

Case Number

60001

Application

Transcripts.

Small Exhibits

ETC.

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
28 September, 1977

EXAMINER HEARING

IN THE MATTER OF:

Application of Mesa Petroleum Co. for ) CASE  
an exception to Order No. R-5459, San ) 6001  
Juan County, New Mexico. )

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

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For the Applicant: Don Dent, Esq.  
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1 MR. NUTTER: The hearing will come to order, please.  
2 We will temporarily recess the case we were on prior to the  
3 lunch adjournment, which was Case Number 6046, application of  
4 Belco, and we'll now call Case Number 6001, which is the  
5 application of Mesa Petroleum Company for an exception to  
6 Order Number R-5459, San Juan County, New Mexico.

7 MR. DENT: Mr. Examiner, my name is Don Dent. I'm  
8 General Attorney for Mesa Petroleum in Amarillo. I'm ap-  
9 pearing through Mr. Hinkle, who will be along shortly.

10 I have four witnesses.

11 MR. NUTTER: Will they all stand and be sworn,  
12 please?

13 (Witnesses sworn.)

14  
15 DAVID P. HAMILTON

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

18  
19 DIRECT EXAMINATION

20 BY MR. DENT:

21 Q Will you please state your name for the record?

22 A David P. Hamilton.

23 Q Mr. Hamilton, for whom are you employed and in  
24 what capacity?

25 A I'm employed by Mesa Petroleum Company and I am a

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1 geologist working out of the Central Division Denver Office.

2 Q Mr. Hamilton, have you previously testified before  
 3 this Commission?

4 A Yes, I have.

5 Q And your qualifications have been accepted by the  
 6 Commission?

7 A Yes, they have.

8 MR. DENT: Mr. Examiner, I ask if there are any  
 9 objections to this man's qualifications?

10 MR. NUTTER: Mr. Hamilton is qualified.

11 Now, Mr. Hinkle, you are making an appearance on  
 12 behalf of --

13 MR. HINKLE: Yes.

14 MR. NUTTER: -- Mr. Dent? Make your appearance,  
 15 Mr. Hinkle.

16 MR. HINKLE: Okay. Clarence Hinkle, Hinkle, Cox,  
 17 Eaton, Cofield, and Hensley, in Roswell, appearing on behalf  
 18 of Meas Petroleum Company, associated with Don Dent, General  
 19 Attorney for Mesa in Amarillo.

20 Q (Mr. Dent continuing.) Mr. Hamilton, in preparation  
 21 for this hearing, have you made a study of the -- a geologi-  
 22 cal study of the Chacra and the Measverde, Blanco-Mesaverde  
 23 Pool area?

24 A Yes.

25 Q Have you, in connection with your study prepared

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1 certain exhibits?

2 A. Sure have, three exhibits.

3 Q. Will you look at what you have shown as Exhibit  
 4 Number 1 and explain for the Examiner what's shown there?

5 A. Exhibit Number 1 is a structure map and it is con-  
 6 toured on top of the Chacra producing interval. An important  
 7 point the structure map points out that our Primo-Federal 1-A  
 8 is producing on a structural closure and the wells, there  
 9 are six Mesaverde wells within a 3000 foot radius of our  
 10 Primo-Federal 1-A, and neither one of these Mesaverde wells  
 11 have any indication of gas in the Chacra interval.

12 Q. Look at that exhibit and point out which wells are  
 13 the Mesaverde wells you're referring to.

14 A. There is a Mesaverde well, two Mesaverde wells,  
 15 about a half of a mile to the west; there's one about a half  
 16 a mile to the north; and one about a half a mile to the east;  
 17 and our own Primo Number 1 Well about a half a mile to the  
 18 south.

19 Q. And what does this structure map show?

20 A. The structural map is showing that our Primo-Feder-  
 21 al 1-A is located on or near a structural closure.

22 Q. And these wells that are nearby the Mesa Primo 1-A,  
 23 is there any indication of gas being present in the Chacra  
 24 interval?

25 A. No, sir, no indication at all.

1 Q Now, I notice that you've shown a cross section.  
2 Did you prepare also a cross -- a stratigraphic cross section?

3 A Yes, sir, I did.

4 Q Look at what's been marked as Mesa Exhibit Number 2  
5 and explain that to us.

6 A Mesa Exhibit Number 2 is a stratigraphic cross  
7 section. The datum is the Huerfanito Bentonite bed above the  
8 Chacra interval. Our Primo-Federal Number 1-A is the center  
9 well. This is a west-to-east cross section, three wells.  
10 This cross section illustrated the continuity of this Chacra  
11 interval that is producing in our 1-A Well.

12 Q Okay, would you please refer next to Exhibit Number  
13 3, which is the north/south cross section, and explain it?

14 A Exhibit Number 3 is a structural cross section.  
15 The datum is sea level. The cross section graphically illu-  
16 strates the reversal of dip surrounding our Primo-Federal 1-A.  
17 It verifies the presence of a structural anomaly. The  
18 Primo-Federal 1-A is the center well, again. It is a north-  
19 to-south cross section with the line of section on the struc-  
20 ture map.

21 Q Mr. Hamilton, did you not participate in the hearing  
22 which was held to delineate the Blanco-Mesaverde Pool and  
23 delineate the Chacra and the Mesaverde limits?

24 A Yes, I did.  
25

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1 Q Did you not participate in the geological studies  
 2 that were conducted in connection with that hearing?

3 A Yes, I did.

4 Q Are you familiar with the orders entered by the  
 5 Commission subsequent to it, delineating such land?

6 A Yes.

7 Q I'll also ask you, are you familiar with the case  
 8 which came before the Commission involving an application of  
 9 Lively Exploration Company for -- an application for an ex-  
 10 ception?

11 A Yes, I am familiar with that.

12 Q Now, what well was involved in that case?

13 A That was the Lively Number 7-Y Well.

14 Q Have you a log of the Lively 7-Y Well?

15 A Yes, I certainly do.

16 Q Would you please look at that well log and correlate  
 17 it, if you can, with the Primo 1-A of Mesa?

18 MR. NUTTER: Is the Lively Well anywhere on Exhibit  
 19 Number 1?

20 A No, sir, the Lively Well is about fifteen or twenty  
 21 miles southeast of our Primo-Federal 1-A. If you take the  
 22 log of the Lively Number 7-Y, and I have marked on this log  
 23 the datum, which is the same as on this west-to-east cross  
 24 section, the scales are all the same, you can correlate it,  
 25 I think, without a doubt, and reached a conclusion that the



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1 Lively Well is producing from the same or equivalent interval  
2 as our Primo-Federal 1-A. This is what we call the Chacra  
3 interval.

4 Q Is the Lively Well and the Primo-Federal 1-A Mesa  
5 Well two of the four wells which were referred to in the Com-  
6 mission's order?

7 A Yes.

8 Q Were there other wells involved beyond the line that  
9 might be qualified for an exception to this order?

10 A Yes, there were two other wells.

11 Q And which wells were those?

12 A Those are both Tenneco wells and I can't remember  
13 the numbers, well numbers.

14 Q Are you familiar with whether or not Tenneco made  
15 application for an exception regarding those wells?

16 A Yes, they did.

17 Q Are you familiar with the outcome?

18 A Yes.

19 Q What was the Commission's action?

20 A They refused or denied.

21 Q Do you know why?

22 A Yes, because of vertical communication with the  
23 Mesaverde.

24 Q So, in your opinion, is the geological data sup-  
25 porting that exception, or in those wells, distinguishable

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1 from the geological features of the Chacra in the Primo 1-A?

2 A. Yes, definitely.

3 Q What is your opinion now as to the similarity of

4 the geological characteristics between the Mesa well and the

5 Lively well?

6 A. The Lively well is, in my opinion, producing from

7 the same or equivalent interval as our Primo-Federal 1-A.

8 Q Were the Mesa exhibits 1, 2, and 3 prepared by you

9 or under your supervision?

10 A. Yes, sir.

11 MR. DENT: Mr. Examiner, I'd like to offer those

12 exhibits at this time.

13 MR. NUTTER: Okay, Mesa Exhibits 1 through 3, is

14 that correct?

15 MR. DENT: Correct.

16 MR. NUTTER: Meas Exhibits 1 through 3 will be ad-

17 mitted in evidence.

18 MR. DENT: I have no further questions of this wit-

19 ness.

20

21 CROSS EXAMINATION

22 BY MR. NUTTER:

23 Q Mr. Hamilton, now, I note on your Exhibit Number 2,

24 or Number 3, the cross section here, you mentioned that there

25 was a structural anomaly.

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1 A. Yes, sir.

2 Q. Now, these are -- all three wells are shown on a  
3 common datum of sea level, aren't they?

4 A. Yes, sir.

5 Q. And the anomaly is represented here by this vertical --

6 A. Yes, sir,

7 Q. -- disruption of the yellow line across the --

8 A. Yes.

9 Q. Now, is the east/west cross section hung on a com-  
10 mon datum, being sea level, also?

11 A. No, sir this is a stratigraphic cross section.  
12 It's hung on the Huerfanito bentonite marker.

13 Q. Okay, so you don't have that vertical disruption  
14 there, although glancing at the Exhibit Number 1, you would  
15 have that from east to west also if you had your cross section  
16 hung similarly in relation to the three.

17 A. Yes, sir, you certainly would.

18 Q. Now, what has been termed to be the Chacra Pool, or  
19 the Chacra interval, is just the yellow band here, is that  
20 correct?

21 A. That is correct.

22 Q. And below that we have the Lewis Shale.

23 A. Yes, sir, that is correct.

24 Q. Now, in this particular area, what is the Mesaverde  
25 producing formation defined as by that recent order of the

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1 Commission?

2 A. It's called the -- the vertical limit, or the upper-  
3 most, is the Huerfanito bentonite bed.

4 Q And where would that be on Exhibit Number 2, here?

5 A. Number 2, it is in our Primo-Federal 1-A, it is at  
6 about 3200 feet. It is marked datum and it's a heavy black  
7 line.

8 Q And that's the Huerfanito bentonite?

9 A. Yes, sir.

10 MR. NUTTER: Mr. Dent, another witness is going to  
11 testify to the perforated interval and so forth?

12 A. Yes, sir.

13 MR. NUTTER: Are there any further questions of this  
14 witness? He may be excused.

15 MR. DENT: I next call Mr. Dennis Denney.  
16

17 DENNIS W. DENNEY

18 being called as a witness and having been duly sworn upon his  
19 oath, testified as follows, to-wit:

20

21 DIRECT EXAMINATION

22 BY MR. DENT:

23 Q Will you please state your name for the record?

24 A. Dennis W. Denney.

25 Q Mr. Denney, for whom are you employed?

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1 A. Mesa Petroleum Company?

2 Q In what capacity?

3 A. As a Reservoir Engineer.

4 Q Have you testified previously before this Commission?

5 A. Yes, I have.

6 Q As a Reservoir Engineer?

7 A. Yes.

8 MR. DENT: Are there any questions, MR. Nutter,  
9 about Mr. Denney's qualifications?

10 MR. NUTTER: No, he is qualified. How do you spell  
11 your name, Mr. Denney?

12 A. My last name? D-E-N-N-E-Y.

13 MR. NUTTER: Okay, thank you.

14 Q Mr. Denney, in preparation for this hearing have  
15 you made an engineering study of the Primo-Federal 1-A, its  
16 performance history as compared to wells in the area?

17 A. Yes, I have.

18 Q Did you prepare certain production performance  
19 curves?

20 A. Yes, I have.

21 Q Have these been marked as Meas Exhibit Number 4?

22 A. Correct.

23 Q Would you look at what has been marked as Exhibit  
24 Number 4 and I believe then following that will be offered  
25 as 4-A through E, Mr. Nutter, and we'll keep those performance

1 curves in one group.

2 Would you refer to those exhibits and explain them  
3 to the Examiner?

4 A. Yes, I will. The one -- or the exhibit for the  
5 Mesa Primo Number 1-A Chacra shows that the production came  
6 on in early 1976. The producing rate was approximately 2400  
7 Mcf per day beginning up to 3000 Mcf per day, and began de-  
8 clining in early 1977.

9 The surrounding wells, the offset wells, namely the  
10 Mudge 4-R and the Sammons Number 1, the Mudge Number 4-R is  
11 operated by El Paso, and is a half mile west of the Primo-  
12 Federal 1-A. The Sammons Well is operated by Amoco. It is  
13 approximately a half mile to the east of the Primo 1-A.  
14 Both of these wells have been on production for several years  
15 and the decline or the pressure -- the production decline  
16 from or on these wells, has not shown any indication of inter-  
17 ference or adjustment other than normal decline.

18 MR. NUTTER: Okay, now, Mr. Denney, before you get  
19 any further here, the Mudge Well is Exhibit 4-E, is that it?

20 A. I'm not sure of the letter on it.

21 MR. NUTTER: You show a decline curve for that well.

22 A. Yes.

23 MR. NUTTER: And that's this west offset to your  
24 Primo 1-A?

25 A. Correct.

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1 MR. NUTTER: Okay, that's the Mudge 4-R. Now,  
2 what was the next well you mentioned, the Harrison?

3 A. No, sir, the Amoco Sammons Number 1.

4 MR. NUTTER: Okay, do we have a curve on it?

5 A. Yes.

6 MR. NUTTER: Okay, now that's the east offset?

7 A. Correct. And you can look at these curves and you  
8 can tell that there's been no change in the decline, in the  
9 production decline, during the last year since our Primo-  
10 Federal 1-A has come on production.

11 The Mesa Primo Number 1, which is the south offset  
12 to the 1-A, shows an increase in production prior to the time  
13 the Number 1-A came on and the production after the Number  
14 1-A Well came on stream has declined at approximately the  
15 same rate as it did before the Number 1-A came on production.  
16 That would indicate that there had been no interference in  
17 that well, either.

18 The Aztec Harrison Number 1, which is the north  
19 offset well, I'm not sure what is the number; we also have a  
20 curve on it there. Operated by Aztec, the curve shows here  
21 that from '73 through late '75, approximately November, the  
22 production actually increased. The production decline started  
23 decreasing in November of '75, this was actually prior to the  
24 time that the Primo 1-A Well was put on stream.

25 The reason for this decline is the Mesa State Com M

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1 9-A, which is northwest of the Primo 1-A and a half mile west  
 2 of the Aztec Harrison Number 1, it came on stream in November  
 3 of '75 and I believe this to be the reason for any decline in  
 4 the Harrison Well. The Primo Number 1-A Mesaverde Zone was  
 5 put on production in the last day of January, 1976 --

6 MR. NUTTER: Which one was that?

7 A. The Primo 1-A Mesaverde.

8 MR. NUTTER: Okay, it was hidden from me.

9 A. The Primo 1-A Mesaverde and the Mesa State Com M 9-A  
 10 are both offsets to the Aztec Harrison Well.

11 MR. NUTTER: Now, wait a minute. You said the Mesa  
 12 Primo 1-A went on production December of '76?

13 A. No, the last day of January.

14 MR. NUTTER: Okay.

15 A. Of '76.

16 MR. NUTTER: Okay.

17 A. Okay, the Mesa Primo-Federal 1-A and the Mesa State  
 18 Com M 9-A are offsets to the Aztec Harrison Number 1 Well.

19 MR. NUTTER: Now, let me find this Mesa State Com  
 20 9-A on my plat here, if I can find my plat.

21 That's the northwest offset to the Primo 1-A, is  
 22 that correct?

23 A. Correct.

MR. NUTTER: I'm having a hard time keeping all  
 these identified here.



1 A. It is my belief that the Harrison Well was using  
2 reservoir energy in the area of the State Com M 9-A and the  
3 Primo-Federal 1-A when the State Com M 9-A was put on pro-  
4 duction, it began to use energy from the reservoir to produce  
5 into our State Com M 9-A Well and reduce some of the energy  
6 that was being used to produce gas into the Aztec Harrison.

7 If you continue to look at the Aztec Harrison de-  
8 cline curve, it shows no additional decline as a result of  
9 putting on the Chacra Zone, which was producing at approxi-  
10 mately three times the rate.

11 With the Chacra Zone producing anywhere from two  
12 and a half to three times the amount of gas shown, or pro-  
13 duced from the offset wells, if they were producing from the  
14 same common source of supply, there should have been some  
15 indication of decline or interference, but there is none  
16 shown from the decline curves.

17 Q Mr. Denney, based on the comparison of the well  
18 performance of the nearby wells compared to the Primo 1-A,  
19 how has the Primo-Federal 1-A performed?

20 A. The Primo-Federal 1-A has performed much better than  
21 any of the other offset wells, even in the Mesaverde Zone.  
22 The production rate is higher and is a very good producing  
23 zone from the Mesaverde.

24 Q Did you in connection with your study also make a  
25 study of the pressure performance related to the cumulative

1 production?

2 A. Yes, I did.

3 Q. Would you refer to what has been marked as Mesa's  
4 Exhibit Number 5 and explain that?

5 A. All right. What is shown here is a comparison of  
6 the Chacra Zone and the Mesaverde Zone in the Primo-Federal  
7 Number 1-A Well. The first graph on the left side here,  
8 shows the change in the shut-in wellhead pressure from the  
9 initial test to the latest deliverability test, which was run  
10 in July of '77. The Chacra Zone shows that the overall pres-  
11 sure drop is less than the pressure drop in the Mesaverde  
12 Zone. At the same time, the production from the Chacra Zone  
13 is nearly double the production from the Mesaverde Zone.

14 On the righthand graph here we have the cumulative  
15 production - pressure drop ratio. The ratio for the Chacra  
16 Zone is nearly double, again, that of the Mesaverde, showing  
17 that performance of the Chacra Zone to be much better than  
18 the Mesaverde Zone and it should be considered a separate  
19 reservoir in that if it was in communication with the Mesa-  
20 verde zone itself, it should either have a lower ratio or  
21 approximately the same. The overall pressure drop in pro-  
22 ducing gas in a zone much higher than the Mesaverde Zone  
23 should have been greater, should have depleted much quicker.

24 Q. Well, based on the comparison of the cumulative  
25 production versus the pressure drop, has the Primo-Federal

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1 1-A out-performed the nearby wells, also?

2 A. The -- you mean as far as the ratio?

3 Q. Yes, as far as ratios are concerned?

4 A. I don't have those numbers at hand and I don't re-  
5 call the --

6 Q. Okay, let me ask you this. Has the Chacra production  
7 interval out-performed the Mesaverde interval?

8 A. Yes, it has. I don't recall the numbers offhand.  
9 I don't have them.

10 Q. Just looking at Exhibit Number 5, I think it shows  
11 that as far as your comparing the Chacra to the Mesaverde,  
12 that it has out-performed, has it not?

13 A. Correct. These two zones are being compared in  
14 the same wellbore so that if there was communication between  
15 the two zones, it should have showed up here before it showed  
16 up anywhere else.

17 Q. Did you make a further comparison of the condensate  
18 production from the Mesaverde from the Primo Number 1 as com-  
19 pared to the nearby Mesaverde?

20 A. Yes, I have.

21 Q. Would you look at what's been marked Exhibit Number  
22 6 and explain that comparison?

23 A. Okay, on Exhibit Number 6 is shown in the numbers  
24 in parentheses next to the wells, there, the condensate yield  
25 in barrels per million cubic feet of production. The Chacra

1 Zone from the Primo-Federal 1-A is .1 barrel per million  
2 cubic feet of gas. The Mesaverde Zone in the same well is  
3 1.6 barrel per million. That's a sixteen-fold difference.

4 The Harrison Well to the north is producing 1.7  
5 barrels per million. It's very nearly the same as the Mesa-  
6 verde Zone in our Primo-Federal 1-A.

7 The other wells range from 4.2 to 10.9 barrels per  
8 million. All those other zones are from the Mesaverde.

9 Q. The Mesa Primo 1-A is a triple completion, is it  
10 not?

11 A. Correct.

12 Q. Are you familiar with the perforated intervals and  
13 the completion technique used in completing the well?

14 A. Yes, I am.

15 Q. Would you refer to what has been marked as Mesa  
16 Exhibit Number 2 and tell the Commission where the perforated  
17 intervals in the three zones are, and also your recollection  
18 of where the packers are set?

19 A. All right. The Pictured Cliffs Zone, which is the  
20 uppermost producing interval in this well, is perforated from  
21 2711 to 2723. The Chacra Zone is perforated from 3444 to  
22 3739; 3929 to 3990; 42 -- no, excuse me.

23 MR. NUTTER: How about just the overall perforated  
24 interval there, Mr. Denney?

25 A. Okay, the overall Chacra Zone would be from 3444

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1 to 3990.

2 MR. NUTTER: To 3990. Thank you.

3 A. Right.

4 Okay, the overall Mesaverde perforations are from  
5 4208 to 5020.

6 MR. NUTTER: 5020?

7 A. Correct. There is a packer set below the Pictured  
8 Cliffs Zone at 2764 feet and there is another packer set be-  
9 tween the Chacra and the Mesaverde producing intervals at  
10 4050 feet.

11 MR. NUTTER: Where was that other upper packer,  
12 please?

13 A. 2764.

14 MR. NUTTER: Thank you.

15 Q. Were the exhibits, Mesa Exhibits Number 4, 4A  
16 through 4F, 5 and 6, prepared by you or under your super-  
17 vision?

18 A. Yes, they were.

19 MR. DENT: Mr. Examiner, I now offer Mesa Exhibits  
20 4, 4A through 4F, 5, and 6.

21 MR. NUTTER: Mesa Exhibits Number 4 through 6 will  
22 be admitted in evidence.

23 MR. DENT: I have no further questions for Mr.  
24 Denney.

25

CROSS EXAMINATION

BY MR. NUTTER:

Q Okay, Mr. Denney, the obvious question to me is what formation are all these perforations in that run from 3738 down to 3990?

A Well, those are actually in the Lewis Shale.

Q Is that another pool or what?

A These perforations were tested, perforated and tested, because they looked similar or of similar quality to the Chacra Zone; however, during tests it was my understanding that they did not produce.

Q What are all these numbers out here to the right of this log on this exhibit?

A Those are flow rates of gas during the time the well was being drilled, at those -- gauged while drilling at those depths.

Q Would that flow rate include intervals above that particular point that are producing, also? Or were those isolated tests from that point?

A They were -- this well was drilled with air, with no mud, and these are the rates of gas that were flowing during the drilling time; they were not specific tests.

Q So in other words, as you would drill on down and went through one of these intervals, the next interval which was encountered would be a flow rate from interval one plus

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1 interval two?

2 A. Correct.

3 Q. And then as you went on down and got to the third  
4 interval, that would be the combined flow from intervals one,  
5 two, and three?

6 A. Correct.

7 Q. So it keeps increasing as you go down?

8 A. Correct; this is one of the reasons why these zones  
9 from the lower section that were in the Lewis Shale were  
10 tested.

11 Q. Well, then as you got on down into the Mesaverde,  
12 suddenly the flow rates decreased. Why would that be?

13 A. Well, the -- if we look at the initial test on  
14 these zones, the Mesaverde Zone had a lower pressure than the  
15 Chacra Zone. When we drilled into the Mesaverde, well, we  
16 obviously had a higher pressure zone above and lower pressure  
17 zone, and we were most likely probably feeding gas into the  
18 Mesaverde Zone from the Chacra.

19 Q. So when you got down in here into the Mesaverde here  
20 below 4200, the Mesaverde was actually theiving out of the  
21 Chacra when you were drilling?

22 A. Correct.

23 Q. Okay. Now, you gave us some Delta T's on those  
24 but you didn't give us the actual pressures that you had, so  
25 I think if we turn to your Exhibit Number 5, if we could have

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1 some actual pressures.

2 Now, the left set of curves here is the change in  
3 pressure for the Chacra and the Mesaverde between the initial  
4 test and the latest deliverability test. Now, do you have  
5 original pressures and the pressure at the time of this de-  
6 liverability test?

7 A. Well, I have the pressures for the latest test and  
8 the Mesaverde shut-in wellhead pressure, the latest test was  
9 679 psi.

10 Q. And after how long a shut-in was that?

11 A. Seven days.

12 The Chacra Zone had 681 pounds shut-in pressure.

13 Q. With seven days?

14 A. Right. They are absolute.

15 Q. Okay, now what about your original pressures on  
16 those two formations?

17 A. Okay, the -- I don't have those. We'll have to just  
18 add them up here. Had 772 psi on the Chacra Zone and 775 on  
19 the Mesaverde Zone from these tests, apparently.

20 Q. Well now, did you ever measure any bottom hole pres-  
21 sures in those two formations in one well?

22 A. No, sir, not that I know of.

23 Q. Did you actually have some measured pressures when  
24 the wells were first completed? Some measured wellhead pres-  
25 sures?



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1 A. I'm not aware of any.

2 Q. Well, then how did you make this determination of  
3 the 91 pound differential there?

4 I can see where you're getting the thing backwards,  
5 now.

6 A. Okay, those -- those were calculated from the --  
7 those may have been off the packer leakage test, which were --  
8 no, they were not.

9 Q. Do you have the original packer leakage test there  
10 that was taken early in the life of the well?

11 A. Yes, I do.

12 Q. Would you give me your shut-in pressures in the two  
13 zones there?

14 A. Okay, the Chacra was 758; the Mesaverde was 746.

15 Q. Okay, when was that packer test made?

16 A. That was December the 9th, 1975.

17 Q. So that was prior to hookup, then?

18 A. Correct.

19 Q. So you might consider those to be original shut-in  
20 wellhead pressures, then.

21 A. Correct.

22 Q. Those are gauge pressures?

23 A. Yes.

24 Q. And now, between the time that those pressures were  
25 taken and the current latest available pressures, how much of

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1 a Delta T do we have?

2 A. I show 77 pounds on the Chacra Zone and the same on  
 3 the Mesaverde.

4 Q. I think it would be 67 on the Mesaverde, wouldn't  
 5 it?

6 A. Yes, excuse me.

7 Q. So you've got a ten pound differential there be-  
 8 tween the decline in pressure during that period of time?

9 And then your next set of columns is the cumulative  
 10 production from these two zones.

11 A. Right.

12 Q. And then your third chart on here would be the  
 13 cumulative production per pound pressure drop?

14 A. Correct; right.

15 Q. Okay, now, Mr. Denney, you were going through these  
 16 Exhibits Numbers 4, A through 4-E, or whatever it is, and  
 17 I was having a hard time shuffling them, keeping up with you  
 18 there.

19 A. I'm sorry.

20 Q. Now, one of these wells you mentioned had started  
 21 its decline almost at the same time that the State Com 9-A  
 22 went on the stream, I think you said.

23 A. Correct. That was the Aztec Harrison Number 1.

24 Q. Okay. Now, the Harrison -- the State Com 9-A went  
 25 on the line, apparently, in November of '75.

1 A. Correct.

2 Q. And the Harrison started its decline in November  
3 of '75. Now, is it reasonable to suspect that in the Mesa-  
4 verde Formation putting a well on production is going to see  
5 an immediate response and decline or pressure interference  
6 for a well that's a good half-mile away?

7 Is this a common thing in the Mesaverde Formation?

8 A. Well, I need to explain a little bit here. You  
9 could have a month or two decline shown on this well before  
10 you could see effect of the offset well. The decline doesn't  
11 actually show until December. In November it was higher from  
12 the previous rate; the December rate is the first one which  
13 shows to be lower, but that could be just normal operation.

14 Q. Have you taken into consideration the possibility  
15 that line pressures were up in the area during those winter  
16 months? Maybe some of the bigger wells in the field were  
17 producing more, or any factors of that nature?

18 A. Well, the -- let's see. Well, I have considered  
19 that point, yes, but the production from the Harrison in-  
20 creased for three years before it started to decline. This  
21 decline -- well, it declined for two months during December  
22 of '75 and January of '76 before it inclined again, and both  
23 of these rates were lower than for the past fourteen months,  
24 over which you should have had the same variation in pipeline  
25 pressures or roughly the same variation.

1 Beginning in mid -- or within the first three months of 1976  
2 the Aztec Harrison has shown a constant decline since that  
3 time.

4 Q Well, I notice that you can almost overlay one of  
5 these wells production decline curve on the other. I mean,  
6 you have a hump there in the first half of 1976 and a decline  
7 in the first month of the second half; then you have another  
8 hump on both wells in the production curve for the second  
9 half of '76 and then a decline there in the winter of '76-'77.  
10 Then you have another hump in the curve for both wells in the  
11 first half of '77 and a low point there in May, and then both  
12 wells went back up again; they're almost identical to each  
13 other.

14 A Correct.

15 Q Which would indicate to me that there's something  
16 going on in that neighborhood, whether it's down in the well-  
17 bore or whether it's up there in the lines.

18 A Well, there are two things here. Our past history  
19 or production history, we did not know how many days there  
20 was production in each month, so we used a calendar-day basis.  
21 On certain months there are, well, fewer than 28, usually  
22 22 to 24, days on a producing month. Now, we didn't know  
23 which of these months those were in the previous history.  
24 We used a calendar-day basis on all the producing figures  
25 we had.

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1 MR. NUTTER: Mr. Kendrick, what is it? It's either  
2 24 -- it's either from 24 to 32 days on a producing month --

3 MR. KENDRICK: 24 to 32.

4 A. Okay, so some of these low spots in '76, I know,  
5 are caused by using a calendar-day basis instead of a 24-day  
6 basis.

7 Q. You took a 24-day production month and divided it  
8 by 30 or 31?

9 A. Correct. We did this so we could be consistent with  
10 the past history. Also, during the spring and first part of  
11 the summer of '77 there were some pipeline curtailments,  
12 decreased production from all of the wells in that area.  
13 This is -- this is seen on all the wells.

14 Q. What is the actual physical equipment in this well,  
15 Mr. Denney? Is the Pictured Cliffs producing through the  
16 annulus and then you have two strings of tubing to these  
17 other two pools, or how?

18 A. Correct. The Pictured Cliffs is producing through  
19 the annulus; the Chacra Zone is producing through one string  
20 of tubing and the Mesaverde is producing through a separate  
21 string.

22 Q. Do you know the size of those tubing strings?

23 A. No, I don't. I may be able to look that up here,  
24 let me check.

25 Q. Okay.

1 A Okay, the Mesaverde Zone is producing through  
2 2-1/16th inch and the Chacra is also producing through 2-1/16th.  
3 They're the same size.

4 Q Okay.

5 MR. NUTTER: Are there any other questions of Mr.  
6 Denney? Mr. Kendrick?

7  
8 CROSS EXAMINATION

9 BY MR. KENDRICK:

10 Q On Exhibit 2 at the righthand of the log you show  
11 some gauges as the well was being drilled.

12 A Yes.

13 Q And down around 4800 you start in with gauges  
14 marked TSTM after we've had gauges in excess of 7 or 8 million  
15 feet.

16 A Yes.

17 Q Were these taken after you ran a string of casing  
18 through what you term the Chacra interval and then started  
19 drilling ahead into the additional Mesaverde?

20 A Yes, they were.

21 Q Do you think the casing was what shut off the flow  
22 from the gas zones above?

23 A Let me do some checking here.

24 MR. NUTTER: You might as well tell him where that  
25 casing is set to.

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1 A. That casing is set at 4631.  
 2 MR. NUTTER: What size is that casing?  
 3 A. It is 4-1/2 inch.  
 4 Q. Then that would help to explain the sudden reduction  
 5 in flow rates that Mr. Nutter asked you about earlier?  
 6 A. Below that point, yes.  
 7 Q. On Exhibits 4 and A through F, are all these wells  
 8 producing in the same pipeline?  
 9 A. No.  
 10 Q. Or the same pipeline system?  
 11 A. No, sir, they're not.  
 12 Q. Do you know which are producing in which systems?  
 13 A. The El Paso Mudge 4-R, the Amoco Sammons Number 1,  
 14 and the State Com M 9-A, which is operated by Mesa, produce  
 15 into El Paso Natural Gas Pipeline.  
 16 The Aztec Harrison, the Primo Number 1, the Primo  
 17 Number 1-A, Mesaverde, Chacra, and Pictured Cliffs Zones, all  
 18 produce to Southern Union, I believe that's the name.  
 19 Q. Now, this is quite surprising in that Mr. Nutter  
 20 was comparing the producing rates of the State Com M 9-A and  
 21 the Harrison Number 1, showing very similar producing char-  
 22 acteristics, and I'm kind of inclined to believe that those  
 23 were probably producing into the same pipeline. Would you  
 24 agree that pipeline pressures might make these similar vari-  
 25 ations in the production curves?

1 A. It's possible, yes. That's the Harrison and the  
2 State Com M 9-A.

3 Q. Yes, sir.

4 MR. NUTTER: But I think you said that those two  
5 are producing into different pipelines.

6 A. That's correct; according to our records. I checked  
7 those out in the Annual Report put out by the Oil Conservation  
8 Commission. That's where I was getting my information, so  
9 I used that as a basis for which pipeline they were producing  
10 into.

11 Q. Okay. Now, you testified that the Harrison Number 1  
12 experienced a production decline because the Primo Number 1-A  
13 went on production at approximately that same time, is that  
14 true?

15 A. No, I said that one reason that it might be de-  
16 clining is that the State Com M 9-A went on production in  
17 November of 1975.

18 Q. And the State Com M 9-A would cause this production  
19 decline but the production had similar rates from two zones  
20 and the other well, which is approximately the same distance,  
21 would not cause interference in this well, is that your  
22 testimony?

23 A. I said that the Mesaverde production from the Primo  
24 1-A could have affected it at a later date.

25 Q. Please explain to me why that the production from



1 the State Com 9-A would interfere immediately with it and  
2 this other well would not interfere with it until a later  
3 date?

4 A. I didn't say that it would interfere immediately.  
5 I said there could be several months delay in the interfering.  
6 The initial decline for two to three months, say, could be  
7 due to normal operating procedures or as you see in the past,  
8 it has declined for two to three months and then increased  
9 again.

10 Q. Well, I understood your testimony to be that had  
11 a similar production curve because the other well had inter-  
12 fered with it and this would then rule out any interference  
13 from the Primo 1-A.

14 A. No, I didn't say that they had similar production  
15 curves. I said that the decline and the rate did not increase  
16 back to the production rate prior to that decline in late  
17 '75, early '76.

18 Q. Your Exhibit 4-F on the Amoco Sammons Well fails  
19 to show similar declines at a similar time.

20 A. Correct.

21 Q. And this well is at about the same distance from  
22 the Primo 1-A? Is that true?

23 A. The same distance as the Harrison is from the Primo?

24 Q. Yes.

25 A. Yes, they're about the same distance and it showed

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1 no decline in production. It was also producing at a much  
2 lower rate.

3 Q And it is also surrounded by Mesaverde wells in  
4 four directions?

5 A Yes, it is.

6 MR. KENDRICK: I believe that's all the questions  
7 I have, Mr. Examiner.

8 MR. NUTTER: Are there further questions of Mr.  
9 Denney? He may be excused.

10 MR. DENT: The next witness, I'll call Mr. Slagle.  
11

12 SAM L. SLAGLE

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

15  
16 DIRECT EXAMINATION

17 BY MR. DENT:

18 Q Would you state your name for the record, please?

19 A Sam L. Slagle. Mesa Petroleum Co., Amarillo, Texas.

20 Q Mr. Slagle, in what capacity are you employed?

21 A Land man, San Juan Division.

22 Q What are your duties as land man for the San Juan  
23 Division?

24 A Oh, I do the land work for drilling the well; any  
25 administrative land work in the producing wells; all phases

1 of negotiations.

2 Q Are you familiar with the unit configuration of the  
3 Mesa Primo 1-A?

4 A Yes, I am.

5 Q Have you prepared an exhibit which shows the con-  
6 figuration of the proration units?

7 A Yes, sir, I have.

8 Q I believe that exhibit has been marked as Mesa  
9 Exhibit Number 7. Would you please explain that exhibit?

10 A Okay, the west half of Section 6 was communitized  
11 back in March of 1953 for the drilling of the Primo-Federal  
12 Number 1 Well. It's a regular section; it's a little less  
13 than 320 acres in that proration unit. Mesa's lease covers  
14 the northwest quarter, the southeast of the southwest quarter.  
15 This lease is a Federal lease, Santa Fe 078215-B. It contains  
16 432.92 acres, of which 194.33 are in the spacing unit for the  
17 Mesaverde.

18 Q Does this exhibit also show the spacing units for  
19 the Pictured Cliffs and Chacra intervals?

20 A Yes, sir, it does. The spacing for the PC and  
21 Chacra, 160 acres in our Primo-Federal Number 1-A Well; this  
22 is the northwest quarter.

23 Q When was the Primo-Federal 1-A Well drilled?

24 A The latter part of 1975.

25 Q Was that well drilled pursuant to order of the Com-

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1 mission authorizing an infill well?

2 A. Yes, sir, it was. It was drilled the Infill Order  
 3 Number R-1670-T, which allowed us to drill a second Mesaverde  
 4 on 320-acre spacing.

5 Q. And that well, was it drilled under the existing  
 6 operating agreement?

7 A. No, sir, our well was projected originally as a  
 8 dual-producer in the PC-Mesaverde Formations.

9 We encountered the Chacra Zone and had to renego-  
 10 tiate our operating agreement for a triple completion.

11 Q. And who are the owners in the well? By zones?

12 A. Okay. In the PC Zone Mesa owns it one hundred per-  
 13 cent and the same as Chacra. In the Mesaverde Zone Mesa owns  
 14 5/8ths; Crown Central Petroleum owns 2/8ths; Carr, Moore &  
 15 Numbach own 1/8th.

16 Q. Now, if Mesa is not granted its application for an  
 17 exception, what will occur insofar as the proration unit, as  
 18 shown by this exhibit?

19 A. The -- if the Chacra is considered as Mesaverde,  
 20 we will lose -- Mesa itself will lose 3/8ths of the Chacra  
 21 production.

22 Q. And who will gain that 3/8ths production?

23 A. Crown Central 2/8ths; Carr, et al, one.

24 Q. And are those persons, or is Crown Central repre-  
 25 sented here today?

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1 A. Not to my knowledge.

2 Q Have you received any notice of opposition to this  
3 application of Mesa?

4 A. No, sir, I have not.

5 Q And what is Mesa seeking by its application today?

6 A. An exception to the spacing on the Chacra Formation,  
7 or that there is Chacra production beyond the pinchout line.

8 Q And that was identified by Commission Order Number  
9 R-5459, which re-defined the vertical limits of the Blanco-  
10 Mesaverde, is that not true?

11 A. Correct.

12 Q In your opinion, if Mesa is denied this application  
13 will it have been denied an opportunity to recover its share  
14 of the petroleum underlying this lease?

15 A. Yes, sir, it surely would.

16 Q Its correlative rights will not be protected?

17 A. That is my opinion, yes.

18 Q Did you prepare Exhibit Number 7 or was it prepared  
19 under your supervision?

20 A. Under my supervision.

21 MR. DENT: Mr. Examiner, I offer Mesa's Exhibit  
22 Number 7.

23 MR. NUTTER: Mesa Exhibit Number 7 will be admitted  
24 in evidence.

25 MR. DENT: I have no further questions.

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1 MR. NUTTER: Does anyone have any questions of Mr.  
 2 Slagle?

3 MR. KENDRICK: Matter of clarification. I think  
 4 you defined this lease as being the north, and it should read  
 5 the northwest quarter. Excuse me, the northwest quarter of  
 6 the section and the northeast quarter of the southwest quarter  
 7 if this is colored in correctly.

8 A. Correct; sorry.

9 MR. NUTTER: Are there any further questions of the  
 10 witness? He may be excused.

11 MR. DENT: I call Mr. Carnes as our last witness.

12  
 13 L. M. CARNES

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

16  
 17 DIRECT EXAMINATION

18 BY MR. DENT:

19 Q Mr. Carnes, by whom are you employed and in what  
 20 capacity?

21 A. Mesa Petroleum Co, Amarillo, Texas. Manager Re-  
 22 servoir Engineering.

23 Q And you have appeared before this Commission and  
 24 given testimony?

25 A. Yes, I have.

1 MR. DENT: Are there any questions about his qual-  
2 ifications?

3 MR. NUTTER: No, sir. Please proceed.

4 Q Mr. Carnes, would you refer to what has been marked  
5 as Exhibit 8 and explain to the Examiner what you have shown  
6 by this exhibit?

7 A Exhibit 8 is a calculation of the potential revenue  
8 loss to Mesa if the Chacra is reclassified as Mesaverde.  
9 It shows the current working interest, which Mr. Slagle has  
10 recited as a hundred percent in the Chacra, with a net revenue  
11 interest of 82.5 percent.

12 The revised working interest would be approximately  
13 62.4 with a revised net revenue interest of 51.5 percent, or  
14 a change in net revenue interest of a -31 percent. Using  
15 the average gas producing rate in August of 1977, of 2150 Mcf  
16 per day, and projecting this to an annual basis, we can deter-  
17 mine that there would be 785,000 Mcf of gas produced in a 365  
18 day period.

19 Based on the current gas price we're receiving of  
20 \$1.64 per Mcf, we would then realize an annual revenue loss  
21 of \$399,000.

22 Assuming we have a five year reserve life index,  
23 the future net revenue would be -- the loss would be about  
24 \$1,995,000, if the Chacra Zone was reclassified as a part of  
25 the Mesaverde interval.

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1 Q Based on this exhibit is it your testimony that  
2 the refusal of the Commission to grant Mesa's application for  
3 an exception would result in violation of its correlative  
4 rights?

5 A Yes, that's correct.

6 Q Are you familiar with the engineering study con-  
7 nected -- conducted by Mr. Denney?

8 A Yes, I am.

9 Q Do you have an opinion as to whether or not the  
10 granting of the application would cause waste?

11 A In my opinion it would cause waste and violate cor-  
12 relative rights.

13 Q But waste would not occur if they get an exception?

14 A That's correct.

15 Q This clearly show that Mesa will suffer an economic  
16 loss of nearly \$2,000,000 if this application is denied?

17 A That's correct.

18 MR. DENT: Mr. Examiner, I have no further questions.

19 Q Did you prepare Exhibit Number 8?

20 A Yes, I did.

21 MR. DENT: I'd like to offer Exhibit Number 8.

22 MR. NUTTER: Mesa Exhibit Number 8 will be admitted  
23 in evidence. Are there any questions of Mr. Carnes? He may  
24 be excused.

25 I have another question I'd like to ask Mr. Denney,



1 however, Mr. Dent.

2 MR. DENT: We'll recall Mr. Denney.

3

4 DENNIS W. DENNEY

5 being recalled as a witness, testified as follows, to-wit:

6

7 RECROSS EXAMINATION

8 BY MR. NUTTER:

9 Q Mr. Denney, you might not even need to take the  
10 chair for this. I think you indicated that these offsetting  
11 wells to the Primo 1-A were not completed in the Chacra Form-  
12 ation.

13 A That's correct.

14 Q Do those -- any of those wells have perforations  
15 up in that Lewis Shale similar to the perforations that this  
16 Primo 1-A has in the Lewis Shale there?

17 A I'm not familiar with the total perforated interval  
18 in those wells, but I do not believe so.

19 Q Could you look up the perforated interval in those  
20 four immediately offsetting wells, the ones -- no, five, the  
21 one to the north, to the south, the east, the west, and the  
22 northwest, and give us the entire perforated interval?

23 A Mr. Hamilton may know this.

24 MR. DENT: Let's see if one of our other witnesses  
25 knows.

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1 MR. HAMILTON: It will be indicated on those two  
 2 cross sections, if that's what you're asking.

3 MR. DENT: That's exhibits 2 and 3.

4 MR. HAMILTON: The 9-A -- our 9-A Well in Section  
 5 36 is not on either of those cross sections.

6 MR. NUTTER: Are all the perforated intervals shown  
 7 on these, on these four wells, then?

8 MR. HAMILTON: Yes, sir.

9 MR. NUTTER: Okay, how about the -- could you get  
 10 the information and send it to us, where the Federal Com 9-A  
 11 is, because it's the only one that's not on the cross section?

12 MR. HAMILTON: Yeah, okay.

13 MR. DENT: We'll furnish that, Mr. Examiner.

14 MR. NUTTER: Thank you. Did you have anything  
 15 further, Mr. Dent?

16 MR. DENT: Yes, Mr. Hinkle has a statement he'd  
 17 like to make.

18 MR. HINKLE: I'd like to make a brief summary state-  
 19 ment.

20 MR. NUTTER: Well, we might call and see if there  
 21 are any further statements; it would be your privilege to go  
 22 last. Are there any other -- does anyone else have anything  
 23 to offer in this case?

24 Okay, proceed, Mr. Hinkle.

25 MR. HINKLE: As the Examiner well knows, the

1 Animas-Chacra Pool was created by -- on January 25th, 1977,  
2 by Order R-5339, and it was on account of the discovery in  
3 the Mesa Primo Well Number 1-A, which has been referred to in  
4 the testimony.

5 And then, of course, the reason that this case is  
6 here is by reason of the fact that Order R-5459 in Case 5893  
7 redefined the vertical limits of the Blanco-Mesaverde Pool.

8 Now, in that order it referred to a line, in finding  
9 Number 15, running a considerable distance, and it clearly  
10 recognized that there might be exceptions and referred to  
11 four wells north and east of the line which is defined by  
12 finding 15, and that might be producing from fractured shale  
13 or siltstone zones equivalent to Chacra Sands, and which may  
14 or may not be connected to other producing zones in the  
15 Blanco-Mesaverde Pool.

16 Now, there have been two cases, I understand, those  
17 four wells that were referred to in the order, Tenneco has  
18 had two of them before the Commission, and Lively has had  
19 one. Now, I think the evidence that's been introduced here  
20 clearly shows that this gas -- has produced a considerable  
21 amount of gas ever since the well has been put on production,  
22 and it's been produced in good faith under the order of the  
23 Commission, and there's been no protest to it, no claims, or  
24 anything else, except this order of the Commission redefining  
25 the vertical limits of the Blanco-Mesaverde.

1 Now, I think also the evidence clearly shows that  
2 the Chacra Pool, that the Primo Well is producing from, is  
3 a separate and distinct pool from the Mesaverde Pool.

4 Now, the Tenneco case, as I understand it, involved  
5 two wells, and those two wells would logically have been the  
6 320-acre spacing unit because of being in the Mesaverde Pool.  
7 Now, it seems to me that the reason for the Commission turning  
8 down the Tenneco case was that they already had two wells,  
9 and Tenneco owned both 160's, so there's no correlative rights  
10 that have been violated. So it was logical that they go ahead  
11 and enter an order not making an exception in this case.

12 Now, the Lively case is quite comparable to the Mesa  
13 case. In that case there was a difference in ownership be-  
14 tween the 160 acres that would have logically been 320-acre  
15 spacing unit, and the Commission held, in effect, that it  
16 would violate correlative rights to include that other 160  
17 acres with the Lively well.

18 Now, that's exactly our situation here. If this  
19 exception is not granted, there's going to be no end to legal  
20 questions that could be involved. As Mr. Carnes has pointed  
21 out, there's about \$2,000,000 involved here. There's no  
22 precedent in New Mexico, as far as I'm able to determine,  
23 whereby anyone is protected by reason of the fact that they  
24 have produced under existing order of the Commission, and I  
25 haven't briefed it thoroughly, but there may be some question

1 about it. So if this exception is not granted, Mesa has some  
2 great problems, and we've got lots of things which have been  
3 involved in it. We've got income taxes; we've got accounting,  
4 operating costs, and everything else, which would cause no  
5 end of maybe litigation and time that would be consumable in  
6 ever straightening the thing out.

7 So we believe that the evidence clearly supports  
8 the application and the exception should be granted in order  
9 to protect correlative rights in this case.

10 MR. NUTTER: Thank you. Does anyone else have any-  
11 thing they wish to offer in Case 6001?

12 We'll take the case under advisement.

13 (Hearing concluded.)  
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25

sid morrish reporting service

General Court Reporting Service  
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501  
Phone (505) 982-9212

REPORTER'S CERTIFICATE

I, SALLY WALTON BOYD, a Certified Shorthand Reporter,  
DO HEREBY CERTIFY that the foregoing and attached Transcript  
of Hearing before the New Mexico Oil Conservation Commission  
was reported by me, and the same is a true and correct record  
of the said proceedings to the best of my knowledge, skill,  
and ability.

Sally Walton Boyd

Sally Walton Boyd, C. S. R.

I do hereby certify that the foregoing is  
a complete record of the proceedings in  
the Examiner hearing of Case No. 6001,  
heard by me on 9/28, 1977.

Abert Examiner  
New Mexico Oil Conservation Commission

sid morish reporting service

General Court Reporting Service  
825 Calle Mejia, N.E. 122, Santa Fe, New Mexico 87501  
Phone (505) 982-9212

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
17 August, 1977

IN THE MATTER OF:  
  
Application of Mesa Petroleum Co.  
for an exception of Order No. R-5459,  
San Juan County, New Mexico.

CASE  
6001

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil  
Conservation Commission:

Lynn Teschendorf, Esq.  
Legal Counsel for the Commission  
State Land Office Building  
Santa Fe, New Mexico

sid morrish reporting service  
General Court Reporting Service  
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501  
Phone (505) 982-9212

MR. STAMETS: Call now Case 6001.

MS. TESCHENDORF: Case 6001. Application of Mesa Petroleum Company for an exception to Order No. R-5459, San Juan County, New Mexico.

The Applicants have requested that this case be continued to the September 28th Examiner Hearing.

MR. STAMETS: Case 6001 will be so continued.

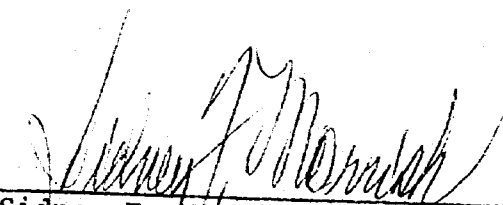
(Hearing concluded.)

**sid morrish reporting service**  
General Court Reporting Service  
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501  
Phone (505) 982-9212

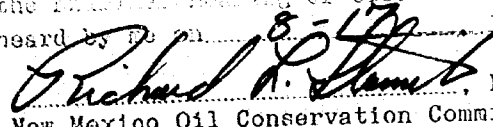


REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a Certified Shorthand Reporter,  
do hereby certify that the foregoing and attached Transcript  
of Hearing before the New Mexico Oil Conservation Commission  
was reported by me, and the same is a true and correct record  
of the said proceedings to the best of my knowledge, skill  
and ability.

  
Sidney F. Morrish, C.S.R.

I do hereby certify that the foregoing is  
a complete record of the proceedings in  
the hearing of Case No. 6001,  
heard by me on 8-17-77.

  
Richard D. Starnes, Examiner  
New Mexico Oil Conservation Commission

sid morrish reporting service

General Court Reporting Service  
825 Call: 825, No. 122, Santa Fe, New Mexico 87501  
Phone (505) 982-9212

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
August 3, 1977

EXAMINER HEARING

IN THE MATTER OF:

Application of Mesa Petroleum Company ) CASE  
for an exception to Order No. R-5459, ) 6001  
San Juan County, New Mexico. )

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil	Lynn Teschendorf, Esq.
Conservation Commission:	Legal Counsel for the Commission
	State Land Office Building
	Santa Fe, New Mexico

**sid morrison reporting service**  
General Court Reporting Service  
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501  
Phone (505) 982-9212

1 MR. NUTTER: Call next case Number 6001.

2 MS. TESCHENDORF: Case Number 6001 application of  
3 Mesa Petroleum Company for an exception to Order Number  
4 R-5459, San Juan County, New Mexico.

5 The applicant requests that this be continued to  
6 the August 17th hearing.

7 MR. NUTTER: Case Number 6001 will be continued  
8 to the Examiner hearing to be scheduled at this same place  
9 at nine o'clock a.m., August 17th, 1977.

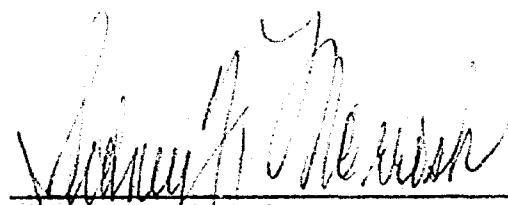
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**sid morrish reporting service**

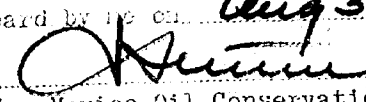
General Court Reporting Service  
825 Calle Mejia, No. 122, Santa Fe, New Mexico 87501  
Phone (505) 982-9212

REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, a Certified Shorthand Reporter,  
do hereby certify that the foregoing and attached Transcript  
of Hearing before the New Mexico Oil Conservation Commission  
was reported by me, and the same is a true and correct record  
of the said proceedings to the best of my knowledge, skill  
and ability.

  
Sidney F. Morrish, C.S.R.

**sid morrish reporting service**  
General Court Reporting Service  
825 Calle Mejia, No. 22, Santa Fe, New Mexico 87501  
Phone (505) 982-9212

I do hereby certify that the foregoing is  
a complete and correct transcript of the proceedings in  
the District Court of Santa Fe County, New Mexico, Case No. 6001,  
heard by me on Aug 3, 1977.  
, Examiner  
New Mexico Oil Conservation Commission



## OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO  
1000 RIO BRAZOS RD. - AZTEC

87410

LAND COMMISSIONER  
PHIL R. LUCERO

September 30, 1977



STATE GEOLOGIST  
EMERY C. ARNOLD

DIRECTOR  
JOE D. RAMEY

Mr. Dan Nutter  
Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico

Re: Case No. 6001

Dear Mr. Nutter:

Either Mr. Hamilton or Mr. Denney testified that perforations between the "Chacra" and "Mesaverde" intervals were perforated based on wire-line log information. These perforations did not add to the productivity of the well. *file*

My contention is that the intervals were perforated based on log characteristics similar to the "Chacra" interval. Therefore, if the log characteristics do not indicate production; then, the "Chacra" interval probably does not produce from a logged reservoir but from a fracture instead.

The wells in exhibits 4 thru 4F are connected as Mr. Denney said: 4C, 4E and 4F to El Paso Natural Gas and the others to Southern Union Gathering Company.

Yours very truly,

*al*  
A. R. Kendrick  
Supervisor, District #3

ARK:mc



# OIL CONSERVATION COMMISSION

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

DIRECTOR  
JOE D. RAMEY

LAND COMMISSIONER  
PHIL R. LUCERO  
November 15, 1977



STATE GEOLOGIST  
EMERY C. ARNOLD

Mr. Clarence Hinkle  
Hinkle, Cox, Eaton,  
Coffield & Hensley  
Attorneys at Law  
P. O. Box 10  
Roswell, New Mexico 88201

Re: CASE NO. 6001  
ORDER NO. R-5575

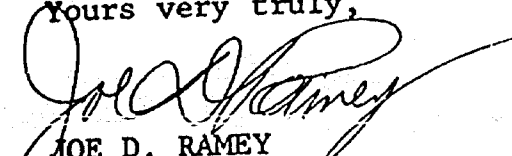
Applicant:

Mesa Petroleum Company

Dear Sir:

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

Yours very truly,

  
JOE D. RAMEY  
Director

JDR/fd

Copy of order also sent to:

Hobbs OCC X  
Artesia OCC X  
Aztec OCC X

Other Don Dent

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. 6001  
Order No. R-5575

APPLICATION OF MESA PETROLEUM CO.  
FOR AN EXCEPTION TO ORDER NO. R-5459,  
SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 28, 1977, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 15th day of November, 1977, 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 by its Order No. R-5459, entered on June 14, 1977, the Commission redefined the vertical limits of the Blanco-Mesaverde Pool, Rio Arriba and San Juan Counties, New Mexico.

(3) That such redefinition resulted in the inclusion of "Chacra" equivalent fractured shales or siltstone zones within the vertical limits of said pool in approximately one-half of said pool north and east of a certain line traversing the pool.

(4) That in said Order No. R-5459 the Commission found:

"(17) That there are 4 wells north and east of the line defined in Finding No. 15 above and Exhibit A which may be producing from fractured shale or siltstone zones equivalent to said Chacra sands and which may or may not be connected to other producing zones in said Blanco-Mesaverde Pool." and

"(18) That to protect the correlative rights of the owners of said four wells, the effective date of any redefinition of the vertical limits of said Blanco-Mesaverde Pool should be delayed to provide such owners with the opportunity to bring a case for an exception before the Commission."

-2-

Case No. 6001  
Order No. R-5575

(5) That the applicant herein, Mesa Petroleum Company, is the operator of one of the wells referenced in Findings Nos. (17) and (18) of said Order No. R-5459, the well being its Primo Well No. 1-A located in Unit D of Section 6, Township 31 North, Range 10 West, San Juan County, New Mexico.

(6) That the applicant seeks an exclusion from the vertical limits of said Blanco Mesaverde Pool for said Primo Well No. 1-A as an exception to said Order No. R-5459.

(7) That said Primo Well No. 1-A was drilled in late 1975 and was completed as a triple completion in such a manner as to produce gas from the Pictured Cliffs formation through the casing-tubing annulus and gas from the Chacra formation and the Blanco-Mesaverde Gas Pool through parallel strings of tubing, with separation of the zones achieved by means of packers set at 2764 feet and 4050 feet.

(8) That the so-called "Chacra" zone in said well may be considered to include the productive stringers in the overall perforated interval from 3444 feet to 3990 feet.

(9) That said Primo Well No. 1-A first delivered gas into the pipeline on January 31, 1976.

(10) That the evidence presented at the hearing indicates that there is no communication between the Chacra zone in the subject well and the Mesaverde zone in said well and in nearby offsetting Mesaverde wells.

(11) That approval of the application for an exception to the vertical limits of the Blanco-Mesaverde Pool for the subject well will not cause waste nor impair correlative rights and should be granted.

IT IS THEREFORE ORDERED:

(1) That effective August 1, 1977, the Mesa Petroleum Company Primo Well No. 1-A located in Unit D of Section 6, Township 31 North, Range 10 West, NMPM, San Juan County, New Mexico, is hereby excluded from the Blanco-Mesaverde Pool as an exception to Commission Order No. R-5459.

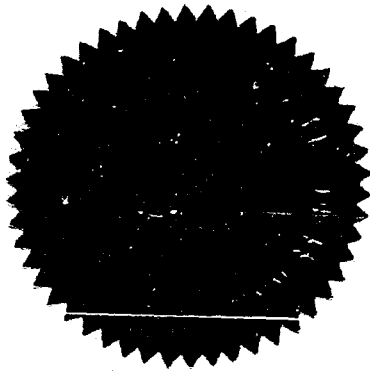
PROVIDED HOWEVER, that such exclusion and exception shall apply only to such zone or zones producing in said well from within the interval from 3444 feet to 3990 feet of depth.



-3-  
Case No. 6001  
Order No. R-5575

(2) 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

*Phil R. Lucero*  
PHIL R. LUCERO, Chairman

*Emery C. Arnold*  
EMERY C. ARNOLD, Member

*Joe D. Ramey*  
JOE D. RAMEY, Member & Secretary

S E A L

jr/

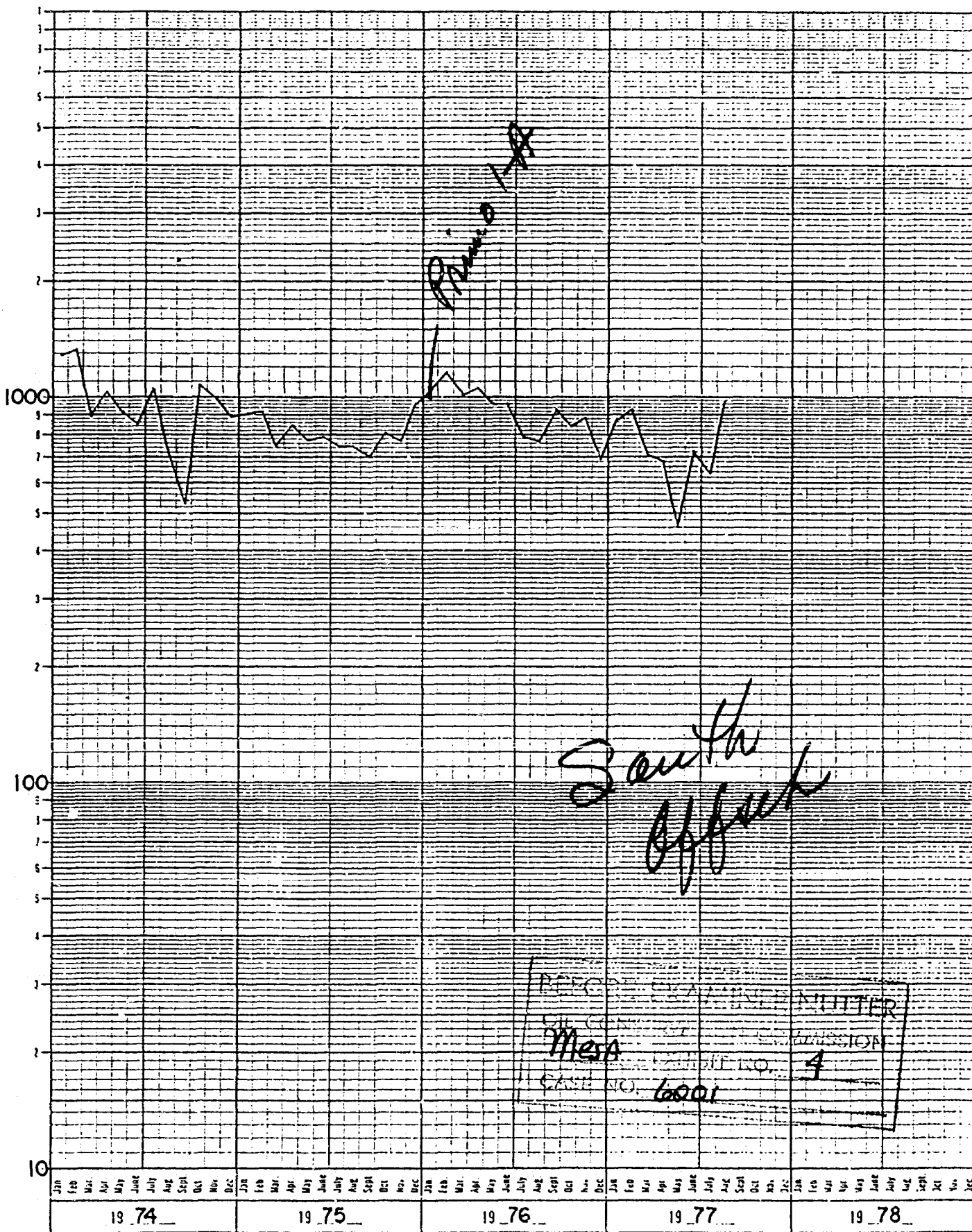
BLANCO  
 SAN JUAN CO., N.MEX.  
 MESA - PRIMO NO. 1 (MV)

10 YEARS BY MONTHS X 3 LOG CYCLES 80-4378-49

Buffalo, New York

Production, A

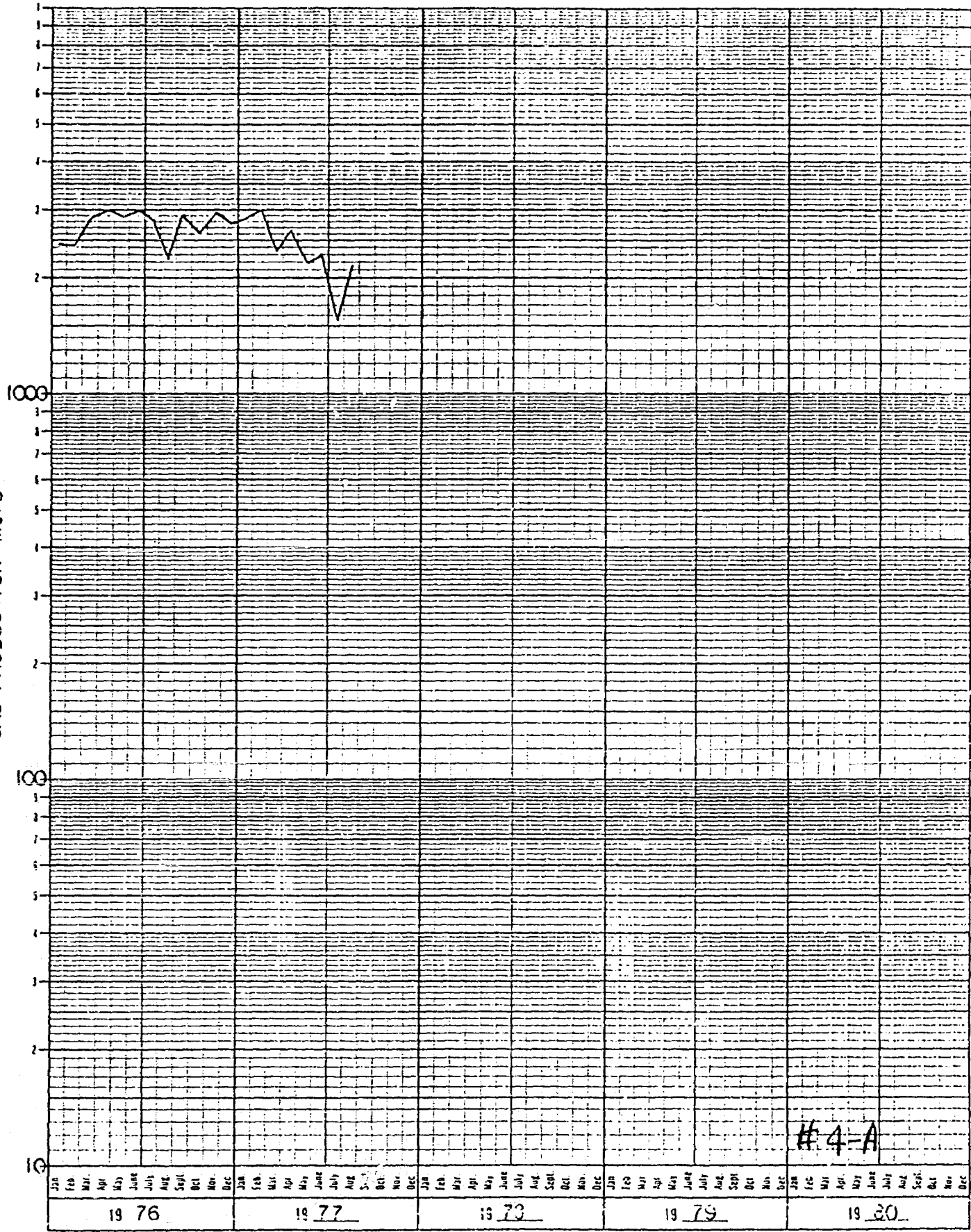
GAS PRODUCTION - MCFD



BLANCO FIELD  
 SAN JUAN CO., N.MEX.  
 MESA - PRIMO NO. 1-A (CHACRA)

10 YEARS BY MONTHS X 3 LOG CYCLES 00-4075-60  
 63 Calculated from 10 years of production information. Includes flow rate.  
 Produced by the U.S. Geological Survey, Denver, Colorado

GAS PRODUCTION - MCFD

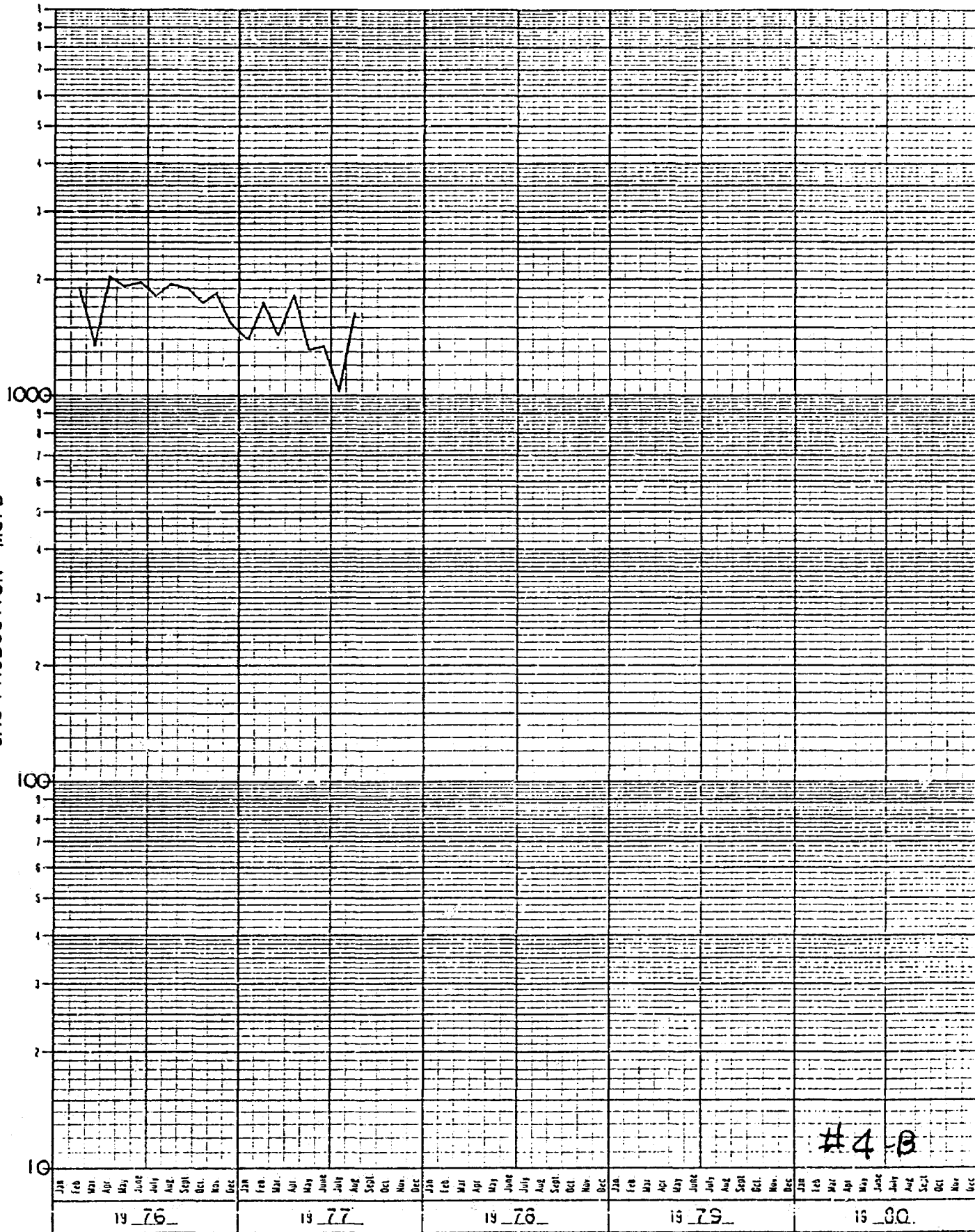


#4-A

BLANCO FIELD  
 SAN JUAN CO., N.MEX.  
 MESA - PRIMO NO. 1-A (MESAVERDE)

10 YEARS OF MONTHLY PRODUCTION RECORDS  
 1970-1979  
 Produced by A

GAS PRODUCTION - MCFD



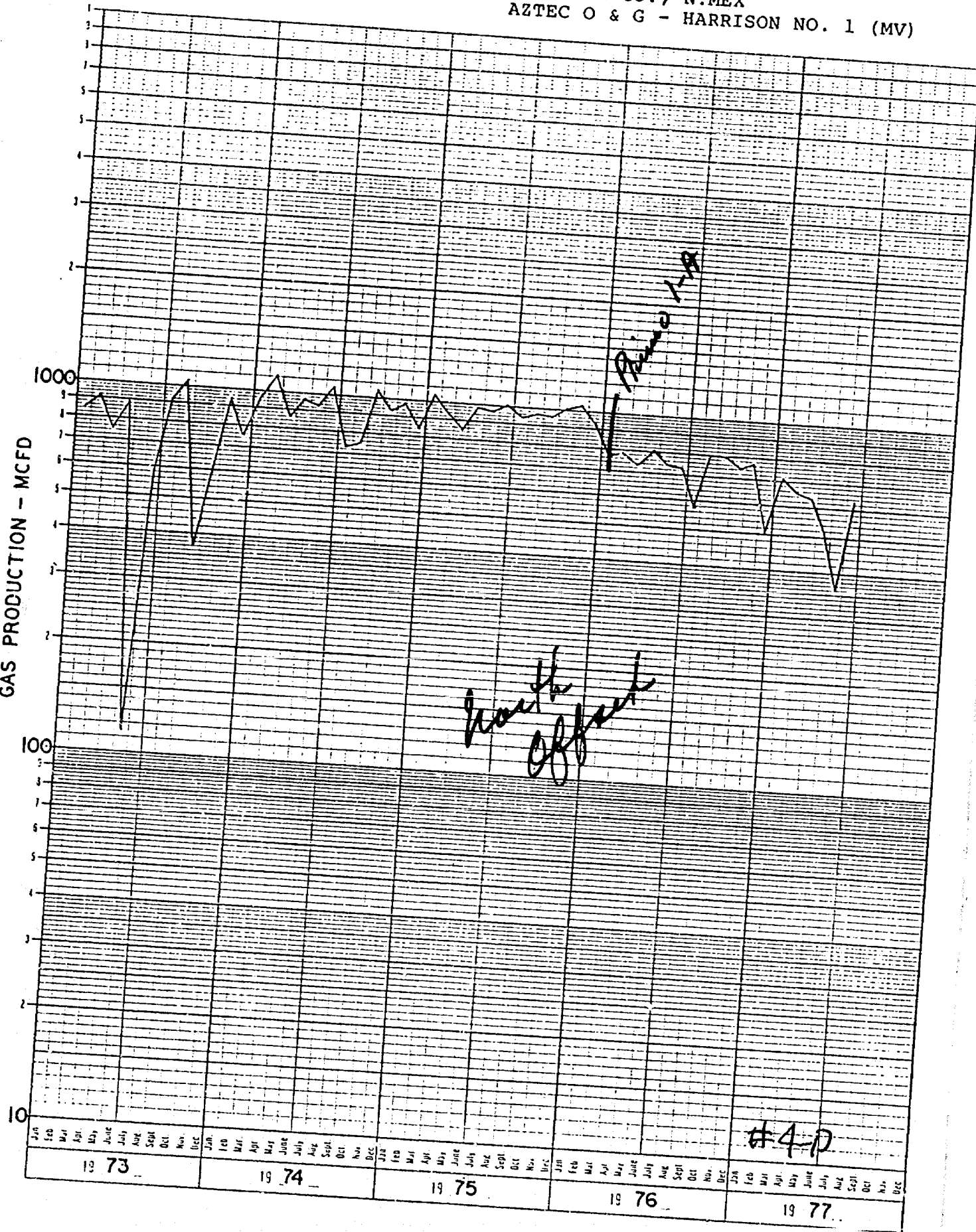


SAN JUAN CO., N.MEX

AZTEC O & G - HARRISON NO. 1 (MV)

10 YEARS BY MONITOR X 3 LOG CYCLES

GAS PRODUCTION - MCFD



North  
Africa

#4

19 73

19 74

19 75

19 7E

19 77



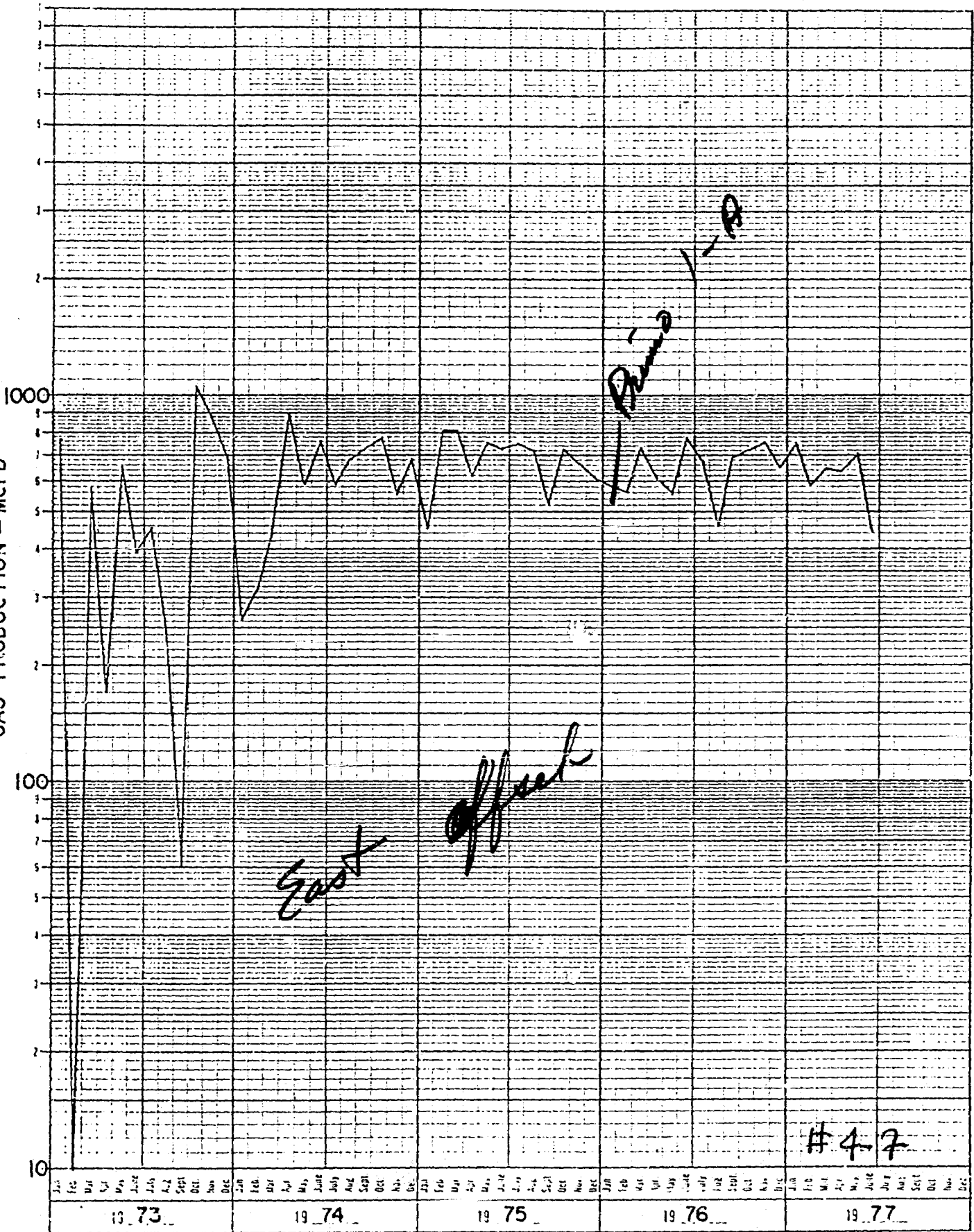
...

#4-E

BLANCO  
 SAN JUAN CO., N.MEX.  
 AMOCO - SAMMONS NO. 1 (MV) - GAS COM. A

10 YEARS BY MONTHS & 3 LOG CYCLES 80 4079 CO

GAS PRODUCTION - MCFD





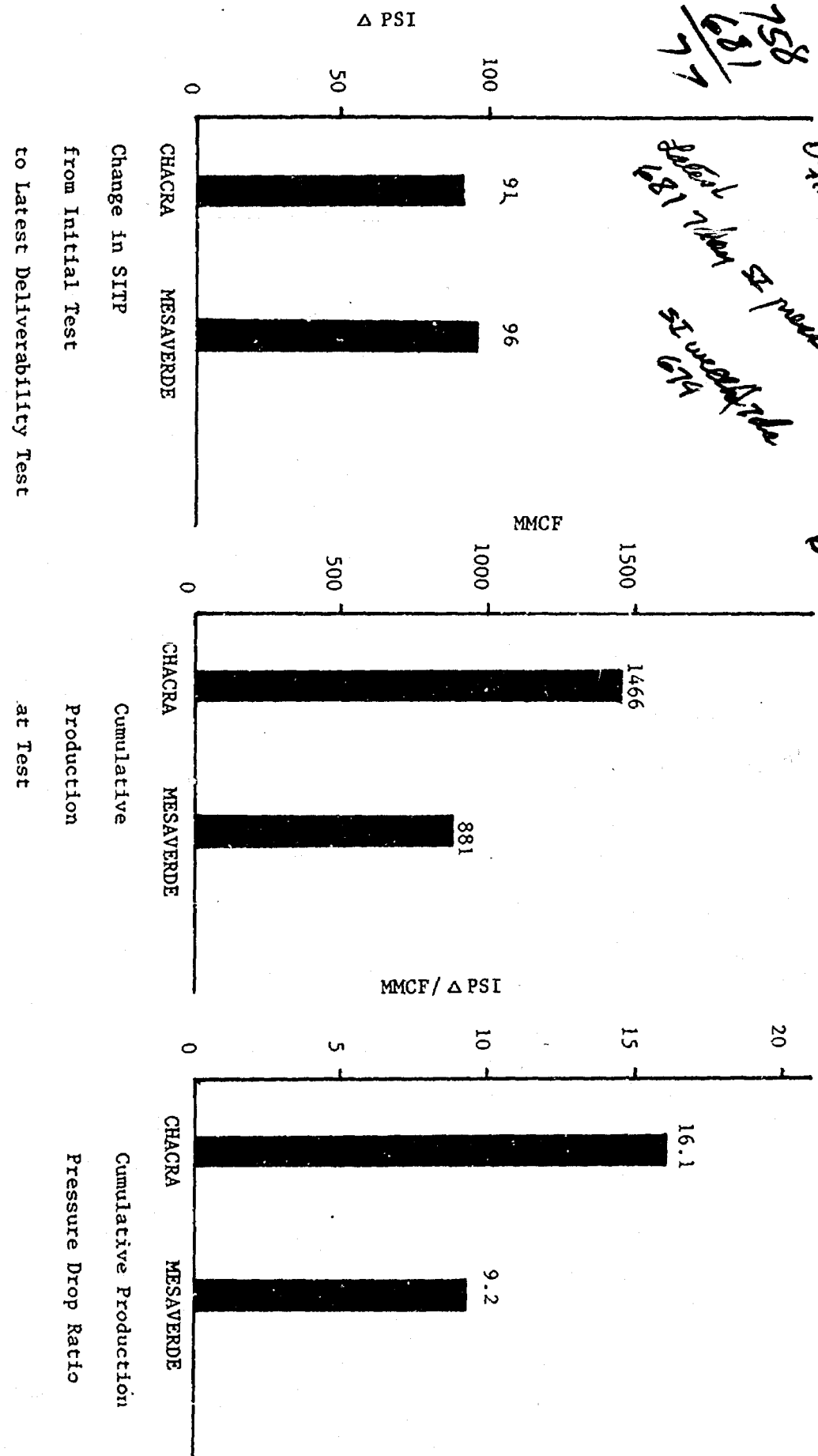
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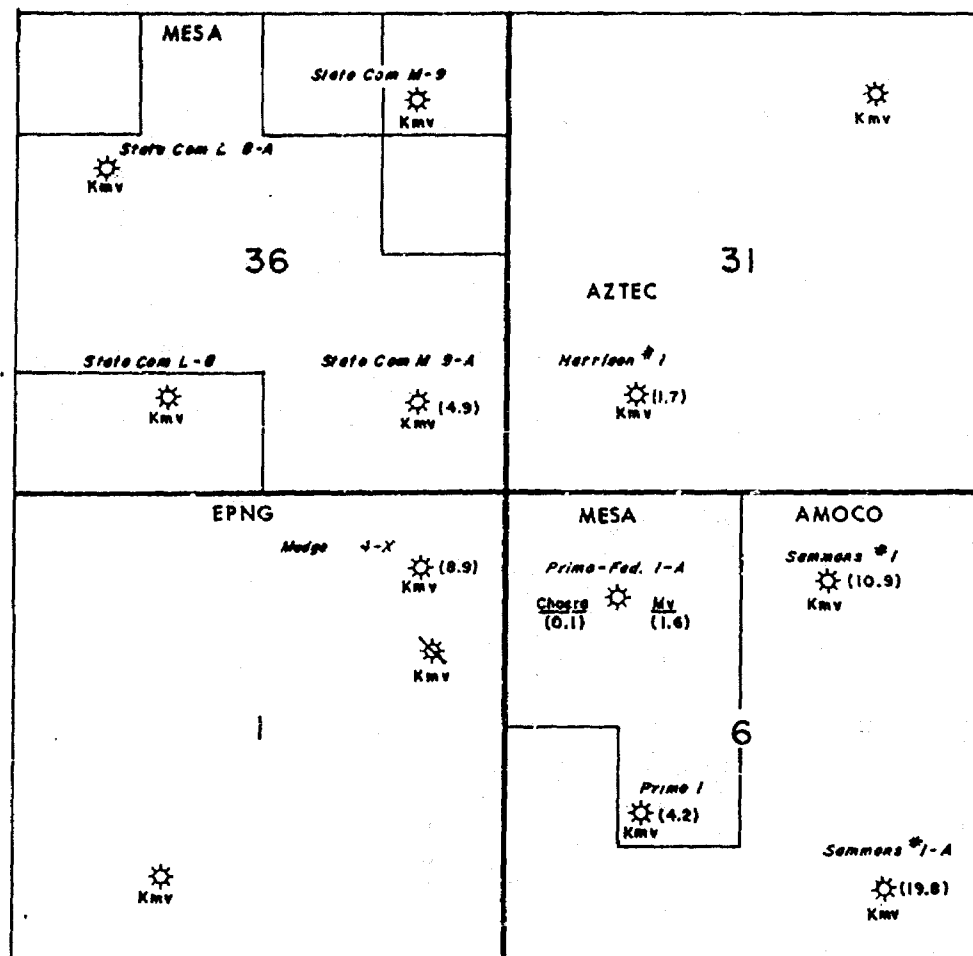
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MESA PETROLEUM CO.  
 PRIMO #1-A  
 SAN JUAN CO., NEW MEXICO  
 PERFORMANCE REVIEW  
 EXHIBIT NO. \_\_\_\_\_

BEFORE EXAMINER NUTTER  
 OIL CONSERVATION COMMISSION  
 Mesa EXHIBIT NO. 5  
 CASE NO. 6001



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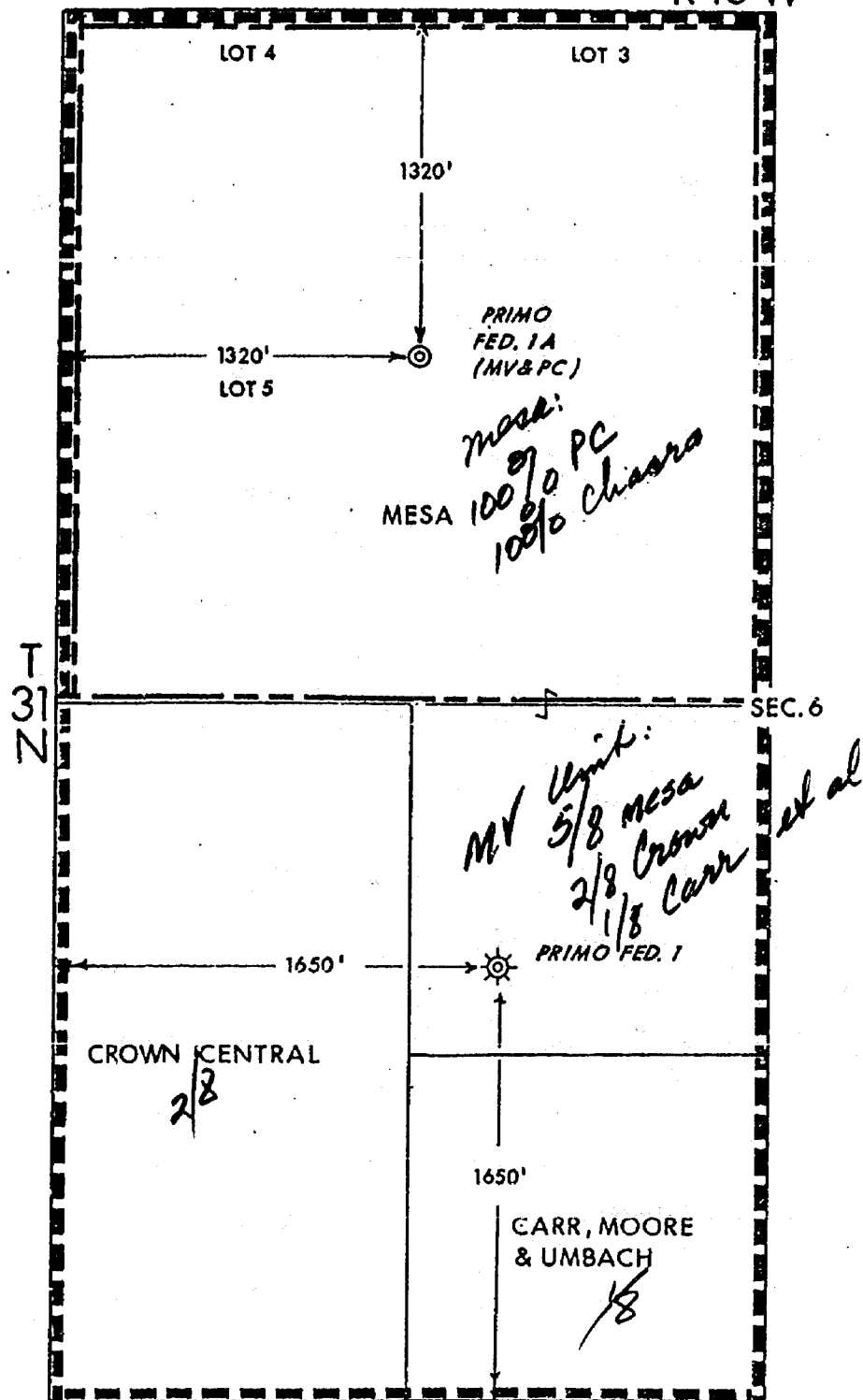
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R 10 W

BEFORE EXAMINED NUTTER  
OIL CONSERVATION COMMISSION  
Mesa EXHIBIT NO. 6  
CASE NO. 6001

**Mesa Petroleum Co.**  
SAN JUAN CO., NEW MEXICO  
EXHIBIT NO. \_\_\_\_\_  
CONDENSATE YIELD MAP  
FOR 6 MONTHS OF 1977  
(BARRELS PER MMCF)  
SCALE 1":2000' DWD 9-27-77

R 10 W



PRORATION UNITS

- ■ ■ — MV - 307.57 AC. - MESA WI 62.42130% 7/53  
- - - - PC & CHACRA - 151.09 AC - MESA WI 100.0000%

FED. LEASE SF 078215B  
SAN JUAN CO. NEW MEXICO  
BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
Mesa EXHIBIT NO. 7  
CASE NO. 10001

MESA PETROLEUM CO.

PRIMO NO. 1-A

SAN JUAN CO., NEW MEXICO

POTENTIAL REVENUE LOSS IF CHACRA

RECLASSIFIED AS MESAVERDE

EXHIBIT NO. \_\_\_\_\_

Current Working Interest - % .....	100
Current Net Revenue Interest - % .....	82.5
Revised Working Interest - % .....	62.4
Revised Net Revenue Interest - % .....	51.5
Change In Net Revenue Interest - % .....	-31.0
Average Gas Producing Rate August, 1977 - MCF/D...	2,150
Projected Annual Gas Production - MMCF .....	785
Current Average Gas Price - \$/MCF .....	1.64

Estimated Annual Revenue Loss to Mesa

Loss =  $(785,000) (.31) (1.64) =$  \$399,000

Estimated Future Revenue Loss to Mesa\*

Loss =  $(5) (399,000) =$  \$1,995,000

\* Using a 5-year reserve life index

LMC:td  
9-27-77

BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
Mesa	EXHIBIT NO. <u>B</u>
CASE NO.	<u>6001</u>

**NEW MEXICO OIL CONSERVATION COMMISSION**  
**WELL DELIVERABILITY TEST REPORT FOR 19 77**

Form C122-A  
 Revised 1-1-66

POOL NAME <b>Blanco</b>	POOL SLOPE n= <b>.75</b>	FORMATION <b>Mesaverde</b>	COUNTY <b>San Juan</b>
----------------------------	-----------------------------	-------------------------------	---------------------------

COMPANY <b>Mesa Petroleum Co.</b>			WELL NAME AND NUMBER <b>Primo # 1-A</b>		
UNIT LETTER <b>D</b>	SECTION <b>6</b>	TOWNSHIP <b>31 N</b>	RANGE <b>10 W</b>	PURCHASING PIPELINE <b>Southern Union Gathering</b>	
CASING O.D. - INCHES <b>7" &amp; 4 1/2"</b>	CASING I.D. - INCHES <b>6.366 &amp; 4.052</b>	SET AT DEPTH - FEET <b>5082</b>	TUBING O.D. - INCHES <b>2 1/16</b>	TUBING I.D. - INCHES <b>1.751</b>	TOP - TUBING PERF. - FEET <b>4548</b>
GAS PAY ZONE FROM <b>4208</b> TO <b>5020</b>		WELL PRODUCING THRU CASING TUBING <b>X</b>		GAS GRAVITY <b>.670</b>	GRAVITY X LENGTH <b>3047</b>
DATE OF FLOW TEST FROM <b>7-2-77</b> TO <b>7-10-77</b>			DATE SHUT-IN PRESSURE MEASURED <b>7-18-77</b>		

**PRESSURE DATA - ALL PRESSURES IN PSIA**

(a) Flowing Casing Pressure (DWI) <b>Pkr</b>	(b) Flowing Tubing Pressure (DWI) <b>495</b>	(c) Flowing Meter Pressure (DWI) <b>471</b>	(d) Flow Chart Static Reading <b>460</b>	(e) Meter Error (Item c - Item d) <b>11</b>	(f) Friction Loss (a - c) or (b - c) <b>24</b>	(g) Average Meter Pressure (Integr.) <b>460</b>
(h) Corrected Meter Pressure (g + e) <b>471</b>	(i) Avg. Wellhead Press. $P_t = (h + f)$ <b>495</b>	(j) Shut-In Casing Pressure (DWI) <b>-</b>	(k) Shut-In Tubing Pressure (DWI) <b>679</b>	(l) $P_c$ = higher value of (j) or (k) <b>679</b>	(m) Del. Pressure $P_d = \frac{80}{543} \% P_c$ <b>543</b>	(n) Separator or Dehydrator Pr. (DWI) for critical flow only

**FLOW RATE CORRECTION (METER ERROR)**

Integrated Volume - MCF/D <b>1543</b>	Quotient of $\frac{\text{Item c}}{\text{Item d}}$ <b>1.0239</b>	$\sqrt{\frac{\text{Item c}}{\text{Item d}}}$ <b>1.0118</b>	Corrected Volume <b>Q = 1,561 MCF/D</b>
--	--	---	--

**WORKING PRESSURE CALCULATION**

$(1 - e^{-R})$ <b>.199</b>	$(P_c Q_m)^2 (1000)$ <b>427,086</b>	$R^2 = (1 - e^{-R}) (P_c Q_m)^2 (1000)$ <b>84,990</b>	$P_t^2$ <b>245,025</b>	$P_w^2 = P_t^2 + R^2$ <b>330,015</b>	$P_w = \sqrt{P_w^2}$ <b>574</b>
-------------------------------	--	--	---------------------------	---	------------------------------------

**DELIVERABILITY CALCULATION**

$$D = Q \left[ \frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^n = \frac{1,561}{\left[ \frac{166,192}{131,026} \right]^n \left[ \frac{1,2684}{1,1952} \right]^n} = \underline{1,866 \text{ MCF/D}}$$

REMARKS:

**SUMMARY**

Item h **471**      P<sub>alt</sub>  
 P<sub>c</sub> **679**      P<sub>alt</sub>  
 Q **1,561**      MCF/D  
 P<sub>w</sub> **574**      P<sub>alt</sub>  
 P<sub>d</sub> **543**      P<sub>alt</sub>  
 D **1,866**      MCF/D

AUG 18 1977  
 OIL CON. COM.  
 DIST. 3

Company **Mesa Petroleum Co.**  
 By **James Archer**  
 Title **Production Foreman**  
 Witnessed By \_\_\_\_\_  
 Company \_\_\_\_\_

**Memo**

From  
A. R. KENDRICK

To: Dick:

Re: Case 6001

Tests for 3  
yours plus  
part of packer  
test

File in Case  
File RLS

# **NEW MEXICO OIL CONSERVATION COMMISSION** **WELL DELIVERABILITY TEST REPORT FOR 19 77**

Form C122-A  
Revised 1-1-66

<b>POOL NAME</b> Animas	<b>POOL SLOPE</b> n = .75	<b>FORMATION</b> Chacra	<b>COUNTY</b> San Juan
----------------------------	------------------------------	----------------------------	---------------------------

<b>COMPANY</b> Mesa Petroleum Co.			<b>WELL NAME AND NUMBER</b> Primo # 1-A		
<b>UNIT LETTER</b> D	<b>SECTION</b> 6	<b>TOWNSHIP</b> 31 N	<b>RANGE</b> 10 W	<b>PURCHASING PIPELINE</b> Sothorn Union Gathering	
<b>CASING O.D. - INCHES</b> 7" & 4 1/2"	<b>CASING I.D. - INCHES</b> 6.386 & 4.052	<b>SET AT DEPTH - FEET</b> 5082	<b>TUBING O.D. - INCHES</b> 2 1/16	<b>TUBING I.D. - INCHES</b> 1.751	<b>TOP - TUBING PERF. - FEET</b> 2769
<b>GAS PAY ZONE</b> FROM 3444 TO 3739			<b>WELL PRODUCING THRU TUBING</b> X		
<b>DATE OF FLOW TEST</b> FROM 7-2-77 TO 7-10-77			<b>DATE SHUT-IN PRESSURE MEASURED</b> 7-18-77		

PRESSURE DATA - ALL PRESSURES IN PSIA						
(a) Flowing Casing Pressure (DWI)  Pkr	(b) Flowing Tubing Pressure (DWI)  511	(c) Flowing Meter Pressure (DWI)  469	(d) Flow Chart Static Reading  460	(e) Meter Error (Item c - Item d)  9	(f) Friction Loss (a - c) or (b - c)  42	(g) Average Meter Pressure (Integr.)  460
(h) Corrected Meter Pressure (g + e)  469	(i) Avg. Wellhead Press. P <sub>i</sub> = (h + f)  511	(j) Shut-In Casing Pressure (DWI)  --	(k) Shut-In Tubing Pressure (DWI)  681	(l) P <sub>c</sub> = higher value of (j) or (k)  681	(m) Del. Pressure P <sub>d</sub> = 80 % P <sub>c</sub>  545	(n) Separator or Dehydrator Pr. (DWI) for critical flow only

FLOW RATE CORRECTION (METER ERROR)			
Integrated Volume - MCF/D  2129	Quotient of $\frac{\text{Item c}}{\text{Item d}}$  1.0195	$\sqrt{\frac{\text{Item c}}{\text{Item d}}}$  1.0097	Corrected Volume Q = 2,150 MCF/D

WORKING PRESSURE CALCULATION					
$(1 - e^{-x})$ .123	$(P_c Q_m)^2 (1000)$ 810,091	$R^2 = (1 - e^{-x}) (P_c Q_m)^2 (1000)$ 99,653	$P_t^2$ 261,121	$P_w^2 = P_t^2 + R^2$ 360,774	$P_w = \sqrt{P_w^2}$ 601

DELIVERABILITY CALCULATION		
$D = Q \left[ \frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^n = 2,150$	$\left[ \frac{166,736}{109,897} \right]^n \left( 1.6190 \right)^n = 1.4353$	3086 MCF/D

REMARKS:

SUMMARY	
Item h	469 Psls
	681 Psls
P <sub>c</sub>	2,150 MCF/D
Q	601 Psls
P <sub>w</sub>	545 Psls
P <sub>d</sub>	3,086 MCF/D
D	

AUG 18 1977  
OIL CONSERVATION COMMISSION

Company: Mesa Petroleum Co.  
 By: James Archer  
 Title: Production Foreman  
 Witnessed By: \_\_\_\_\_  
 Company: \_\_\_\_\_

AUG 11 1977  
OIL CON. COM.  
DIST. 3

# NEW MEXICO OIL CONSERVATION COMMISSION WELL DELIVERABILITY TEST REPORT FOR 19 77

Form CI22-A  
Revised 1-1-66

POOL NAME <b>Blanco</b>		POOL SLOPE n = <b>.85</b>	FORMATION <b>Pictured Cliffs</b>		COUNTY <b>San Juan</b>
COMPANY <b>Mesa Petroleum Co.</b>					
UNIT LETTER <b>D</b>	SECTION <b>6</b>	TOWNSHIP <b>31 N</b>	WELL NAME AND NUMBER <b>Primo # 1-A</b>		
CASING O.D. - INCHES <b>7" &amp; 4.5"</b>	CASING I.D. - INCHES <b>6.1366 &amp; 4.052</b>	SET AT DEPTH - FEET <b>5082</b>	RANGE <b>10 W</b>	PURCHASING PIPELINE <b>Southern Union Gathering</b>	
GAS PAY ZONE FROM <b>2711</b> TO <b>2723</b>		WELL PRODUCING THRU CASING <b>X</b>	TUBING O.D. - INCHES <b>2 1/16</b>	TUBING I.D. - INCHES <b>1.751</b>	TOP - TUBING PERF. - FEET <b>2711</b>
DATE OF FLOW TEST FROM <b>7-2-77</b> TO <b>7-10-77</b>		TUBING	GAS GRAVITY <b>.650</b>		GRAVITY X LENGTH <b>1762</b>
			DATE SHUT-IN PRESSURE MEASURED <b>7-18-77</b>		

PRESSURE DATA - ALL PRESSURES IN PSIA						
(a) Flowing Casing Pressure (DWt) <b>472</b>	(b) Flowing Tubing Pressure (DWt) <b>-</b>	(c) Flowing Meter Pressure (DWt) <b>466</b>	(d) Flow Chart Static Reading <b>460</b>	(e) Meter Error (Item c - Item d) <b>6</b>	(f) Friction Loss (a - c) or (b - c) <b>6</b>	(g) Average Meter Pressure (Integr.) <b>460</b>
(h) Corrected Meter Pressure (g + e) <b>466</b>	(i) Avg. Wellhead Press. $P_t = (h + f)$ <b>472</b>	(j) Shut-in Casing Pressure (DWt) <b>692</b>	(k) Shut-in Tubing Pressure (DWt) <b>692</b>	(l) $P_c$ = higher value of (j) or (k) <b>692</b>	(m) Del. Pressure $P_d = \frac{80}{553} \% P_c$ <b>80</b>	(n) Separator or Dehydrator Pr. (DWt) for critical flow only

FLOW RATE CORRECTION (METER ERROR)			
Integrated Volume - MCF/D <b>656</b>	Quotient of $\frac{\text{Item c}}{\text{Item d}}$ <b>1.0130</b>	$\sqrt{\frac{\text{Item c}}{\text{Item d}}}$ <b>1.0064</b>	Corrected Volume Q = <b>660</b> MCF/D

WORKING PRESSURE CALCULATION					
$(1 - e^{-x})$ <b>.120</b>	$(P_c Q_m)^2 (1000)$ <b>264</b>	$R^2 = \frac{(1 - e^{-x}) (P_c Q_m)^2 (1000)}{32}$ <b>32</b>	$P_t^2$ <b>222,784</b>	$P_w^2 = P_t^2 + R^2$ <b>222,816</b>	$P_w = \sqrt{P_w^2}$ <b>472</b>

DELIVERABILITY CALCULATION	
$D = Q \left[ \frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^n =$ <b>660</b>	$\left[ \frac{173,055}{256,048} \right]^n = .6759 = .7168$ <b>473</b> MCF/D

REMARKS:

## SUMMARY

Item h	466	Psia
P <sub>c</sub>	692	Psia
Q	660	MCF/D
P <sub>w</sub>	472	Psia
P <sub>d</sub>	553	Psia
D	473	MCF/D

AUG 18 1977

OIL CONSERVATION COMMISSION

Company Mesa Petroleum Co.

By James Archer

Title Production Foreman

Witnessed By \_\_\_\_\_

Company \_\_\_\_\_



Case 6001

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

APPLICATION OF MESA PETROLEUM CO.  
FOR AN EXCEPTION TO COMMISSION  
ORDER R-5459 RE-DEFINING THE VERTICAL  
LIMITS OF THE BLANCO-MESAVERDE POOL,  
RIO ARriba AND SAN JUAN COUNTIES, NEW  
MEXICO. THE EXCEPTION SOUGHT BY  
APPLICANT IS FOR THE ANIMAS-CHACRA  
POOL AS DEFINED BY ORDER R-5339 ISSUED  
ON JANUARY 25, 1977.



Oil Conservation Commission  
Box 2088  
Santa Fe, New Mexico 87501

COMES NOW Mesa Petroleum Co., acting by and through the undersigned attorneys, and hereby makes application for an exception to Commission Order R-5459 re-defining the vertical limits of the Blanco-Mesaverde Pool, Rio Arriba and San Juan Counties, New Mexico. The exception sought by applicant is for the Animas-Chacra Pool as defined by Order R-5339 issued on January 25, 1977, and in support thereof respectfully shows:

1. On January 25, 1977 the Commission issued Order R-5339 in Case No. 5821 creating a new gas pool in San Juan County for production of gas from the Chacra formation, which pool was designated as the Animas-Chacra Pool. The Order provided:

"Said Animas-Chacra Pool was discovered by Mesa Petroleum Corporation Primo Well No. 1-A located in Unit D of Section 6, Township 31 North, Range 10 West, N.M.P.M. It was completed in the Chacra formation on December 31, 1975. The top of the perforated interval is at 3,444 feet".

2. Order R-5459 in Case No. 5893 re-defined the vertical limits of the Blanco-Mesaverde Pool. In said order certain findings were made, including the following:

"(15) That such porous Chacra sands lie South and West of a line generally running from the Northwest corner of Township 31 North, Range 13

West, NMPM, San Juan County, New Mexico to the Southwest corner of Township 24 North, Range 1 East, NMPM, Rio Arriba County, New Mexico, as more fully described on Exhibit "A" of this order.

"(17) That there are 4 wells North and East of the line defined in Finding No. 15 above and Exhibit A which may be producing from fractured shale or siltstone zones equivalent to said Chacra sands and which may or may not be connected to other producing zones in said Blanco-Mesaverde Pool.

"(18) That to protect the correlative rights of the owners of said four wells, the effective date of any redefinition of the vertical limits of said Blanco-Mesaverde Pool should be delayed to provide such owners with the opportunity to bring a case for an exception before the Commission."

3. By Order R-5157 in Case No. 5618 issued on January 27, 1976 the Commission authorized the completion of applicant's Primo Well No. 1-A as a triple completion to produce gas from the Blanco-Pictured Cliffs Pool through casing-tubing annulus and the Blanco-Mesaverde Pool through 2 1/16" tubing, and from an undesignated Chacra gas pool through 2 1/16" tubing.

4. The Primo Well No. 1-A has been producing gas from the Chacra formation at the rate of 2,000,000 cubic feet per day since on or about December 31, 1975. All of the characteristics of the production and factual information available show that said gas is being produced from a reservoir separate and distinct from the Blanco-Mesaverde Pool and there is no relationship between the gas produced from the Chacra formation and that produced from the Mesaverde or Pictured Cliffs formation and there is no communication between these formations.

5. The Commission correctly designated the Animas-Chacra Pool by Order R-5339 and gas has been produced by applicant from the Animas-Chacra Pool in good faith under said order. If an exception is not made as to the Mesa Primo Well No. 1-A and the well is re-defined as being located in the Blanco-Mesaverde Pool with 320 acre spacing rather than 160 acre spacing, it would leave applicant in an untenable economic position in relation to the other 160 acres which would be included in the 320 acre spacing, a large portion of which is not owned by applicant.

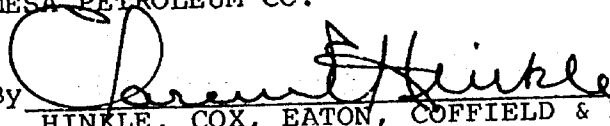
6. An exception to Order R-5459 is necessary in order to protect the correlative rights of applicant.

7. Applicant requests that this matter be included on the docket for the first examiner's hearing in August 1977.

Respectfully submitted,

MESA PETROLEUM CO.

By

  
HINKLE, COX, EATON, COFFIELD & HENSLEY  
P.O. Box 10  
Roswell, New Mexico 88201  
Attorneys for Applicant

Dockets Nos. 31-77 and 32-77 are tentatively set for hearing on October 12 and 26, 1977. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - SEPTEMBER 28, 1977

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 Richard L. Stamets, Alternate Examiner:

- CASE 6048: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Saguaro Oil Company and all other interested parties to appear and show cause why the Moran State Well No. 1 located in Unit A of Section 36, Township 18 North, Range 9 West, McKinley County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.
- CASE 6049: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Douglas Kenaston, Mints-Kenaston Drilling Co., and all other interested parties to appear and show cause why the Masden-Selby Well No. 1 located in Unit I of Section 21, Township 29 North, Range 11 West, San Juan County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.
- CASE 6050: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit J. Felix Hickman and all other interested parties to appear and show cause why the Malco State Com Well No. 1 located in Unit G of Section 16, Township 26 North, Range 8 West, San Juan County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.
- CASE 6051: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit B. G. West and N. W. McIntosh and all other interested parties to appear and show cause why the Rollins and Dodgen Well No. 2 located in Unit D of Section 28, Township 18 North, Range 3 West, Sandoval County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.
- CASE 6052: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Western Energy Corporation and all other interested parties to appear and show cause why the Ute Well No. 2 located in Unit O of Section 23, Township 31 North, Range 16 West, San Juan County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.
- CASE 6053: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Noel Reynolds and all other interested parties to appear and show cause why the Torreon Water Well No. 1 located in Unit J of Section 28, Township 18 North, Range 3 West, Sandoval County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.
- CASE 6054: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit John F. Staver and all other interested parties to appear and show cause why the Paperthin Well No. 1 located in Unit F of Section 26, Township 19 North, Range 5 West, McKinley County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.
- CASE 6055: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Han-San, Inc., and all other interested parties to appear and show cause why the Grevey Well No. 4 located in Unit E of Section 26, Township 26 North, Range 1 East, Rio Arriba County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.
- CASE 6056: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Julius Chodorow, American Employers' Insurance Company, and all other interested parties to appear and show cause why the Ute Well No. 1 located in Unit F of Section 20, Township 31 North, Range 15 West, San Juan County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program.
- CASE 6021: (Readvertised)  
Application of Yates Petroleum Corporation for salt water disposal, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the interval from 963 feet to 1560 feet in its Federal HJ Well No. 1 located in Unit A of Section 31, Township 6 South, Range 26 East, Linda-San Andres Pool, Chaves County, New Mexico.
- CASE 5983: (Continued from September 14, 1977, Examiner Hearing)  
Application of Yates Petroleum Corporation for the amendment of Order No. R-5445, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-5445 to provide for a 200 percent risk factor for drilling the unit well rather than 20 percent. Said order pooled the N/2 of Section 19, Township 20 South, Range 25 East, Eddy County, New Mexico.

CASE 6047: Application of Continental Oil Company for capacity allowables, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a capacity allowable for its Pearl "B" Wells Nos. 5 and 6, located in Units M and O, respectively, of Section 25, Township 17 South, Range 32 East, and its Pearl "B" Well No. 7 located in Unit M of Section 30, Township 17 South, Range 33 East, Maljamar Grayburg-San Andres Pool, Lea County, New Mexico.

CASE 6001: (Continued from August 3, 1977 Examiner Hearing)

Application of Mesa Petroleum Co. for an exception to Order No. R-5459, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the provisions of Order No. R-5459 to exclude its Primo Well No. 1-A located in Unit D of Section 6, Township 31 North, Range 10 West, San Juan County, New Mexico, from the vertical limits of the Blanco-Mesaverde Pool as defined by said order.

CASE 5997: (Continued from July 20, 1977, Examiner Hearing)

Application of Atlantic Richfield Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for its East Drinkard Unit Area comprising 3080 acres, more or less, of Federal and fee lands in Sections 11, 12, 13, 14, 23 and 24, Township 21 South, Range 37 East, Lea County, New Mexico.

CASE 5998: (Continued from July 20, 1977, Examiner Hearing)

Application of Atlantic Richfield Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project on its East Drinkard Unit Area, Lea County, New Mexico, by the injection of water into the Drinkard formation through 30 wells.

CASE 5999: (Continued from July 20, 1977, Examiner Hearing)

Application of Atlantic Richfield Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for its East Blinebry Unit Area comprising 3080 acres, more or less, of Federal and fee lands in Sections 11, 12, 13, 14, 23, and 24, Township 21 South, Range 37 East, Lea County, New Mexico.

CASE 6000: (Continued from July 20, 1977, Examiner Hearing)

Application of Atlantic Richfield Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project on its East Blinebry Unit Area, Lea County, New Mexico, by the injection of water into the Blinebry formation through 38 wells.

LAW OFFICES

HINKLE, COX, EATON, COFFIELD & HENSLEY

600 HINKLE BUILDING

POST OFFICE BOX 10

ROSWELL, NEW MEXICO 88201

August 8, 1977

CLARENCE E. HINKLE  
LEWIS C. COX, JR.  
PAUL W. EATON, JR.  
CONRAD E. COFFIELD  
HAROLD L. HENSLEY, JR.  
STUART D. SHANOR  
C. D. MARTIN  
PAUL J. KELLY, JR.

JAMES H. BOZARTH  
JAMES H. ISBELL  
DOUGLAS L. LUNSFORD  
PAUL M. BOHANNON

W. E. BONCOURANT, JR. (914-1973)

TELEPHONE (505) 622-6510

MR. ISBELL LICENSED  
IN TEXAS ONLY

MIDLAND, TEXAS OFFICE  
521 MIDLAND TOWER  
(915) 663-4691

Oil Conservation Commission  
P.O. Box 2088  
Santa Fe, Nkw Mexico 87501

Attention: Lynn Teschendorf

Re: Case No. 6001

Gentlemen:

The captioned case has been included on the examiner's docket for Wednesday, August 17. Due to the fact that Don Dent, General Attorney for Mesa, is on a trip to England, one of the witnesses is unable to be present and also the fact that I am leaving on a European trip and will not be back until the middle of September, we would like to have this case continued until the last examiner's hearing in September, which we understand will be on the 28th.

You may consider this letter as a motion for such continuance.

Yours sincerely,

HINKLE, COX, EATON, COFFIELD & HENSLEY

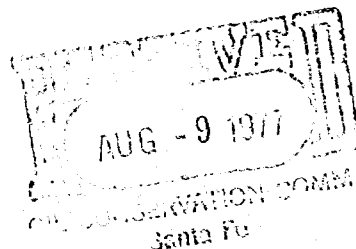
By

*Clarence E. Hinkle*

CEH:cs

cc: Les Carnes

cc: Don Dent



Dockets Nos. 27-77 and 28-77 are tentatively set for hearing on August 31 and September 14, 1977. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 17, 1977

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

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

- ALLOWABLE: (1) Consideration of the allowable production of gas for September, 1977, from fifteen prorated pools in Lea, Eddy, Chaves, and Roosevelt Counties, New Mexico.
- (2) Consideration of the allowable production of gas for September, 1977, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

CASE 6001: (Continued from August 3, 1977, Examiner Hearing)

Application of Mesa Petroleum Co. for an exception to Order No. R-5459, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the provisions of Order No. R-5459 to exclude its Primo Well No. 1-A located in Unit D of Section 6, Township 31 North, Range 10 West, San Juan County, New Mexico, from the vertical limits of the Blanco-Mesaverde Pool as defined by said order.

CASE 6007: Application of Gulf Energy and Minerals Company for a non-standard proration unit, simultaneous dedication and unorthodox locations, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 600-acre non-standard proration unit comprising all of Section 4, except the NE $\frac{1}{4}$  NW $\frac{1}{4}$  thereof, Township 22 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to be simultaneously dedicated to its J. F. Janda Wells Nos. 7 located in Unit K and Nos. 12 and 13, at unorthodox locations in Units O and P, respectively, of said Section 4.

CASE 6008: Application of Texaco Inc. for a pressure maintenance project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project on its Central Vacuum Unit Area, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico, by the injection of water into the Crayburg-San Andres formation through 55 wells.

CASE 6009: Application of Morris R. Antweil for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the S $\frac{1}{2}$  of Section 29, Township 18 South, Range 25 East, Eddy County, New Mexico, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 5992: (Readvertised)

Application of Purleson & Huff for compulsory pooling, a non-standard unit, and an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests underlying the SE $\frac{1}{4}$  NW $\frac{1}{4}$  of Section 14, Township 24 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, to form a non-standard 40-acre gas proration unit to be dedicated to applicant's Cooper Well No. 1 at an unorthodox location 2310 feet from the North and West lines of said Section 14, or in the alternative to drill another well at a standard location. Also to be considered will be the cost of recompletion or of drilling and completing the unit well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in recompleting or drilling said well.

CASE 6010: Application of Manana Gas Inc. for compulsory pooling and an unorthodox location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Dakota formation underlying the W $\frac{1}{2}$  of Section 13, Township 30 North, Range 12 West, Basin-Dakota Pool, San Juan County, New Mexico, to be dedicated to a well to be drilled at an unorthodox location 840 feet from the South line and 1400 feet from the West line of said Section 13. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

- CASE 6011: Application of Tenneco Oil Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Blanco Mesaverde and Basin Dakota production in the wellbores of its Jicarilla "A" Well No. 1 in Unit L of Section 18, "B" Well No. 8 in Unit B of Section 15, "C" Wells Nos. 4, 5, 6, 7, and 8, located, respectively, in Units F and I of Section 24, F of Section 14, and M and E of Section 13, all in Township 26 North, Range 5 West, Rio Arriba County, New Mexico.
- CASE 6012: Application of Tenneco Oil Company for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Strawn formation through the perforated interval from 11,174 feet to 11,236 feet in its Jones Federal Well No. 1, located in Unit K of Section 23, Township 19 South, Range 31 East, Eddy County, New Mexico.
- CASE 6013: Application of HNG Oil Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the S/2 of Section 9, Township 24 South, Range 28 East, Eddy County, New Mexico, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.
- CASE 6014: Application of Atlantic Richfield Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 1980 feet from the South line and 330 feet from the West line of Section 6, Township 21 South, Range 27 East, Burton Flat-Morrow Gas Pool, Eddy County, New Mexico, the W/2 of said Section 6 to be dedicated to the well.
- CASE 6015: Application of Atlantic Richfield Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 1980 feet from the South line and 660 feet from the East line of Section 32, Township 20 South, Range 27 East, Avalon-Morrow Gas Pool, Eddy County, New Mexico, the S/2 of said Section 32 to be dedicated to the well.



LAW OFFICES

HINKLE, COX, EATON, COFFIELD & HENSLEY

600 HINKLE BUILDING

POST OFFICE BOX 10

ROSWELL, NEW MEXICO 88201

July 29, 1977

CLARENCE E. HINKLE  
LEWIS C. COX, JR.  
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HAROLD L. HENSLEY, JR.  
STUART D. SHANOR  
C. D. MARTIN  
PAUL J. KELLY, JR.

JAMES H. BOZARTH  
JAMES H. ISBELL  
DOUGLAS L. LUNSFORD  
PAUL M. BOHANNON



Oil Conservation Commission  
P.O. Box 2088  
Santa Fe, New Mexico 87501

Re: Case No. 6001 examiner's docket  
August 3, 1977

Gentlemen:

Please consider this as a motion for continuance of the captioned case, which is the application of Mesa Petroleum Co. for an exception to Order R-5459 involving the Blanco-Mesaverde Pool until the last examiner's hearing in September.

This continuance is desired due to the fact that Mr. Don Dent, attorney for Mesa at Amarillo, will not be available for the hearing. I am leaving for a European trip and will not return until about September 11. I discussed this matter with Lynn Teschendorf and we would appreciate your cooperation so that the case will be continued as requested.

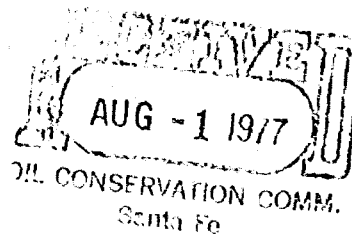
Yours sincerely,

HINKLE, COX, EATON, COFFIELD & HENSLEY

BY

CEH:cs

cc: Mr. Don Dent



July 28, 1977

Oil Conservation Commission  
State of New Mexico  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Attn: Dan Nutter

Re: Case No. 6001 - Application of  
Mesa Petroleum Co. for exception  
to Order No. R-5459  
San Juan County, New Mexico

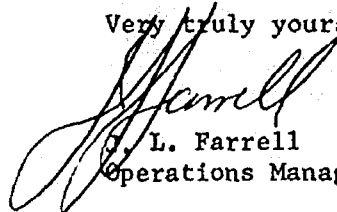
Gentlemen:

The above referenced case has been scheduled for hearing on Wednesday,  
August 3, 1977.

Due to the absence of a number of key witnesses, Mesa Petroleum Co.  
respectfully requests that this case be continued until the August 17,  
1977, hearing.

Your prompt consideration will be appreciated.

Very truly yours,

  
L. Farrell  
Operations Manager

SS/gb

Dockets Nos. 26-77 and 27-77 are tentatively set for hearing on August 17 and 31, 1977. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - AUGUST 3, 1977

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 Richard L. Stamets, Alternate Examiner:

CASE 4962: (Reopened) (Continued from July 6, 1977 Examiner Hearing)

In the matter of Case 4962 being reopened pursuant to the provisions of Order No. R-4538 which order established temporary special pool rules for the Peterson-Pennsylvanian Associated Pool, Roosevelt County, New Mexico. All interested parties may appear and show cause why said temporary special pool rules should not be rescinded.

CASE 5974: (Continued from July 6, 1977 Examiner Hearing)

Application of Maddox Energy Corporation for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the E/2 of Section 9, Township 18 South, Range 26 East, Atoka-Pennsylvanian Pool, Eddy County, New Mexico, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 5981: (Continued from July 6, 1977 Examiner Hearing)

Application of W. A. Moncrief, Jr., for pool creation and special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of an oil pool for Upper-Pennsylvanian production for his State Well No. 1 located in Unit E of Section 26, Township 16 South, Range 33 East, Lea County, New Mexico, and the promulgation of special rules therefor, including a provision for 80-acre spacing.

CASE 6001: Application of Mesa Petroleum Co. for an exception to Order No. R-5459, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an exception to the provisions of Order No. R-5459 to exclude its Primo Well No. 1-A located in Unit D of Section 6, Township 31 North, Range 10 West, San Juan County, New Mexico, from the vertical limits of the Blanco-Mesaverde Pool as defined by said order.

CASE 6002: Application of New Mexico Salt Water Disposal Company, Inc., for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Bough formation in its Read & Stevens Skelly State Well No. 1 located in Unit H of Section 10, Township 10 South, Range 33 East, Lea County, New Mexico.

CASE 6003: Application of Aztec Oil & Gas Company for an unorthodox gas well location, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Arizona Jicarilla B Well No. 8 to be located in the NW/4 of Section 9, Township 26 North, Range 5 West, Blanco Mesaverde Pool, Rio Arriba County, New Mexico, this being the first Mesaverde well on its proration unit, the W/2 of said Section 9.

CASE 6004: Application of El Paso Natural Gas Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of South Blanco-Pictured Cliffs and Blanco Mesaverde production in the wellbore of its San Juan 23-7 Unit Well No. 76 located in Unit A of Section 22, Township 28 North, Range 7 West, Rio Arriba County, New Mexico.

CASE 6005: Application of J. M. Huber Corporation for a non-standard unit or compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, proposes to drill its Parr Well No. 1 to the Delaware formation at a point 990 feet from the South and East lines of Section 15, Township 23 South, Range 26 East, Eddy County, New Mexico, and for said well, seeks approval for a 39-acre non-standard oil proration unit comprising all of the SE/4 SE/4 of said Section, except that tract of land owned by Mr. Monk Lofton and described as being one acre, more or less, lying immediately North of the South line of said Section 15 and immediately East of the Eastern boundary of the right of way of U. S. Highways Nos. 62 and 180; in the alternative, applicant seeks an order pooling all mineral interests in the Delaware formation underlying the SE/4 SE/4 of said Section 15 to form a standard 40-acre unit to be dedicated to the aforesaid well. If said well is classified as a gas well, applicant seeks approval for a 159-acre non-standard gas

proration unit comprising all of the SE/4 of said Section 15 except the above-described one-acre tract, or in the alternative, an order pooling all mineral interests in the Delaware formation underlying the SE/4 of said Section 15 to form a standard 160-acre unit to be dedicated to the aforesaid well. If either of the above-described pooling orders is entered, also to be considered will be the cost of drilling and completing the unit well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6006: In the matter of the application of the Oil Conservation Commission of New Mexico upon its own motion for the creation, contraction, and extension of certain pools in Chaves, Eddy, Lea, and Roosevelt Counties, New Mexico.

(a) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Delaware production and designated as the Brynes Tank-Middle Delaware Gas Pool. The discovery well is the Hanagan Petroleum Corporation Newman Well No. 1 located in Unit O of Section 7, Township 23 South, Range 26 East, NMPM. Said pool would comprise:

TOWNSHIP 23 SOUTH, RANGE 26 EAST, NMPM  
Section 7: SE/4

(b) CREATE a new pool in Chaves County, New Mexico, classified as an oil pool for San Andres production and designated as the Calumet-San Andres Pool. The discovery well is the Elk Oil Company Dexter State Well No. 1 located in Unit D of Section 36, Township 12 South, Range 26 East, NMPM. Said pool would comprise:

TOWNSHIP 12 SOUTH, RANGE 26 EAST, NMPM  
Section 36: NW/4

(c) CREATE a new pool in Chaves County, New Mexico, classified as a gas pool for Morrow production and designated as the Carson-Morrow Gas Pool. The discovery well is Maralo, Inc. Chavelea-Carson Well No. 1 located in Unit F of Section 10, Township 9 South, Range 31 East, NMPM. Said pool would comprise:

TOWNSHIP 9 SOUTH, RANGE 31 EAST, NMPM  
Section 10: N/2

(d) CREATE a new pool in Lea County, New Mexico, classified as an oil pool for Cisco production and designated as the South Kernitz-Cisco Pool. The discovery well is the W. A. Moncrief, Jr., State Well No. 1 located in Unit E of Section 26, Township 16 South, Range 33 East, NMPM. Said pool would comprise:

TOWNSHIP 16 SOUTH, RANGE 33 EAST, NMPM  
Section 26: W/2  
Section 27: S/2

(e) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Wolfcamp production and designated as the South Paduca-Wolfcamp Gas Pool. The discovery well is the Texaco Inc. Cotton Draw Unit Well No. 68 located in Unit F of Section 12, Township 25 South, Range 31 East, NMPM. Said pool would comprise;

TOWNSHIP 25 SOUTH, RANGE 31 EAST, NMPM  
Section 12: W/2

(f) CREATE a new pool in Lea County, New Mexico, classified as an oil pool for Queen production and designated as the Reeves-Queen Pool. The discovery well is the Honeysuckle Exploration Corporation State 22 Well No. 1 located in Unit P of Section 22, Township 18 South, Range 35 East, NMPM. Said pool would comprise:

TOWNSHIP 18 SOUTH, RANGE 35 EAST, NMPM  
Section 22: SE/4

(g) CREATE a new pool in Roosevelt County, New Mexico, classified as an oil pool for San Andres production and designated as the Tomahawk-San Andres Pool. The discovery well is the Sundance Oil Company Cone "31" Federal Well No. 1 located in Unit A of Section 31, Township 7 South, Range 32 East, NMPM. Said pool would comprise:

TOWNSHIP 7 SOUTH, RANGE 32 EAST, NMPM  
Section 31: NE/4

- (h) EXTEND the North Bagley-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 12 SOUTH, RANGE 33 EAST, NMPM  
Section 5: SW/4  
Section 8: W/2

- (i) EXTEND the Baich-Wolfcamp Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 32 EAST, NMPM  
Section 15: SE/4

- (j) EXTEND the Blinebry Oil and Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM  
Section 28: S/2 NW/4

- (k) EXTEND the Buffalo Valley-Pennsylvanian Gas Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 27 EAST, NMPM  
Section 36: N/2

TOWNSHIP 15 SOUTH, RANGE 28 EAST, NMPM  
Section 7: N/2

- (l) EXTEND the East Burton Flat-Strawn Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 29 EAST, NMPM  
Section 4: W/2  
Section 9: W/2

- (m) EXTEND the North Burton Flat-Wolfcamp Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 28 EAST, NMPM  
Section 9: All

- (n) EXTEND the North Cemetery-Atoka Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 25 EAST, NMPM  
Section 34: N/2

- (o) EXTEND the Crooked Creek-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 24 EAST, NMPM  
Section 9: N/2

- (p) EXTEND the Drinkard Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 36 EAST, NMPM  
Section 25: W/2 NE/4

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM  
Section 18: NW/4

- (q) EXTEND the Eumont Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 37 EAST, NMPM  
Section 33: SE/4

- (r) EXTEND THE South Empire-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 29 EAST, NMPM  
Section 30: S/2

- (s) EXTEND the Grayburg-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 29 EAST, NMPM  
Section 27: N/2

- (t) EXTEND the Hat Mesa-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 32 EAST, NMPM  
Section 12: W/2

- (u) EXTEND the Linda San Andres Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 6 SOUTH, RANGE 26 EAST, NMPL  
Section 31: NE/4 NE/4

- (v) EXTEND the Osudo-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 35 EAST, NMPL  
Section 18: E/2  
Section 19: N/2

- (w) EXTEND the POW-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 26 EAST, NMPL  
Section 32: S/2  
Section 33: S/2

- (x) EXTEND the South Salt Lake-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 32 EAST, NMPL  
Section 4: Lots 9, 10, 15, 16, and SE/4

- (y) CONTRACT the vertical limits of the Sams Ranch Grayburg-San Andres Gas Pool in Chaves County, New Mexico, to the Grayburg formation only, redesignate said pool as the Sams Ranch-Grayburg Gas Pool, and extend horizontal limits of said pool to include therein:

TOWNSHIP 14 SOUTH, RANGE 28 EAST, NMPL  
Section 8: S/2  
Section 9: S/2  
Section 17: N/2  
Section 18: E/2

- (z) EXTEND the Samal-Pennsylvanian Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 33 EAST, NMPL  
Section 2: NW/4  
Section 3: NE/4

- (aa) EXTEND the North Vacuum Atoka-Morrow Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPL  
Section 8: NE/4  
Section 17: W/2

- (bb) EXTEND the Wantz-Granite Wash Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPL  
Section 2: NW/4

- (cc) EXTEND the Wilson-Pennsylvanian Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 34 EAST, NMPL  
Section 12: E/2

Case 6001

LAW OFFICES

HINKLE, COX, EATON, COFFIELD & HENSLEY

600 HINKLE BUILDING

POST OFFICE BOX 10

ROSWELL, NEW MEXICO 88201

July 11, 1977

CLARENCE E. HINKLE  
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PAUL W. EATON, JR.  
CONRAD E. COFFIELD  
HAROLD L. HENSLEY, JR.  
STUART D. SHANOR  
C. D. MARTIN  
PAUL J. KELLY, JR.

JAMES H. BOZARTH  
JAMES H. ISBELL  
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W. E. BONDURANT, JR. (914-1973)

TELEPHONE (505) 622-6510

MR. ISBELL LICENSED  
IN TEXAS ONLY

MIDLAND, TEXAS OFFICE  
621 MIDLAND TOWER  
(915) 683-4691

Oil Conservation Commission  
Box 2088  
Santa Fe, New Mexico 87501

Gentlemen:

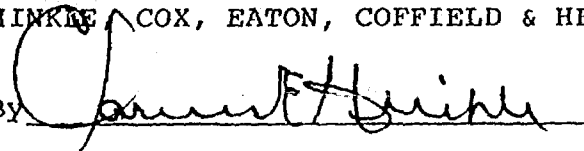
We enclose in triplicate application of Mesa Petroleum Co. for an exception to Commission Order R-5459 redefining the vertical limits of the Blanco-Mesaverde Pool, Rio Arriba and San Juan Counties. This exception is sought by Mesa due to its Primo Well No. 1-A located in Unit D, Section 6, Township 31 North, Range 10 West which was completed as a gas well in the Chacra formation and on account of which the Commission created the Animas-Chacra Pool on January 25, 1977 by Order R-5339.

Mesa would like to have this matter set down for the first examiner's hearing in August, which we assume will be on the 10th.

Yours very truly,

HINKLE, COX, EATON, COFFIELD & HENSLEY

By



CEH:cs

Enc.

cc: Mr. Don Dent



BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

APPLICATION OF MESA PETROLEUM CO.  
FOR AN EXCEPTION TO COMMISSION  
ORDER R-5459 RE-DEFINING THE VERTICAL  
LIMITS OF THE BLANCO-MESAVERDE POOL,  
RIO ARriba AND SAN JUAN COUNTIES, NEW  
MEXICO. THE EXCEPTION SOUGHT BY  
APPLICANT IS FOR THE ANIMAS-CHACRA  
POOL AS DEFINED BY ORDER R-5339 ISSUED  
ON JANUARY 25, 1977.

JUL 12 1977

Oil Conservation Commission  
Box 2088  
Santa Fe, New Mexico 87501

COMES NOW Mesa Petroleum Co., acting by and through the undersigned attorneys, and hereby makes application for an exception to Commission Order R-5459 re-defining the vertical limits of the Blanco-Mesaverde Pool, Rio Arriba and San Juan Counties, New Mexico. The exception sought by applicant is for the Animas-Chacra Pool as defined by Order R-5339 issued on January 25, 1977, and in support thereof respectfully shows:

1. On January 25, 1977 the Commission issued Order R-5339 in Case No. 5821 creating a new gas pool in San Juan County for production of gas from the Chacra formation, which pool was designated as the Animas-Chacra Pool. The Order provided:

"Said Animas-Chacra Pool was discovered by Mesa Petroleum Corporation Primo Well No. 1-A located in Unit D of Section 6, Township 31 North, Range 10 West, N.M.P.M. It was completed in the Chacra formation on December 31, 1975. The top of the perforated interval is at 3,444 feet".

2. Order R-5459 in Case No. 5893 re-defined the vertical limits of the Blanco-Mesaverde Pool. In said order certain findings were made, including the following:

"(15) That such porous Chacra sands lie South and West of a line generally running from the Northwest corner of Township 31 North, Range 13



West, NMPM, San Juan County, New Mexico to the Southwest corner of Township 24 North, Range 1 East, NMPM, Rio Arriba County, New Mexico, as more fully described on Exhibit "A" of this order.

"(17) That there are 4 wells North and East of the line defined in Finding No. 15 above and Exhibit A which may be producing from fractured shale or siltstone zones equivalent to said Chacra sands and which may or may not be connected to other producing zones in said Blanco-Mesaverde Pool.

"(18) That to protect the correlative rights of the owners of said four wells, the effective date of any redefinition of the vertical limits of said Blanco-Mesaverde Pool should be delayed to provide such owners with the opportunity to bring a case for an exception before the Commission."

3. By Order R-5157 in Case No. 5618 issued on January 27, 1976 the Commission authorized the completion of applicant's Primo Well No. 1-A as a triple completion to produce gas from the Blanco-Pictured Cliffs Pool through casing-tubing annulus and the Blanco-Mesaverde Pool through 2 1/16" tubing, and from an undesignated Chacra gas pool through 2 1/16" tubing.

4. The Primo Well No. 1-A has been producing gas from the Chacra formation at the rate of 2,000,000 cubic feet per day since on or about December 31, 1975. All of the characteristics of the production and factual information available show that said gas is being produced from a reservoir separate and distinct from the Blanco-Mesaverde Pool and there is no relationship between the gas produced from the Chacra formation and that produced from the Mesaverde or Pictured Cliffs formation and there is no communication between these formations.

5. The Commission correctly designated the Animas-Chacra Pool by Order R-5339 and gas has been produced by applicant from the Animas-Chacra Pool in good faith under said order. If an exception is not made as to the Mesa Primo Well No. 1-A and the well is re-defined as being located in the Blanco-Mesaverde Pool with 320 acre spacing rather than 160 acre spacing, it would leave applicant in an untenable economic position in relation to the other 160 acres which would be included in the 320 acre spacing, a large portion of which is not owned by applicant.

Case 6001

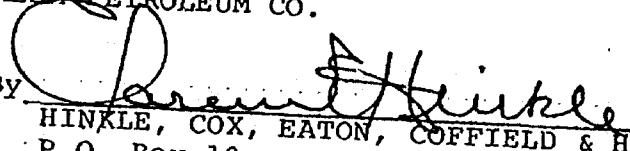
6. An exception to Order R-5459 is necessary in order to protect the correlative rights of applicant.

7. Applicant requests that this matter be included on the docket for the first examiner's hearing in August 1977.

Respectfully submitted,

MESA PETROLEUM CO.

By

  
HINKLE, COX, EATON, COFFIELD & HENSLEY  
P.O. Box 10  
Roswell, New Mexico 88201  
Attorneys for Applicant

DRAFT

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. 6001

Order No. R- 5575

APPLICATION OF MESA PETROLEUM CO.  
FOR AN EXCEPTION TO ORDER NO. R-5459,  
SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 28  
~~August 3~~,  
19 77, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this November day of August, 19 77, 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 by its Order No. R-5459, entered on June 14, 1977,  
the Commission redefined the vertical limits of the Blanco-  
Mesaverde Pool, Rio Arriba and San Juan Counties, New Mexico.

(3) That such redefinition resulted in the inclusion of  
"Chacra" equivalent fractured shales or siltstone zones within  
the vertical limits of said pool in approximately one-half of  
said pool north and east of a certain line traversing the pool.

(4) That in said Order No. R-5459 the Commission found:

"(17) That there are 4 wells north and east of  
the line defined in Finding No. 15 above and Exhibit  
A which may be producing from fractured shale or siltstone  
zones equivalent to said Chacra sands and which may or  
may not be connected to other producing zones in said  
Blanco-Mesaverde Pool." and

"(18) That to protect the correlative rights of  
the owners of said four wells, the effective date of any  
redefinition of the vertical limits of said Blanco-  
Mesaverde Pool should be delayed to provide such owners  
with the opportunity to bring a case for an exception  
before the Commission."

(5) That the applicant, <sup>herein,</sup> Mesa Petroleum Company, is the operator of one of the wells referenced in Findings Nos. (17) and (18) of said Order No. R-5459, the well being its Primo Well No. 1-A located in Unit D of Section 6, Township 31 North, Range 10 West, San Juan County, New Mexico.

(6) That the applicant seeks an exclusion from the vertical limits of said Blanco Mesaverde Pool for said Primo Well No. 1-A as an exception to said Order No. R-5459.

(7) That said Primo Well No. 1-A was drilled in late 1975

and was completed as a triple completion in such a manner as to produce gas from the Pictured Cliffs formation through the casing-tubing annulus and gas from the Chacra formation and the Blanco-Mesaverde Gas Pool through ~~the~~ parallel strings of tubing, with separation of the zones achieved by means of packers set at 2764 feet and 4050 feet

(8) That the so-called "Chacra" zone in said well may be considered to include the productive string ~~and~~ in the overall perforated interval from 3444 feet to 3990 feet.

(9) That said Primo Well No. 1-A first delivered gas into the pipeline on January 31, 1976.

(10) That the evidence presented at the hearing indicates that there is no communication between the Chacra zone in the subject well and the Mesaverde zone in said well and in nearby offsetting Mesaverde wells.

(11) That approval of the application for an exception to the vertical limits of the Blanco Mesaverde Pool for the subject well will not cause waste nor impair correlative rights and should be granted.

IT IS THEREFORE ORDERED:

(1) That effective August 1, 1977, the Mesa Petroleum Company Primo Well No. 1-A located in Unit D of Section 6, Township 31 North, Range 10 West, NMPM, San Juan County, New Mexico, is hereby excluded from the Blanco-Mesaverde Pool as an exception to Commission Order No. R-5459.

PROVIDED HOWEVER, that such exclusion and exception shall apply only to such zone or zones producing in said well from within the interval from 3444 feet to 3990 feet of depth.

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

