battery, the casinghead gas to be marketed through a common facility. Allocation of production to the No. 8 well will be on the basis of daily tests, through individual separator.

7. Approval of this application is in the interests of conservation and the prevention of waste, and will result in the recovery of oil and gas that would not otherwise be recovered. The correlative rights of owners in the area will not be impaired.

WHEREFORE Applicant prays that this application be set for hearing before the Oil Conservation Commission of New Mexico, or before the Commission's duly appointed examiner, and that after notice and hearing as required by law, the Commission grant the relief prayed for.

Respectfully submitted,

ANADARKO PRODUCTION COMPANY

R. J. Kepke
P. O. Box 9317
Fort Worth, Texas 76107

KELLAHIN & FOX
P. O. Box 1769
Santa Fe, New Mexico 87501

By Jason W. Kellahin
ATTORNEYS FOR APPLICANT

DRAFT

GMH/dr

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. 4820

Order No. R-4411

NOMENCLATURE

APPLICATION OF ANADARKO PRODUCTION
COMPANY FOR THE CREATION OF AN
ASSOCIATED POOL, SPECIAL RULES
THEREFOR, DOWNHOLE AND SURFACE
COMMINGLING, EDDY COUNTY, NEW
MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 13, 1972,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this day of September, 1972, 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, Anadarko Production Company, seeks
the creation of a new associated pool for the production of oil
and gas from the Yates and Seven Rivers formations for its Loco
Hills Federal "B" Wells Nos. 1 and 8, located, respectively, in
Units P and K of Section 9, Township 17 South, Range 30 East, NMPM,
Eddy County, New Mexico, and the promulgation of Special Rules
and regulations
therefor including provisions for the classification of oil and
gas wells, oil and gas well spacing, and an unlimited gas-oil
ratio.

(3) That the applicant further seeks authority to commingle on the surface of the subject well the Yates-Seven Rivers production from said well No. 8 with Grayburg-Jackson production from the same lease after separately metering the Yates-Seven Rivers production.

(4) (S) That the applicant further seeks authority to commingle ~~in the well bore of said Well No. 1~~ ^{in such a manner as to produce} ~~the Yates-Seven Rivers~~ ^{through the casing tubing} production from the newly created pool, and the Grayburg-Jackson Pool, ~~and to commingle on the surface the Yates-Seven Rivers~~ ^{through tubing, with separation of zones by a packer set at approximately 2200 feet and to commingle on the surface the} production from said Well No. 1 with production from the Grayburg-Jackson Pool. ~~Yates-Seven Rivers gas production with Grayburg-Jackson commingled~~ ^{gas production after separately metering the Yates-Seven Rivers production.}

(5) (S) That the above-described Well No. 1, having its top perforations in the Seven Rivers formation at 1,744 feet and the above-described Well No. 8, having its top perforation in the Yates formation at 1,501 feet have discovered a separate common source of supply which should be designated the

North Fren Yates-Seven Rivers Associated Pool;

that the vertical limits of said pool should be the Yates-~~and~~ Seven Rivers formation and that the horizontal limits of said pool should comprise the SE/4 and E/2 SW/4 of said Section 9.

(6) (S) That the reservoir characteristics of the subject pool indicate that the gas area can be efficiently and economically drained and developed on 160-acre spacing, and that the oil area can be efficiently and economically drained and developed on 40-acre spacing.

(7) (S) That the reservoir characteristics of the subject pool presently available justify the definition of a gas well as a well producing with a gas-liquid ratio of 100,000 or more cubic feet of gas per barrel of liquid hydrocarbons.

(8) (S) That the reservoir characteristics of the subject pool presently available justify the establishment of a gas-liquid ratio limitation of 2000 cubic feet of gas per barrel of liquid hydrocarbons ~~rather than an arbitrary gas-liquid ratio~~ ^{limitation as specified.}

(9) (S) That special rules and regulations providing for 160-acre gas well spacing and 40-acre oil well spacing should be promulgated for the subject pool in order to prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, prevent reduced recovery which might result

from the drilling of too few wells, and otherwise

and protect correlative rights.

(10) ~~(9)~~ That the special rules and regulations should provide for the classification of a gas well as a well producing with a gas-liquid ratio of 100,000 or more cubic feet of gas per barrel of liquid hydrocarbons and should provide for a gas-liquid ratio of 2,000 cubic feet of gas per barrel of liquid hydrocarbons in order to afford to the owner of each property in the pool the opportunity to produce his just and equitable share of the oil or gas, or both, and for this purpose to use his just and equitable share of the reservoir energy.

(11) ~~(10)~~ That the special rules and regulations should establish proration rules for gas wells in order to prevent waste and protect correlative rights.

(12) ~~(11)~~ That the ownership of the productive zones in the above described wells Nos. 1 and 8 are identical and the proposed dual completion and surface commingling will neither cause waste nor violate correlative rights and should be approved.

IT IS THEREFORE ORDERED: November 1, 1972

(1) That, a new pool in Eddy County, New Mexico, classified as an associated pool for the production of oil and gas, is hereby created and designated the North Fren Yates - Seven Rivers Associated Pool, with vertical limits comprising the Yates-~~and~~ Seven-Rivers formation and horizontal limits comprising the SE/4 and E/2 SW/4 of Section 9, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico.

(2) That Special Rules and Regulations for the North Fren Yates - Seven Rivers Associated Pool, Eddy County, New Mexico, are hereby promulgated as follows:

SPECIAL RULES AND REGULATIONS
FOR THE
NORTH FREN YATES - SEVEN RIVERS
ASSOCIATED POOL.

(12) That the proposed mechanics of the proposed dual completion and the proposed surface commingling are flexible and in accord with good conservation practices.

RULE 1. Each well completed or recompleted in the _____
Associated Pool in the Yates-Lee River formation within
one mile thereof, and not nearer to or within the limits of
another designated Yates-Lee River pool, shall be
spaced, drilled, operated, and produced in accordance with the
Special Rules and Regulations hereinafter set forth.

RULE 2. (a) Each gas well shall be located on a standard
unit containing 160 acres, more or less, substantially in the
form of a square, which is a quarter section being a legal
subdivision of the United States Public Land Surveys.

(b) Each oil well shall be located on a standard
unit containing 40 acres, more or less, consisting of a govern-
mental quarter-quarter section.

RULE 3. The Secretary-Director of the Commission may
grant an exception to the requirements of Rule 2(a) without
notice and hearing when an application has been filed for a non-
standard unit and the unorthodox size or shape of the unit is
necessitated by a variation in the legal subdivision of the
United States Public Land Surveys, or the following facts exist
and the following provisions are complied with:

(a) The non-standard unit consists of quarter-quarter sec-
tions or lots that are contiguous by a common bordering side.

(b) The non-standard unit lies wholly within a governmental
quarter section and contains less acreage than a standard unit.

(c) The applicant presents written consent in the form of
waivers from all offset operators and from all operators
owning interests in the quarter section in which the non-standard
unit is situated and which acreage is not included in said non-
standard unit.

(d) In lieu of paragraph (c) of this rule, the applicant may
furnish proof of the fact that all of the aforesaid operators
were notified by registered or certified mail of his intent to

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CASE NO. 4820
Order No. R-

form such non-standard unit. The Secretary-Director may approve the application if no such operator has entered an objection to the formation of such non-standard unit within 30 days after the Secretary-Director has received the application.

RULE 4. Each well, oil or gas, shall be located no nearer than 330 feet to any quarter-quarter section line, except that any well drilled in a known gas production area shall be located within 150 feet of the center of a quarter-quarter section.

RULE 5. A well shall be classified as a gas well if it has a gas-liquid ratio of 100,000 or more cubic feet of gas per barrel of liquid hydrocarbons. A well shall be classified as an oil well if it has a gas-liquid ratio of less than 100,000 cubic feet of gas per barrel of liquid hydrocarbons. The simultaneous dedication of any acreage to an oil well and a gas well is prohibited.

RULE 6. That the limiting gas-oil ratio shall be 2,000 cubic feet of gas for each barrel of oil produced.

RULE 7. An oil well which has 40 acres dedicated to it shall be permitted to produce only that amount of gas determined by multiplying the top unit oil allowable for the pool by the limiting gas-liquid ratio for the pool. In the event there is more than one oil well on a 40-acre oil proration unit, the operator may produce the allowable assigned to the 40-acre unit from the wells on the unit in any proportion.

A gas well shall be permitted to produce that amount of gas obtained by multiplying the top unit oil allowable for the pool by the limiting gas-liquid ratio for the pool and by a fraction, the numerator of which is the number of acres dedicated to the particular gas well and the denominator of which is 40. In the event there is more than one gas well on a 160-acre gas

8-20-20
160 MCF/day

160 MCF/day

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CASE NO. 4820
Order No. R-

proration unit, the operator may produce the amount of gas assigned to the unit from the wells on the unit in any proportion.

RULE 8. The operator of each newly completed well shall cause a gas-liquid ratio test to be taken on the well upon recovery of all load oil from the well, provided however, that in no event shall the test be commenced later than 30 days from the date of first production unless the well is connected to a gas-gathering facility and is producing under a temporary gas allowable assigned in accordance with Rule 11. Any well which is shut in shall be exempted from the gas-liquid ratio test requirement so long as it remains shut in. The initial gas-liquid ratio test shall be taken in the manner prescribed by Rule 9. If the gas-liquid ratio is 100,000 cubic feet of gas per barrel of liquid hydrocarbons, or more, the operator shall not produce the well until beneficial use can be made of the gas.

RULE 9. Gas-liquid ratio test shall be taken on all wells during the month of November of each year. The initial gas-liquid ratio test shall suffice as the first annual test. Tests shall be 24-hour tests, being the final 24 hours of a 72-hour period during which the well shall be produced at a constant normal rate of production. Results of such tests shall be filed on Commission Form C-116 on or before the 10th day of the following month. At least 72 hours prior to commencement of any such gas-liquid ratio tests, each operator shall file with the appropriate district office of the Commission a test schedule for its wells specifying the time each of its wells is to be tested. Copies of the test schedule shall also be furnished to all offset operators. *The supervisor of the Artesia district office of the* Commission ~~District supervisors~~ may

^

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CASE NO. 4820

Order No. R-

grant ^{an} exception to the above test requirements where it is demonstrated that ^{the} well produces no liquids.

Special tests shall also be taken at the request of the Secretary-Director and may also be taken at the option of the operator. Such special tests shall be taken in accordance with the procedures outlined hereinabove, including notification to the Commission and offset operators.

RULE 10. An initial shut-in pressure test shall be taken on each gas well and shall be reported to the Commission on Form C-125.

RULE 11. Any well completed after the effective date of these rules shall receive an allowable only upon receipt by the appropriate Commission district office of Commission Forms C-104 and C-116, properly executed. The District Supervisor of the Commission's district office is hereby authorized to assign a temporary gas allowable to wells connected to a gas transportation facility during the recovery of load oil, which allowable shall not exceed the number of cubic feet of gas obtained by multiplying the daily top unit allowable for the pool by the limiting gas-liquid ratio for the pool.

RULE 12. That the initial gas proration period shall be from 7:00 a.m. ~~August 1, 1972~~ ^{January 1, 1974}, to 7:00 a.m. January 1, 1974. Subsequently, the date 7:00 a.m. January 1 of each year shall be known as the balancing date, and the twelve months following this date shall be known as the gas proration period.

RULE 13. Any gas well which has an underproduced status as of the end of a gas proration period shall be allowed to carry such underproduction forward into the next gas proration period and may produce such underproduction in addition to the allowable assigned during such succeeding period. Any allowable carried forward into a gas proration period and remaining unproduced at the end of such gas proration period shall be cancelled.

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CASE NO. 4820
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RULE 14. Production during any one month of a gas proration period in excess of the allowable assigned to a well for such month shall be applied against the underproduction carried into such period in determining the amount of allowable, if any, to be cancelled.

RULE 15. Any well which has an overproduced status as of the end of a gas proration period shall carry such overproduction forward into the next gas proration period, provided that such overproduction shall be compensated for during such succeeding period. Any well which has not compensated for the overproduction carried into a gas proration period by the end of such proration period shall be shut in until such overproduction is compensated for. If, at any time, a well is overproduced an amount equalling three times its current monthly allowable, it shall be shut in during that month and each succeeding month until the well is overproduced less than three times its current monthly allowable.

RULE 16. The allowable assigned to a well during any one month of a gas proration period in excess of the production for the same month shall be applied against the overproduction carried into such period in determining the amount of overproduction, if any, which has not been compensated for.

RULE 17. The Commission may allow overproduction to be compensated for at a lesser rate than would be the case if the well were completely shut in upon a showing after notice and hearing that complete shut in of the well would result in material damage to the well or reservoir.

RULE 18. The monthly gas production from each gas well shall be metered separately and the gas production therefrom shall be reported to the Commission on Form C-115 so as to reach the Commission on or before the 24th day of the month

-9-

CASE NO. 4820

Order No. R-

next succeeding the month in which the gas was produced. The operator shall show on such report what disposition has been made of the produced gas.

RULE 19. Each purchaser or taker of gas shall submit a report to the Commission so as to reach the Commission on or before the 15th day of the month next succeeding the month in which the gas was purchased or taken. Such report shall be filed on Form C-111 with the wells being listed in the same order as they are listed on the appropriate proration schedule.

RULE 20. Failure to comply with any provision of these rules shall result in the immediate cancellation of allowable assigned to the affected well. No further allowable shall be assigned until all rules and regulations have been complied with. The Secretary-Director shall notify the operator of the well and purchaser in writing of the date of allowable cancellation and the reason therefor.

RULE 21. All transporters or users of gas shall file gas well-connection notices with the Commission as soon as possible after the date of connection.

RULE 22. Allowables to wells whose classification has changed from oil to gas or from gas to oil as the result of a gas-liquid ratio test shall commence on the first day of the month following the month in which such test was reported, provided that a plat (Form C-102) showing the acreage dedicated to the well and the location of all wells on the dedicated acreage has been filed.

IT IS FURTHER ORDERED:

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Case No. 4820
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(1) That the locations of all wells presently drilling to or completed in the North Fren Yates-Seven Rivers Associated Pool or in the Yates-Seven Rivers formation within one mile thereof are hereby approved; that the operator of any well having an unorthodox location shall notify the appropriate district office of the Commission in writing of the name and location of the well on or before November 15, 1972.

(2) That all operators shall, prior to November 15, 1972, file with the Commission Form C-102 for each well showing the acreage dedicated to the well.

(3) That the applicant is hereby authorized to commingle the Yates-Seven Rivers production from its Well No. 8 located in Unit K of Section 9, Township 17 South, Range 30 East, NMPM, Eddy County, New Mexico, with Grayburg-Jackson production from the same lease in a central tank battery after separately metering the production from said Well No. 8.

PROVIDED HOWEVER, that said installation shall be operated in accordance with the provisions of the Commission's "Manual for the Installation and Operation of Commingling Facilities."

(4) That the applicant is hereby authorized to complete its Well No. 1 located in Unit P of Section 9, township 17 South, Range 30 East, NMPM, Eddy County, New Mexico, as a dual completion in such a manner as to produce gas from the North Fren Yates-Seven Rivers Pool through the casing-tubing annulus and oil from the Grayburg-Jackson Pool through tubing with separation of zones by a packer set at approximately 2200 feet, commingling on the surface the Yates-Seven Rivers gas production with the Grayburg-Jackson casinghead gas production after separately

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metering the Yates-Seven Rivers production.

PROVIDED HOWEVER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order;

PROVIDED FURTHER, that the applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Shut-In Pressure Test Period for the North Fren Yates-Seven Rivers Pool.

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

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

CASE 1921: Application of GETTY
OIL COMPANY FOR DOWNGRADE COM-
MINGLING, LEA COUNTY, NEW MEXICO.

OK w/ provisions
per shall submit
up dated tests &
decline curve @
time of actual conversion
also put in similar
provisions to the recent
concess & T 1000 orders