

CASE 5109: OCC to consider extending horizontal limits of the Cat-claw Draw-Morrow Gas Pool.

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CASE No.

5109

Application,

Transcripts,

Small Exhibits

ETC.

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
OIL CONSERVATION COMMISSION CONFERENCE ROOM  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO  
November 15, 1973

IN THE MATTER OF: )  
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The Hearing called by the Oil )  
Conservation Commission on its )  
own motion to consider extending )  
the horizontal limits of the )  
Catclaw Draw-Morrow Gas Pool, )  
Eddy County, New Mexico )

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BEFORE: RICHARD L. STAMETS,  
Examiner

TRANSCRIPT OF EXAMINER HEARING

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TRANSCRIPT OF EXAMINER HEARING

1 MR. STAMETS: Call Case Number 5109, in the  
2 matter of the Hearing called by the Oil Conservation  
3 Commission on its own motion to consider extending the  
4 horizontal limits of the Catclaw Draw-Morrow Gas Pool.  
5 Eddy County, New Mexico, to include all of Section 35,  
6 Township 21 South, Range 25 East.

7 Also to be considered will be the institution of  
8 gas prorationing in said pool to provide for fixing the  
9 total allowable natural gas production from said pool  
10 to an amount equal to reasonable market demand and to  
11 the capacity of the gas transportation facilities. Also  
12 to be considered will be the adoption of special rules  
13 and regulations for said pool including a provision for  
14 allocating the allowable production among the wells in  
15 the pool.

16 MR. DERRYBERRY: Tom Derryberry, Attorney for the  
17 Oil Conservation Commission, appearing on behalf of  
18 the Oil Conservation Commission and I have two witnesses.

19  
20 CARL ULVOG,

21 being called as a witness and being duly cautioned  
22 and sworn, testified on his oath as follows:

23 DIRECT EXAMINATION

24 BY MR. DERRYBERRY:

25 Q Could you state your name and position?

1 A Carl Ulvog, Petroleum Geologist with the Oil Conservation  
2 Commission.

3 Q Could you give us a very brief summary of your educational  
4 and employment background?

5 A Yes, sir. Upon graduation with the Bachelor of Science  
6 Degree in geological engineering from the School of  
7 Mining in 1950, I was employed by the United States  
8 Geological Survey, Minerals Branch.

9 Following this, I was appointed by the Pure Oil  
10 Company as exploration geologist. Upon completion of  
11 that, I worked for the Sunray DX Oil Company, senior  
12 exploration geologist, after which I worked for the  
13 Huber Corporation.

14 From there, I went to the State Land Office as  
15 director of minerals and September of this year, I came  
16 as petroleum geologist with the Oil Conservation  
17 Commission.

18 Q Have you previously testified before the Oil Conservation  
19 Commission and had your qualifications made a matter of  
20 record?

21 A Yes, I have.

22 Q Have you made a study of the Catclaw Draw Morrow Gas  
23 Pool?

24 A Yes, I have.

25 Q And have you summarized the results of your study in

1 the form of exhibits?

2 A Yes, I have four exhibits.

3 Q Will you state what was involved in your study and explain  
4 the exhibits and their significance?

5 A I reviewed all of the Oil Conservation Commission's  
6 well files to the pertinent wells in the field and  
7 surrounding area.

8 I examined the bore hole surveys of all of the  
9 wells with the exception of two. There were various  
10 log combinations, but from all of these different wells,  
11 I selected primarily the bore hole computed sonic  
12 gamma ray log for the bulk of the study and all of it  
13 is based upon those logs.

14 No sample cuttings were examined. I made no  
15 insoluble residue studies. I did not attempt any  
16 engineering, log analysis, porosity, permeability, oil,  
17 water saturations and so on.

18 I considered only the initial production reported  
19 in each case. I did not make any geological studies,  
20 but what you might call second-hand information as to  
21 aid determinations.

22 Q Would you refer, please, to your Exhibit A or Exhibit 1  
23 and explain its significance.

24 MR. STAMETS: The record, at this time, should  
25 show the witness is qualified.

1 A Yes, I have put up on the wall here my first exhibit,  
2 this structure map.

3 Here is another one which will also serve as an  
4 index map for the placement that will follow.

5 That is a structure map of the field. I'm not  
6 sure if you can see it too well from there, but it shows  
7 the outline of the field in light blue of the presently  
8 defined pool boundary; down to the southeast you will  
9 notice Section 35 is outlined in orange.

10 This is the proposed extension to the field. I'd  
11 like to mention, too, that we have another well completed  
12 over on the east side of the field in Section 20, which,  
13 I believe, should also be included in an extension;  
14 however, it was not advertised.

15 Basically, it shows a monoclinal dipping structure  
16 with the field essentially all being on the flank of this  
17 monocline.

18 It's almost a constant dip of approximately 200  
19 feet to the mile. We may have some slight differences  
20 of opinion with respect to the structure.

21 I believe Mr. Hanagan testified he had a slight  
22 turnover in there. This may or may not be, but basically,  
23 this is a stratigraphic trap. I think everyone will  
24 agree on that.

25 All of the datum shown on this map are sub-sea



1 elevations on the base of the morrow formation and the  
2 top of the Barnett shale.

3 The scale here shown is one inch to 4,000 feet  
4 horizontal scale and the counter interval is 100 feet.

5 Q Is that all you have to say about --

6 A As far as the structure map is concerned, yes, but I  
7 would like to point out this is also an index map for  
8 the exhibits to follow and if you will notice there on  
9 red, I have marked beginning with Section 11, the  
10 Atlantic well, A, and a red line going generally south,  
11 southwest down to Section 30 in the Inexco well which  
12 is a prime.

13 That is a structural section which I have here,  
14 which will be Exhibit Number 2.

15 MR. STAMETS: I believe that line runs to the  
16 southeast.

17 A I beg your pardon. Southeast to northwest.

18 Q Will you explain Exhibit 2 and its significance?

19 A Yes, this section runs, as I said, from the Atlantic  
20 well, that will be on your left, as you look at that  
21 plat, down to the Inexco, to your right. This is going  
22 down dip.

23 It's about as close to dip section as I could  
24 construct using all producing wells going from the  
25 highest well in the field to the next to the lowest.

1           Reference plane is sea level and therefore, it  
2           does depict the structure. Of course, it's exaggerated.  
3           I have marked on here the -- my selection not only for  
4           the Barnett shale, but also for the Morrow, Atoka and  
5           Strawn.

6           I point out, at this time, that this Morrow does  
7           not always agree with the tops that have been reported by  
8           the operators, but it comes fairly close. I don't think  
9           it will vary more than 25 or 30 feet.

10          Some of the reported picks are above that pipe,  
11          some are below.

12          Also, it agrees exactly with the point that was  
13          used when the field rules were set up back in Case 4548,  
14          with Mr. Hanagar's testimony, so it's in agreement and it  
15          does satisfy all the conditions, all of the production  
16          that had been reported as Morrow falls below that point.

17          I have marked on these logs the producing zones,  
18          that is, the perforations with respect to the three wells  
19          to the right and it's an open hole completion in the  
20          Atlantic well as indicated by that solid line you see  
21          there.

22          That's really, I believe, all I have to comment  
23          on that illustration at this time.

24        Q     All right. Could you go to Exhibit 2?

25        A     Yes, going back now to the index map, you will find there

1 a blue line running almost due north and south.

2 This runs from the south to the north down the  
3 south end in Section 36. You will see that blue B and  
4 A blue line running up to the north, northeast ending  
5 finally in Section 13. That is B, B', that is a  
6 stratigraphic section and that's the larger illustration  
7 you see at the top in which case I have taken the sonic  
8 logs.

9 They all have as a reference plane the Barnett  
10 Shale, which is the base of the Morrow.

11 I selected those five wells shown because all of  
12 the different pay zones are represented here with one  
13 exception. Another well has that one.

14 Now, there have been different terminology  
15 proposed for these different zones, so in order to  
16 maybe confuse the issue further or simplify it, I have  
17 elected to number those zones and I'll go to that a  
18 little later on, but this section, the color in here has  
19 no meaning except to show the relationship one to the  
20 other.

21 I mean, they are arbitrarily chosen colors, so  
22 the lower most zone here is perforated in this well in  
23 Section 13 and this well in Section 24 and this one in  
24 36, so I have arbitrarily called that Number 1.

25 Just started from the bottom numbering up and by

1 the same token, the only well on this section that has  
2 this zone which I have called Number 2, the only one  
3 that has perforated is this well right here.

4 There are other in the field we'll get to later.

5 MR. STAMETS: Would you identify that well as to  
6 the section, please?

7 A Yes, that is in Section 24 and I might add at this point  
8 that well is involved in every section. You will find  
9 it on the map right here.

10 Number 4, it's this well right here and it's this  
11 well on the next display that we'll come to.

12 That's the purpose of the asterisk, and so on with  
13 each of the zones.

14 For instance, in this well, the only zone  
15 producing is this one I have arbitrarily assigned Number  
16 6.

17 Q Mr. Ulvog, could you identify each of the wells that  
18 you're referring to and the color of the zone indicated?

19 A Oh, yes. In Section 13, the three zones that are  
20 perforated would be my Number 1, Number 3 and Number 5,  
21 blue being 1, green being 3, brown being 5.

22 In Section 24, blue again is 1, the yellow is 2,  
23 and the green is 3.

24 In Section 19, the only zone perforated is this  
25 shown in red which I have called Number 6.

1 In Section 25, there are four different zones  
2 producing. One in tan, I have designated 4, one in  
3 orange that I have called Number 7, one in purple that  
4 I have called 8, one in pink I have called 9.

5 In Section 36, the only producing zone is the  
6 Number 1 that I have colored in blue.

7 I have added here a number 10, which is not  
8 producing any of these wells, but it's producing in a  
9 well in Section 26, which we'll refer to later.

10 Q Do you have anything further to say?

11 A I think -- I have indicated at the bottom of each of the  
12 logs potential of that well when it was first completed.

13 This was the first potential that was reported  
14 to us.

15 Q And those figures are based upon reports made to the  
16 Commission?

17 A That's right, in our files.

18 Now, if I can go to the next display, which is  
19 really an extension of Exhibit 3, this is my Exhibit 4.

20 I have used here a schematic diagram to continue  
21 to expand on discussion of these different zones in  
22 which basically in referring again to the index map,  
23 if you aren't color blind or cross-eyed by now, it's  
24 this green line beginning up here at the north in Section  
25 1 at the Hanagan well and generally continuing from

1 north to south in zigzag fashion from Section 1 to 11,  
2 then over into 18, across over into 13 to 14 down to 23,  
3 over to 24, on into 19 and to the new well, Inexco 20,  
4 down into 30 and across to 25, 26, down into 35 into the  
5 section we're proposing to extend the pool to and then  
6 over to 36. This is the line of this section.

7 Reading from your left to right, here I have shown  
8 by means of the same colors that I used here, the  
9 different zones that are perforated in each well.

10 Now, in earlier testimony in the earlier hearing  
11 here when the field rules were set up, Mr. Hanagan  
12 testified these zones can be correlated in his opinion  
13 quite well and I'll agree with that.

14 I believe you can correlate them quite well from  
15 one well -- except, for instance, it's quite obvious  
16 this zone 6 did not extend into this well in Section 25.  
17 It completely shaled out.

18 The same thing happens to other zones in various  
19 places, so they are not all anywhere present, so all I  
20 have to say here is, here is where the zones have been  
21 perfed and are possibly contributing to production.

22 I'm not saying how much each zone contributes  
23 because this, I do not know.

24 This shows you the various combinations of zones  
25 which can be perfed in any given location and there are

1 only two sets of pairs as it -- wells that will match  
2 up, that is, wells that are producing from exactly the  
3 same horizons, these being the wells in Section 35 and  
4 36, each of which produces only from the lower most on  
5 my Number 1 zone and the section, the wells in Section  
6 30 and 19, each of which produces only from my Number 6  
7 zone.

8 Likewise, at the bottom of each of these well  
9 locations, I have indicated the potential that was  
10 initially reported for each well from these. I can't  
11 relate the potentials to the individual zones that are  
12 perfed or to the combinations of zones that are perfed.

13 Likewise, in the structure map, there isn't a  
14 good relationship between those potentials and the  
15 position on structure. There is not a consistent  
16 pattern.

17 I believe that will take care of the exhibits  
18 unless there are questions.

19 Q Do your studies indicated that there are potentially  
20 productive zones within the Morrow that have not been  
21 perfed by certain wells that have perfed other zones?

22 A I believe that there are potentially productive zones  
23 in some of these wells behind casing at the present  
24 time.

25 Q Do you have anything further to say about your exhibits  
in explaining each exhibit?

1 A Well, I think basically we're in agreement with the  
2 previous testimony with respect to the strati-  
3 graphic nature of the field.

4 I think we're basically in agreement with the  
5 correlative zones, one well to the other, although, I  
6 would say that a zone does not necessarily have to  
7 disappear completely to be non-productive, because the  
8 porosities and permeabilities change quite drastically  
9 from well to well, too.

10 You can have quite a good well offset by a rather  
11 poor well due to a poor development of that particular  
12 sand zone.

13 Q So, in other words, would you say that it's characteris-  
14 tic of the Morrow for these individual zones not to be  
15 contiguous between wells over long distances?

16 A Well, yes. In fact, it may even be worse in some areas  
17 than this where you can't even correlate from one well  
18 to the other.

19 Here, I think we can -- we're justified in saying,  
20 for instance, my zone 1 or 3 or whichever, is the same in  
21 one well as it is in another.

22 Incidentally, the terminology that has been  
23 introduced and has been used considerably, the upper zones  
24 have been referred to the A and the middle ones, B,  
25 three or four zones in the middle of the section have



1        been referred to as the B and the lower most zones,  
2        about the four lowest ones have been called the C, so  
3        we have reported perms in the C1 or C3 or C4 and so on,  
4        but I'd rather not get into that complicated terminology.

5        Q    As a result of your study, have you formed an opinion  
6            as to the feasibility of attributing production within what  
7            is now classified as the Catclaw Draw Morrow Gas Pool  
8            to anything other than single reservoir?

9        A    Well, I feel -- I did not actually make reservoir  
10           studies. I did not make log analysis calculating  
11           porosities, permeabilities, oil and water saturations  
12           and all of that thing.

13           I didn't do it because I think it would be an  
14           exercise in futility to do so because we don't know what  
15           percentage of production is due to any given zone except  
16           in those cases where there is only one zone perfed,  
17           but in most cases, there is more than one and it's  
18           conceivable that some of the zones that are perfed may  
19           not be contributing at all.

20           Likewise, we had testimony in the earlier hearing  
21           that rather suprising consistency of pressures in these  
22           wells and it doesn't seem to make any difference which  
23           zone or which combination of zones are involved. You  
24           get about the same kind of pressures anyway.

25        Q    So, in other words, on the basis of strictly geological

1 observations of the type you made, you feel that it is  
2 infeasible to break down production between the various  
3 zones in the Morrow or the reservoir, estimated reserves  
4 of the various zones within the Morrow?

5 A I think that type of calculation would be quite  
6 meaningless, frankly.

7 Q And as a result of the study that you performed, have  
8 you formed an opinion as to the feasibility of estimating  
9 the reserves under the individual units within the pool  
10 on the basis of your geological observations?

11 A I didn't make any attempt to calculate reserves under  
12 each well and I wouldn't put much faith in any  
13 calculations designed to show this, either.

14 Q Do you have anything further to add to your testimony?

15 A No, I believe that will cover it.

16 MR. DERRYBERRY: At this time, I'd like to tender  
17 Exhibits 1 through 4 into evidence.

18 MR. STAMETS: Are there any objections to the  
19 admission of these exhibits into evidence?

20 They will be so admitted.

21 MR. DERRYBERRY: I have nothing further of this  
22 witness.

23 MR. STAMETS: Are there any questions of this  
24 witness? If not, he may be excused.

25 (Witness Excused.)

1 MR. STAMETS: Call your next witness, Mr.  
2 Derryberry.

3  
4 DANIEL S. NUTTER,  
5 being called as a witness and being duly cautioned  
6 and sworn, testified on his oath as follows:

7 DIRECT EXAMINATION

8 BY MR. DERRYBERRY:

9 Q Would you state your name and position for the record?

10 A Dan Nutter, Chief Engineer for the Oil Conservation  
11 Commission.

12 Q How long have you been with the Commission?

13 A I have been with the Commission a little over 19 years.

14 Q Have you previously testified before the Commission and  
15 had your qualifications made a matter of record?

16 A Yes, sir, I have.

17 MR. DERRYBERRY: Are the witness's qualifications  
18 acceptable?

19 MR. STAMETS: They are.

20 Q Your duties include the study of oil and gas reservoirs  
21 in the state of New Mexico?

22 A Yes, sir, they do.

23 Q In connection with those duties, is it also among your  
24 duties to study various gas reservoirs and make  
25 recommendations to the Commission concerning the need

1 for prorationing gas reservoirs?

2 A Yes, sir, it's among my duties.

3 Q What are the principal factors the Commission considers  
4 in determining whether gas prorationing is necessary?

5 A The Commission has four basic parameters which they  
6 consider in determining whether the institution of gas  
7 prorationing is necessary in a given gas pool.

8 The first of these is whether the producing capacity  
9 of the reservoir is in excess of the apparent market  
10 demand for the reservoir.

11 The second parameter is whether there is, in the  
12 gas pool, more than one purchaser.

13 The third parameter to consider is whether there  
14 are non-standard units in a given gas pool; that is,  
15 units which contain less than or more than the standard  
16 amount of acreage that the other wells in the pool have  
17 dedicated.

18 The fourth basic consideration is whether there  
19 are unorthodox locations which have been approved in the  
20 pool and acreage factors or rateable take factors, so  
21 to speak, which would penalize wells because of their  
22 unorthodox locations.

23 Those are the four basic parameters the Commission  
24 considers.

25 Q In line with your duties previously expressed, have you

1 made a study of the Catclaw Draw Morrow Gas Pool in Eddy  
2 County, New Mexico in light of the four principal  
3 factors or prorationing you just mentioned?

4 A Yes, I have.

5 Q And which of the factors are now present in that pool?

6 A It's very obviously apparent that two of the factors  
7 are present.

8 That is, we know that we have more than one  
9 purchaser in the pool. We also know that we have non-  
10 standard units in the pool.

11 There is one well which has 862 acres dedicated  
12 to it, that being the Fasken well Number 1 in Section  
13 -- Avalon Federal Well Number 1 in Section 1 of Township  
14 21, South 25 east.

15 The rest of the wells all have a basic 640 acre  
16 proration unit assigned to them or spacing unit.

17 Q So, two of the four factors are obviously present. Do  
18 you know of any other factors present?

19 A Yes, we knew that we had the two factors present, so we  
20 went back upon a study of the pool to see if the other  
21 factors were present.

22 There are no locations which have been penalized  
23 because of their -- or no wells which have been penalized  
24 because of their well locations, so this leaves one more  
25 factor.

1                   We made the study to determine whether the producing  
2 capacity of the reservoir is in excess of the apparent  
3 market demand.

4   Q   Do you have an exhibit to illustrate this third factor?

5   A   Yes, I do.

6   Q   And you have prepared this?

7   A   This is identified as Exhibit Number 5 in this case.

8                   This exhibit Number 5 is a tabulation of actual  
9 delivery capacity of the 11 wells which were producing  
10 in the Catclaw Draw Morrow Gas Pool in the month of  
11 August, 1973.

12                  I have identified these wells by two categories,  
13 being the better wells and the poorer wells.

14                  The better wells all had actual pipeline deliver-  
15 ability tests conducted on them during the month of  
16 August. These tests were obtained from Mr. Hugh Hanagan  
17 who is one of the principal operators in the pool.

18                  It shows here that Catclaw Draw Unit Number 1-Y  
19 had a pipeline deliverability of better than 3½ million  
20 cubic feet per day in August.

21                  Unit Number 2 had a pipeline deliverability of  
22 10,900 MCF per day.

23                  Number 4 had a deliverability of 9,700,000 cubic  
24 feet per day.

25                  Number 6, 5,900,000; Number 7, 900,000; and none

1 but number 1 had a pipeline deliverability of 14½ million  
2 into the pipeline.

3 These better wells total a deliverability capacity  
4 of 52,552,000 cubic feet per day.

5 Now, the poorer wells, I did not have these tests  
6 conducted on them, so I had to go to the actual  
7 production data for August.

8 Fasken's Avalon well Number 1 averaged 100 MCF  
9 per day during the month.

10 Atlantic's Pure Federal well Number 1 in August  
11 averaged a little over a million a day; however, this  
12 figure should be higher because during the month of  
13 September, it produced almost two million, so obviously,  
14 it's a better well than the August production showed.

15 Catclaw Draw Unit 5 averaged 1134 MCF per day in  
16 August; Inexco Boscowitz Number 1 averaged 944 MCF  
17 a day. This should be higher because the September  
18 production was actually 38,447, which would give it  
19 a little more than a million a day production.

20 The McMinn State Number 1 averaged 1502 MCF per  
21 day, so during August the poorer wells had a deliver-  
22 ability in the pipeline, and I have no reason to believe  
23 that these wells were curtailed except the two I  
24 mentioned -- they had a pipeline deliverability of  
25 4689 MCF per day.

1           The total pipeline deliverability, thus, during  
2           the month of August for the pool was 57,241 MCF per  
3           day.

4       Q    Would you please refer to the Commission Exhibit Number  
5           6 and explain that?

6       A    Okay. Exhibit Number 6 is a combination of four curves  
7           and a dot. The black line at the top illustrates the  
8           number of wells that produced during a given month for  
9           the full month.

10           Now, if a well had a fraction of a month's  
11           production, it was not included in that month. It had to  
12           have a full month's production, so we see that in  
13           September, the scale for this is on the right hand side,  
14           so we see that for the month of August and September  
15           for which we are comparing production data, there were  
16           a total of 11 wells connected and producing during the full  
17           months of August and September.

18           You will note that during the month of October,  
19           this figure jumped up to 12. Now, in the month of  
20           December, if the wells are -- there are three new wells  
21           in the pool. There is the Texaco well which now has a  
22           connection, there is the Catclaw Draw Unit Number 9 down  
23           in Section 35 of 21, 25, which I believe has been  
24           connected and there is the Inexco Arco Federal well  
25           Number 1 over in Section 20 of 21 south, 26 east and [



1 don't believe that well has been connected, but it  
2 probably will be in the month of November and this will  
3 raise the pool total to 14 wells.

4 Okay, the next line is pool capacity in absolute  
5 open flow.

6 Now, the absolute open flows are taken from the latest  
7 available absolute open flow tests. We see that during  
8 the month of August and September, the absolute open flow  
9 capacity of the pool was approximately 85,000 MCF per  
10 day.

11 That jumped up in the month of October to 140,000  
12 because the Texaco well was connected. We don't have  
13 production data, though, so we can't use any production  
14 data on that well.

15 Now, if the other two wells are connected in  
16 November, the total capacity of the pool in absolute  
17 open flow will be approximately 132,000 MCF per day.

18 Now, we realize that absolute open flow is not a  
19 measure of how much gas the well will put into the  
20 pipeline, so we determine that from our August data, that  
21 our actual pipeline deliverability was 57,241 MCF per  
22 day and that's what the dot is there. That's the actual  
23 producing capacity of the pool in August of 1973.

24 Now, I did mention that two wells could produce  
25 a little bit more than the August data shown so that dot

1 should actually be a little bit higher than where it is,  
2 but based on August production, that's where the dot would  
3 be and August tests of the better wells in the pool.

4 Now, the blue line, the blue solid line is a  
5 graph of the actual production from the pool. You will  
6 see that during the early part of 1972, production from  
7 the pool was very minor and then starting in September  
8 of 1972, production started climbing.

9 It soon reached a rate in the 30 thousands. It  
10 declined somewhat and has fluctuated between 20 thousand  
11 and 38 thousand in the months contained in 1973.

12 Probably the average takes have been in the  
13 neighborhood of 32 to 33, 34 thousand MCF per day  
14 compared with an actual producing capacity in excess of  
15 57,000, so what the pool is actually been producing is  
16 just a little bit more than half its producing capacity.

17 Now, I believe that the blue line, which is the  
18 dashed line, represents what the producing capacity of  
19 the pool when takes were increasing during the latter  
20 months of 1972 and early 1973, takes were increasing, so  
21 this would indicate what the capacity of the pool would  
22 be if pipeline takes had been consistent with the ability  
23 of the wells to produce.

24 However, probably there has been some decline in  
25 production activity of some wells, so the line would bend

1 as it proceeds upward and as it bends, it would intersect  
2 the blue dot so we see that the solid blue line has  
3 departed from the dashed blue line and production has  
4 not kept up with produceability, so we do have excess  
5 producing capacity in this pool beyond what the pipelines  
6 are taking.

7 Q Do you have any other conclusions from that exhibit when  
8 viewed in light of Exhibit Number 5?

9 A Yes, sir, I believe this gives us the third factor that  
10 the Commission considers when it considers whether a  
11 pool should be prorated.

12 Now, we have three of the four factors present in  
13 this. We have the non-standard unit, two pipelines, got  
14 producing capacity in excess of market demand and I have  
15 no reason to think that the blue line, which is actual  
16 production, represents anything other than market demand  
17 because production has not been restricted by any other  
18 factor than the ability of the pipelines to take the  
19 gas or the ability of the facilities in the pool to  
20 handle the gas, so we have got three of the factors  
21 present in the Catclaw Draw Morrow and only one of the  
22 four is lacking.

23 Q On the basis of the presence of these three factors, do  
24 you recommend prorating the Catclaw Draw Morrow Gas  
25 Pool?

1 A Yes, I do.

2 Q If prorated, when would you recommend the prorationing  
3 to become effective?

4 A I wouldn't recommend the prorationing become effective  
5 until the beginning of the next standard proration period,  
6 which will commence April 1, 1974.

7 Q You have heard previous testimony of Mr. Ulvog concerning  
8 the existence of these various stringers within the  
9 Morrow formation of the Catclaw Draw Pool.

10 Do you agree these stringers do exist?

11 A Oh, yes. There is no doubt whatsoever that the Morrow  
12 formation is just interlaced with many stringers, some  
13 of which may or may not be in communication with each  
14 other.

15 Some of the stringers exist in one well only, some  
16 of them proceed to adjacent wells, some of them must  
17 fade out in between two adjacent wells and reappearing  
18 in a third well on over some distance, but there is no  
19 question that the Morrow formation is composed of many  
20 individual stringers which may or may not be in  
21 communication. They probably aren't.

22 Q Do you have any data to support this conclusion?

23 A Yes, sir, I do. Exhibit Number 7, which is a map of  
24 the well currently completed shows all the wells that  
25 are currently completed and capable of producing from

1 the Catclaw Draw Morrow Gas Pool.

2 We'll note we have one well simply shown as a  
3 location down in Section 36 of 21, 25. This is the  
4 Catclaw Unit Number 3. This well is not presently  
5 completed in the Morrow formation; however, the well is  
6 capable of producing from the Morrow formation and  
7 operators inform me the well will be recompleted in the  
8 Morrow formation at a later date.

9 It is capable of producing from the formation, so  
10 I have shown the well, but I don't have data for it, so  
11 I simply showed it as a location.

12 Now, the rest of the data that's given on this map  
13 is the shut-in tubing pressure on the latest available  
14 tests that I have for the wells.

15 Now, the pool has had two discoveries. The first  
16 discovery was the Fasken Avalon Well Number 1 up there  
17 in Section 1 of 21, 25 and after 107 hour shut-in on  
18 September 8, 1970, the surface tubing pressure was read  
19 as being 2575 pounds.

20 Now, the second discovery well for the pool and  
21 the Commission -- what was it, the Avalon Morrow Gas  
22 Pool for this well -- well, later on, the Hanagan  
23 Brothers drilled their well Number 1-Y in Ssection 26  
24 of 21, 25 and on January 24, 1973, took a four point  
25 test on the well. I don't have the amount of hours that

1 the well was shut in, but the shut-in tubing pressure  
2 at that time was 3313 pounds, so there we have a  
3 differential in pressure between the two discovery wells  
4 for the pool.

5 Subsequent development has shown the Fasken well  
6 is in the Catclaw Draw Pool and we have got two  
7 discovery pressures for the pool.

8 Now, just a cursory inspection of the pressure  
9 as you go across the pool either from north to south or  
10 east to west, you see varying pressures, wells that  
11 offset each other have considerable pressure differentials  
12 between them and this, to me, indicated the presence  
13 or proof of the presence of these stringers in these  
14 wells and also the fact that the stringers are not in  
15 communication with each other.

16 If they were all in communication with each other,  
17 you'd have more uniform pressure in here than you do,  
18 so, to me, this indicates there is, inasmuch as you do  
19 have this drastic differential in pressure among wells,  
20 which, in all cases cannot be accounted for by previous  
21 production, that you do have isolated stringers that are  
22 not contiguous to other wells and that these stringers  
23 have separate pressure factors in them.

24 Q All right. With respect to Mr. Ulvog's testimony and  
25 exhibits and in respect to your testimony and exhibits,

1           what conclusions can you draw?

2                   Are there any other conclusions you can draw?

3    A    Well, to me, the most obvious thing is that you can't use  
4           the poor volumn method for determining reserves under  
5           a given section in this pool because of the existence  
6           of these stringers, the fact they fade in and out and  
7           come and go, I think it eliminates the possibility of  
8           determining reserves under a given section.

9    Q    How many different ways are there of calculating or  
10           determining reservoirs?

11   A    There are only two basic means for determining reserves  
12           in a reservoir.

13                   One is the poor volumn method in which you find  
14           out what is the available space in the reservoir to hold  
15           gas, how much of that space is occupied by water or some  
16           other substance, what the pressure on that gas is in  
17           that available space and simply calculate the volumn  
18           of gas that is in that poor volumn of the reservoir.

19                   Now, as I say, you can't determine that in this  
20           pool. It's absolutely impossible to take a poor volumn  
21           calculation of wells in this pool and make a reservoir  
22           -- and make a reserve determination for that section.

23                   The other means of determining reserves is by  
24           the pressure decline method.

25                   Now, pressure decline won't give you the amount of

1 reserves under a tract. It will give you the amount of  
2 reserves available to a well, but that does not mean  
3 that those reserves are under that tract.

4 They may be coming from another tract or they may  
5 be coming from only a portion of the tract. It's just  
6 what's in communication with the well bore and as  
7 pressure declines, you can extrapolate pressure as  
8 production goes on and the pressure declines, you can  
9 extrapolate that and show much gas is going to come out  
10 of that well, but not how much gas is going to come from that  
11 tract and besides, it's too early in the life of the  
12 pool to have any production decline curves on any of the  
13 wells anyway.

14 You can take the total production decline on all  
15 of the wells in the pool and you can find out later in  
16 the life of the pool how much gas the pool is going to  
17 produce and how much gas a well is going to produce, but  
18 you simply cannot determine the amount of the gas that is  
19 under the tract and the relationship of that gas to the  
20 total gas in the pool.

21 Q So, in other words, you don't believe in this pool it's  
22 appropriate to use the pressure decline method in  
23 calculating reserves?

24 A You can't use it right now and it would be improper to  
25 use it to determine gas under the tracts if you had it



1 available.

2 Q So, do you think that it's impossible to determine the  
3 reservoir and pool reservoirs in the -- well, do you think  
4 it's impossible to calculate the total reserves and  
5 individual unit reserves in this reservoir at this time?

6 A Yes, sir, it is. It's completely impossible and  
7 unfeasible.

8 Q Well, then, on the basis of this, what would you  
9 recommend as the allocation formula for the Catclaw  
10 Draw Morrow Gas Pool?

11 A I think the most equitable means of allocating the  
12 production is on the one thing we can measure and that is  
13 the acres in a well and I would recommend a straight  
14 acreage formula in this pool.

15 Q The statute setting forth jurisdiction and functions of  
16 the Commission, Section 65329, the definition of terms,  
17 subsection 6 of this defines correlative rights as the  
18 opportunities afforded so far as it is practical to do  
19 so to the owner of each property in a pool to produce  
20 without waste his just and equitable share of the oil  
21 and gas or both in the pool being in amounts that can  
22 practically be determined, so far as can be obtained  
23 without waste substantially in a proportion the quantity  
24 of recoverable oil or gas or both, under the property  
25 bears to the total recoverable oil or gas or both in the

1 pool and for such purposes to use as just and equitable  
2 share of the reservoir energy.

3 Do you think apportioning or allocating the gas  
4 within this pool on the basis of straight acreage complied  
5 with this requirement?

6 A Yes, sir, I believe that insofar as it's practical to  
7 do so, we have allocated the reserves among the wells to  
8 -- in the pool in proportion to their reserves, insofar  
9 as it's practical to do so, if we go on a straight acreage  
10 formula.

11 Q So would you briefly summarize your recommendation for  
12 prorating this Catclaw --

13 A I'd recommend that the pool be prorated effective  
14 April 1, 1974 and that a straight acreage allocation  
15 formula be used and that if any wells come up with  
16 non-standard locations later on that don't comply with  
17 the rules, that they would have to be penalized and also  
18 that non-standard units that have more or less acreage  
19 than standard would have, an allowable in proportion to  
20 the acreage in their tract to a standard unit.

21 Q Do you have anything further to add to your testimony?

22 A Yes, sir. I would recommend that Section 35, Township  
23 21 South, Range 25 east be added to the pool.

24 This is the section containing the new Catclaw  
25 draw unit well Number 9.

1 Q And is that well within one mile of what the --

2 A Yes, it is. It's offsetting production.

3 MR.DERRYBERRY:I have nothing further of this  
4 witness and I would like to tender Commission's Exhibits  
5 through 7 as evidence.

6 MR. STAMETS: Are there any objections to the  
7 admission of these exhibits? They will be admitted.

8 CROSS EXAMINATION

9 BY MR. STAMETS:

10 Q Mr. Nutter, looking at your Exhibit Number 6, it would  
11 appear that the capacity of the wells exceeds the  
12 market demand by something like an additional 50%,  
13 looking at the month of August.

14 A Let's see. It's more than 50% Mr. Stamets because the  
15 production in August was 36,000 MCF per day and producing  
16 capacity is -- the dot is at the 57 point, but we know  
17 we have got another million there anyway, so 58 is more  
18 than 50% greater than 36. It's getting closer to 100%.

19 I don't know what the exact figure would be.

20 Q So, you wouldn't anticipate this would change and the  
21 market demand would be less than the producing capacity  
22 wells in the future?

23 A No, I don't think market demand -- yes, I do think market  
24 demand will continue.  
25

1 Q I phrased my question wrong. You gave the answer I was  
2 looking for.

3 The demand will exceed -- no, the capacity will  
4 exceed demand?

5 A I think capacity will continue to exceed demand for  
6 some time.

7 MR. STAMETS: Are there other questions of the  
8 witness?

9 (No Response.)

10 MR. STAMETS: You may be excused.

11 (Witness Excused.)

12 MR. STAMETS: Does anybody have anything they wish  
13 to offer in this case?

14 MR. BUELL: My name is Sumner Buell with the firm  
15 of Montgomery, Federici, Andrews, Hannas and Buell,  
16 appearing on behalf of Hanagan Petroleum Company and we  
17 support the Commission in this application and would  
18 request that it be prorated on an acreage basis.

19 MR. STAMETS: Anyone else have something they  
20 wish to offer at this time? No other appearances?

21 (No Response.)

22 MR. STAMETS: Mr. Derryberry, do you have anything  
23 else?

24 MR. DERRYBERRY: No, that concludes the Commission's  
25 case.

MR. STAMETS: We'll take the case under  
advisement. The hearing is adjourned.

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C E R T I F I C A T E

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

Donna Keith  
COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiners hearing of Case No. 5108, heard by me on Nov. 15, 1973.  
Richard L. Stamm, Examiner,  
New Mexico Oil Conservation Commission

I N D E X

<u>WITNESS</u>	<u>PAGE</u>
CARL ULVOG	
Direct Examination by Mr. Derryberry	2
DANIEL S. NUTTER	
Direct Examination by Mr. Derryberry	16
Cross Examination by Mr. Stamets	32

E X H I B I T S

	<u>OFFERED</u>	<u>ADMITTED</u>
Commission's Exhibits 1 through 4	15	15
Commission's Exhibits 5 through 7	32	32

MGMA BQC ABQ  
2-202948E317 11/13/73  
ICS IPMBNGZ CSP  
9156829731 MGM TDBN MIDLAND TX 100 11-13 0441P EST  
ZIP 87501



western union

**Mailgram**



► THE NEW MEXICO OIL CONSERVATION COMMISSION  
PO BOX 2088  
SANTA FE NM 87501

THIS IS REGARDING EXAMINER HEARING NOVEMBER 15 1973 CASE 5109  
UNION OIL COMPANY OF CALIFORNIA HAS WORKING INTEREST IN THE  
CATCLAW DRAW MORROW GAS POOL EDDY COUNTY NEW MEXICO AND DOES  
SUPPORT 100 PERCENT ACREAGE ALLOCATION OF ALLOWABLE PRODUCTION  
AMONG THE WELLS IN THE POOL  
L F THOMPSON DISTRICT OPERATIONS MANAGER PO BOX 671 MIDLAND  
TEXAS 79701

1642 EST

MGMA BQC ABQ

2/2



NEW MEXICO OIL CONSERVATION COMMISSION  
P. O. BOX 2088  
SANTA FE, NEW MEXICO

GAS NOMINATIONS FOR DECEMBER, 1973

SOUTHEAST POOLS

Atoka-Pennsylvanian	498,500 Mcf
Bagley-Lower Pennsylvanian	5,000 Mcf
Blinebry	3,820,820 Mcf
Bluitt-San Andres	37,000 Mcf
Buffalo Valley-Pennsylvanian	517,200 Mcf
Carlsbad-Morrow, South	3,593,200 Mcf
Carlsbad-Strawn, South	613,800 Mcf
Crosby-Devonian	124,000 Mcf
Eumont	8,798,000 Mcf
Indian Basin-Morrow	434,844 Mcf
Indian Basin-Upper Pennsylvanian	6,677,199 Mcf
Jalmat	3,590,000 Mcf
Justis	263,500 Mcf
Monument McKee-Ellenburger	314,980 Mcf
Todd-Lower San Andres	52,000 Mcf
Tubb	2,717,100 Mcf

TOTAL 32,057,143 Mcf

NORTHWEST POOLS

Basin-Dakota	17,733,500 Mcf
Blanco-Mesaverde	22,431,000 Mcf
Aztec-Pictured Cliffs	1,211,500 Mcf
Ballard-Pictured Cliffs	1,267,400 Mcf
Blanco-Pictured Cliffs, South	3,643,100 Mcf
Fulcher Kutz-Pictured Cliffs	797,400 Mcf
Kutz-Pictured Cliffs, West	339,300 Mcf
Tapacito-Pictured Cliffs	914,600 Mcf
Devils Fork-Gallup	27,900 Mcf

TOTAL 48,414,700 Mcf

TOTAL NOMINATIONS - BOTH AREAS 80,471,843 Mcf

EXHIBIT A  
Gas Allowable Hearing  
November 15, 1973

Docket No. 33-73

DOCKET: EXAMINER HEARING - THURSDAY - NOVEMBER 15, 1973

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:

- ALLOWABLE: (1) Consideration of the allowable production of gas for December, 1973, from sixteen prorated pools in Lea, Eddy, Roosevelt and Chaves Counties, New Mexico;
- (2) Consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico, for December, 1973.

CASE 5108: In the matter of the hearing called by the Oil Conservation Commission on its own motion to receive a report from the Blinebry Pool Study Committee which was appointed pursuant to the provisions of Order No. R-4536. It is expected that said committee will make recommendations and offer proposed pool rules for consideration by the Commission for the Blinebry Oil Pool and Blinebry Gas Pool, Lea County, New Mexico.

CASE 5109: In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider extending the horizontal limits of the Catclaw Draw-Morrow Gas Pool, Eddy County, New Mexico, to include all of Section 35, Township 21 South, Range 25 East.

Also to be considered will be the institution of gas prorationing in said pool to provide for fixing the total allowable natural gas production from said pool to an amount equal to reasonable market demand and to the capacity of the gas transportation facilities. Also to be considered will be the adoption of special rules and regulations for said pool including a provision for allocating the allowable production among the wells in the pool.

CASE 5110: In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider extending the horizontal limits of the Washington Ranch-Morrow Gas Pool, Eddy County, New Mexico, to include the S/2 of Section 28, Township 25 South, Range 24 East.

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(Case 5111 continued from Page 1)

Burton Flats-Morrow Gas Pool, Eddy County, New Mexico, to include the S/2 of Section 34, Township 20 South, Range 28 East, and the N/2 of Sections 8 and 9, and all of Section 10, Township 21 South, Range 27 East.

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CASE 5112: In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider extending the horizontal limits of the Burton Flats-Strawn Gas Pool, Eddy County, New Mexico, to include all of Section 10, Township 21 South, Range 27 East.

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**OIL CONSERVATION COMMISSION**

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

February 8, 1974

**I. R. TRUJILLO**  
CHAIRMAN  
**LAND COMMISSIONER**  
**ALEX J. ARMJO**  
MEMBER  
**STATE GEOLOGIST**  
**A. L. PORTER, JR.**  
SECRETARY - DIRECTOR

Mr. Sumner Buell  
Montgomery, Federici, Andrews,  
Hannahs & Buell  
Attorneys at Law  
Post Office Box 2307  
Santa Fe, New Mexico

Re: CASE NO. 5109  
ORDER NO. R-4704-A  
Applicant:  
OCC

Dear Sir:

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

Very truly yours,

*A. L. Porter, Jr.*

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC X  
Artesia OCC X  
Aztec OCC       

Other Mr. Jason Kellahin; Llano, Inc., Southern Union, Dallas,  
Inexco - 106 Mid-America Bldg. Midland; Atlantic Richfield,  
Midland; Texaco Inc. - Midland; James B. Henry, Midland, Tex.



## OIL CONSERVATION COMMISSION

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

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

January 15, 1974

Mr. Sumner Buell  
Montgomery, Federici, Andrews,  
Hannahs & Buell  
Attorneys at Law  
Post Office Box 2307  
Santa Fe, New Mexico

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Other Mr. Jason Kellahin, Llano, Inc., Southern Union, Dallas c/o  
Mr. Oran Hazeltine, Inexco - 106 Mid-America Bld., Midland, attn:  
Mr. Bernard J. Mahony

Atlantic Richfield Company - Midland, Texas  
Texaco Inc. - Midland, Texas  
Mr. James B. Henry, Henry Engineering - Midland, Texas

ARCO	Pure Fed	1-9/17/66	2200	1	2200
Hanagan	Catchaw	1-4 8/8/72	<del>2800</del> 3600		
"	"	2 8/8/72	27000	3	32800
Jensen	Qualon	1 9/12/72	2800	4	35600
Hanagan	Catchaw	4 10/27/72	13000	5	48600
"	"	6 12/6/72	8600		
"	"	5 12/9/72	2200		
"	"	7 12/14/72	11000	8	70400
	Han Bet	1 3/26/73	8400	9	78800
Inyco	Boscawitz	1 4/3/73	3600		
Inyco	McMinnst	1 4/26/73	2600	"	85000
Texaco	Levers Fed	1 9/20/73	29300	12	114300

May 70	Catclaw 7 (14)	2968	nr	1/27/73
May 70	Fasken Avalon (1)	2575	172 hrs	9/8/70
	ARCO Pure Fed (11)	1981	92 hrs	7/17/73
	Texasco Levers (12)	3470	52 hrs	8/17/72
	Catclaw 6 (13)	3118	nr	1/25/73
	Catclaw 2 (23)	2717	nr	1/29/73
	Catclaw 4 (24)	3161	nr	1/28/73
	Catclaw 5 (25)	2955	nr	nr
	Catclaw 1-4 (26)	3313	nr	1/24/73
	Catclaw 9 (35)	3309	nr	8/17/73
	Inexco McMin (18)	3086	50	7/8/73
Feb 71	Nan Bet 1 (19)	3504	71	5/23/72
	Inexco ARCO (20)	3173	96	10/9/73
	Inexco Boscowitz (30)	3265	nr	2/24/73

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CASE 5112: In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider extending the horizontal limits of the Burton Flats-Strawn Gas Pool, Eddy County, New Mexico, to include all of Section 10, Township 21 South, Range 27 East.

Also to be considered will be the institution of gas prorationing in said pool to provide for fixing the total allowable natural gas production from said pool to an amount equal to reasonable market demand and to the capacity of the gas transportation facilities. Also to be considered will be the adoption of special rules and regulations for said pool including a provision for allocating the allowable production among the wells in the pool.

CASE 5113: In the matter of the hearing called by the Oil Conservation Commission on its own motion to consider the institution of gas prorationing in the Burton Flats-Atoka Gas Pool, Eddy County, New Mexico, and to provide for fixing the total allowable natural gas production from said pool to an amount equal to reasonable market demand and to the capacity of the gas transportation facilities. Also to be considered will be the adoption of special rules and regulations for said pool including a provision for allocating the allowable production among the wells in the pool.

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

CASE NO. 5109  
Order No. R-4704-A

IN THE MATTER OF THE HEARING CALLED BY THE  
OIL CONSERVATION COMMISSION ON ITS OWN MOTION  
TO CONSIDER EXTENDING THE HORIZONTAL LIMITS OF  
THE CATCLAW DRAW-MORROW GAS POOL, EDDY COUNTY,  
NEW MEXICO, TO INCLUDE ALL OF SECTION 35,  
TOWNSHIP 21 SOUTH, RANGE 25 EAST.

CASE NO. 5111  
Order No. R-4706-A

IN THE MATTER OF THE HEARING CALLED BY THE  
OIL CONSERVATION COMMISSION ON ITS OWN MOTION  
TO CONSIDER EXTENDING THE HORIZONTAL LIMITS OF  
THE BURTON FLATS-MORROW GAS POOL, EDDY COUNTY,  
NEW MEXICO, TO INCLUDE THE S/2 OF SECTION 34,  
TOWNSHIP 20 SOUTH, RANGE 28 EAST, AND THE N/2  
OF SECTIONS 8 AND 9, AND ALL OF SECTION 10,  
TOWNSHIP 21 SOUTH, RANGE 27 EAST.

CASE NO. 5112  
Order No. R-4707-A

IN THE MATTER OF THE HEARING CALLED BY THE  
OIL CONSERVATION COMMISSION ON ITS OWN MOTION  
TO CONSIDER EXTENDING THE HORIZONTAL LIMITS OF  
THE BURTON FLATS-STRAWN GAS POOL, EDDY COUNTY,  
NEW MEXICO, TO INCLUDE ALL OF SECTION 10, TOWN-  
SHIP 21 SOUTH, RANGE 27 EAST.

NUNC PRO TUNC ORDER

BY THE COMMISSION:

(1) It appearing to the Commission that Order No. R-4704, dated January 15, 1974, which instituted gas prorationing in the Catclaw Draw-Morrow Gas Pool, Order No. R-4706, dated January 18, 1974, which instituted gas prorationing in the Burton Flats-Morrow Gas Pool, and Order No. R-4707, dated January 18, 1974, which instituted gas prorationing in the Burton Flats-Strawn Gas Pool, all in Eddy County, New Mexico, are improperly numbered due to clerical error,

IT IS THEREFORE ORDERED:

(1) That effective January 15, 1974, Order No. R-4704 is hereby renumbered Order No. R-1670-O.

(2) That effective January 18, 1974, Order No. R-4706 is hereby renumbered Order No. R-1670-P.

-2-

CASE NO. 5109  
Order No. R-4704-A

CASE NO. 5111  
Order No. R-4706-A

CASE NO. 5112  
Order No. R-4707-A

(3) That effective January 18, 1974, Order No. R-4707 is hereby renumbered Order No. R-1670-Q.

IT IS FURTHER ORDERED:

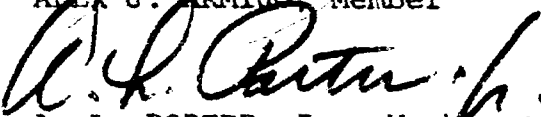
(1) That the amendments set forth in this order be entered nunc pro tunc on the above specified dates.

DONE at Santa Fe, New Mexico, this 7th day of February, 1974.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

I. R. TRUJILLO, Chairman

  
ALEX J. ARMIJO, Member

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

S E A L

dr/

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

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

CASE NO. 5109  
Order No. R-4704

IN THE MATTER OF THE HEARING CALLED BY THE  
OIL CONSERVATION COMMISSION ON ITS OWN MOTION  
TO CONSIDER EXTENDING THE POOL LIMITS OF THE  
CATCLAW DRAW-MORROW GAS POOL, EDDY COUNTY,  
NEW MEXICO, TO INCLUDE ALL OF SECTION 35,  
TOWNSHIP 21 SOUTH, RANGE 25 EAST, NMPM, TO CONSIDER  
THE INSTITUTION OF GAS PRORATIONING IN SAID  
POOL, AND TO CONSIDER THE ADOPTION OF SPECIAL  
RULES AND REGULATIONS FOR SAID POOL.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 15, 1973, at  
Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 15th day of January, 1974, 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 Order No. R-4157 dated June 21, 1971, the Commission  
created the Catclaw Draw-Morrow Gas Pool, Eddy County, New Mexico, for  
the production of gas from the Morrow formation and at that time no  
objection to the formation of said pool was received.

(3) That the horizontal limits of said pool have been extended from  
time to time by order of the Commission.

(4) That the horizontal limits of the Catclaw Draw-Morrow Gas Pool as  
defined by the Commission at the time of hearing this case comprise the  
following described area:

EDDY COUNTY, NEW MEXICO  
TOWNSHIP 21 SOUTH, RANGE 25 EAST, NMPM  
Section 1: All  
Sections 11 through 14: All  
Sections 23 through 26: All  
Section 36: All  
  
TOWNSHIP 21 SOUTH, RANGE 26 EAST, NMPM  
Sections 18 and 19: All  
Section 30: All

-2-

CASE NO. 5109  
Order No. R-4704

(5) That the Catclaw Draw-Morrow Gas Pool in Eddy County, New Mexico should be extended to include therein:

TOWNSHIP 21 SOUTH, RANGE 25 EAST, NMPM  
Section 35: All

(6) That at the time of hearing of this case, there were thirteen wells producing from the subject pool.

(7) That at the time of the hearing of this case, gas was being taken from wells producing from the subject pool by two transporters, being Llano Pipeline Company and Southern Union Gas Company.

(8) That during the month of August, 1973, the latest month for which figures are available, the total tested delivery capacity of the eleven wells which had pipeline connections within the subject pool was at least 57,241 mcf per day.

(9) That during the month of August, 1973, the actual production from the aforesaid eleven wells within the subject pool was approximately 36,000 mcf per day.

(10) That since, during the month of August, 1973, no restrictions other than market demand were placed upon the production from wells within the subject pool, actual production should be considered as market demand for gas from the pool.

(11) That during the month of August, 1973, the total delivery capacity of the wells within the subject pool exceeded market demand for gas from the subject pool.

(12) That under the conditions that now exist in the subject pool, there is a potential for non-ratable taking by pipelines from the various wells in the pool.

(13) That non-ratable taking by pipelines from the various wells in the pool would constitute a violation of correlative rights.

(14) That unrestricted production creates a potential for drainage which is not equalized by counter-drainage and that such drainage constitutes a violation of correlative rights.

(15) That the protection of correlative rights is a necessary adjunct to the prevention of waste.

(16) That in order to prevent waste and ensure that all owners of property in the subject pool have the opportunity to produce without waste their fair share of the gas in the pool, the subject pool should be prorated to limit the amount of gas to be recovered from each tract to that tract's share of the reasonable market demand for gas from the pool.

(17) That to ensure that each owner of property in the subject pool has the opportunity to produce that amount of gas that can be practicably

-3-  
CASE NO. 5109  
Order No. R-4704

obtained without waste substantially in the proportion that the recoverable gas under his tract bears to the total recoverable gas in the pool, the subject pool should be prorated in order to limit the amount of gas to be produced from the pool to the reasonable market demand and the capacity of the gas transportation facilities serving that pool.

(18) That the subject pool has not been completely developed.

(19) That production from the Morrow formation in the subject pool is from many separate stringers which vary greatly in areal extent and in porosity and thickness, both within individual stringers and between stringers.

(20) That the above-described stringers are not continuous across the pool but are interconnected by the perforations in the various completions in the pool.

(21) That due to the above-described variations in the stringers and the lack of continuity of the stringers, the effective feet of pay and the reserves underlying each developed tract cannot be practicably determined from the data obtained at the wellbore.

(22) That there are recoverable gas reserves underlying each of the developed 640-acre tracts within the horizontal limits of the subject pool; that there are 13 developed 640-acre tracts within the pool as described in Finding No. (4) above and as extended pursuant to Finding No. (5) above.

(23) That due to the nature of the reservoir, the amount of recoverable gas under each producer's tract cannot be practicably determined in the subject pool by a formula which considers effective feet of pay and pore volume.

(24) That due to the nature of the reservoir, the total amount of recoverable gas in the subject pool cannot be practicably determined by a formula which considers effective feet of pay and pore volume.

(25) That due to the nature of the reservoir, the proportion of recoverable gas underlying each tract to the total amount of recoverable gas in the subject pool cannot be practicably determined by a formula which considers effective feet of pay and pore volume.

(26) That the amount of recoverable gas under each producer's tract cannot be practicably determined in the subject pool by a formula which considers the deliverability of a well.

(27) That the total amount of recoverable gas in the subject pool cannot be practicably determined by a formula which considers the deliverability of the wells in the pool.

(28) That the proportion of recoverable gas underlying each tract to the total amount of recoverable gas in the subject pool cannot be practicably determined by a formula which considers the deliverability of the wells within the pool.

(29) That the amount of recoverable gas under each producer's tract cannot be practicably determined by a formula which considers previous production and pressure decline.

(30) That due to the early state of depletion of the subject pool, the total amount of recoverable gas in the pool cannot be practicably determined by a formula which considers previous production and pressure decline.

(31) That the proportion of recoverable gas underlying each tract to the total amount of recoverable gas in the subject pool cannot be practicably determined by a formula which considers previous production and pressure decline.

(32) That the amount of gas which can be practicably obtained without waste by the owner of each property in the subject pool substantially in the proportion that the recoverable gas under his tract bears to the total recoverable gas in the pool can be practicably determined best by allocating the allowable production among the wells on the basis of developed tract acreage compared to total developed tract acreage in the pool.

(33) That, considering the nature of the reservoir and the known extent of development, a proration formula based upon surface acreage will afford the owner of each property in the pool the opportunity to produce his just and equitable share of the gas in the pool so far as such can be practicably obtained without waste substantially in the proportion that the recoverable gas under such property bears to the total recoverable gas in the pool.

(34) That in order to prevent waste the total allowable production from each gas well producing from the subject pool should be limited to that well's share of the reasonable market demand for gas from the pool.

(35) That in order to prevent waste, the total allowable production from all gas wells producing from the subject pool should be limited to the total reasonable market demand for gas from the pool.

(36) That, considering the available reservoir information, a 100 percent surface acreage formula is the most reasonable basis for allocating the allowable production among the wells delivering to the gas transportation facilities.

(37) That, in order to prevent drainage between tracts that is not equalized by counter drainage, the allowable production from the pool should be prorated to the various producers on a just and equitable basis.

(38) That the adoption of a 100 percent surface acreage formula for allocating the allowable production in the subject pool will, insofar as is presently practicable, prevent drainage between producing tracts which is not equalized by counter drainage.

(39) That in order to ensure that each operator is afforded the opportunity to produce his property ratably with all other operators in the pool, allowable production from the pool should be prorated to the various producers upon a just and equitable basis.

-5-  
CASE NO. 5109  
Order No. R-4704

(40) That the adoption of a 100 percent surface acreage formula for allocating the allowable production in the subject pool will insofar as is presently practicable allow each operator the opportunity to produce his property ratably with all other operators in the pool.

(41) That the subject pool should be governed by the general rules and regulations for the prorated gas pools of southeastern New Mexico promulgated by Order No. R-1670 as amended insofar as such general rules and regulations are not inconsistent with this order or the special rules and regulations for the subject pool promulgated by this order.

IT IS THEREFORE ORDERED:

(1) That the Catclaw Draw-Morrow Gas Pool in Eddy County, New Mexico, as heretofore classified, defined and described, is hereby extended to include therein:

TOWNSHIP 21 SOUTH, RANGE 25 EAST, NMPM  
Section 35: All

(2) That the Catclaw Draw-Morrow Gas Pool in Eddy County, New Mexico is hereby prorated effective April 1, 1974.

(3) That the subject pool shall be governed by the general rules and regulations for the prorated gas pools of southeastern New Mexico promulgated by Order No. R-1670 as amended insofar as such general rules and regulations are not inconsistent with this order or the special rules and regulations for the subject pool as hereinafter set forth in which event the special rules shall apply.

SPECIAL RULES AND REGULATIONS  
FOR THE  
CATCLAW DRAW-MORROW GAS POOL

A. WELL LOCATION AND ACREAGE REQUIREMENTS

RULE 1. Each well completed or recompleted in the Catclaw Draw-Morrow Gas Pool or in the Morrow formation within one mile thereof and not nearer to nor within the boundaries of another pool producing from the Morrow formation shall be spaced, drilled, operated and prorated in accordance with the rules for the Catclaw Draw-Morrow Gas Pool as set forth herein.

RULE 2. Each well shall be located no nearer than 1650 feet to the outer boundary of the section nor nearer than 330 feet to any governmental quarter-quarter section line.

C. ALLOCATION AND GRANTING OF ALLOWABLES

RULE 3. (A) The total allowable to be allocated to gas wells in the pool regulated by this order each month shall be equal to the sum of the "preliminary" or "supplemental" nominations (whichever is applicable) together with any adjustments which the Commission deems advisable. The allowable remaining each month after deducting the total



-6-

CASE NO. 5109

Order No. R-4704

allowable assigned to marginal wells shall be allocated among the non-marginal wells entitled to an allowable in the proportion that each well's acreage factor bears to the total of the acreage factors for all non-marginal gas wells in the pool.

RULE 8. (B) Allowables to newly completed gas wells shall commence on the day of connection to a gas transportation facility as determined from an affidavit furnished to the Commission (Drawer DD, Artesia, New Mexico 88210) by the purchaser or the date of filing of Form C-104 and a plat (Form C-102) whichever data is the latter.

RULE 9. (A) A standard unit consisting of 640 acres shall be assigned an acreage factor of 1.00, provided however, the acreage tolerances provided in Rule 5 (A) shall apply.

C. GENERAL

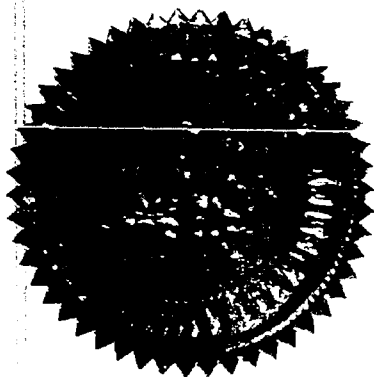
RULE 25. The vertical limits of the Catclaw Draw-Morrow Gas Pool shall be the Morrow formation.

RULE 26. The first proration period for the Catclaw Draw-Morrow Gas Pool shall commence on April 1, 1974.

IT IS FURTHER ORDERED:

(1) 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.



S E A L

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*I. R. Trujillo*  
I. R. TRUJILLO, Chairman

*Alex J. Armiijo*  
ALEX J. ARMIJO, Member

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

Jr/

Case 5109 Ben Dorgan

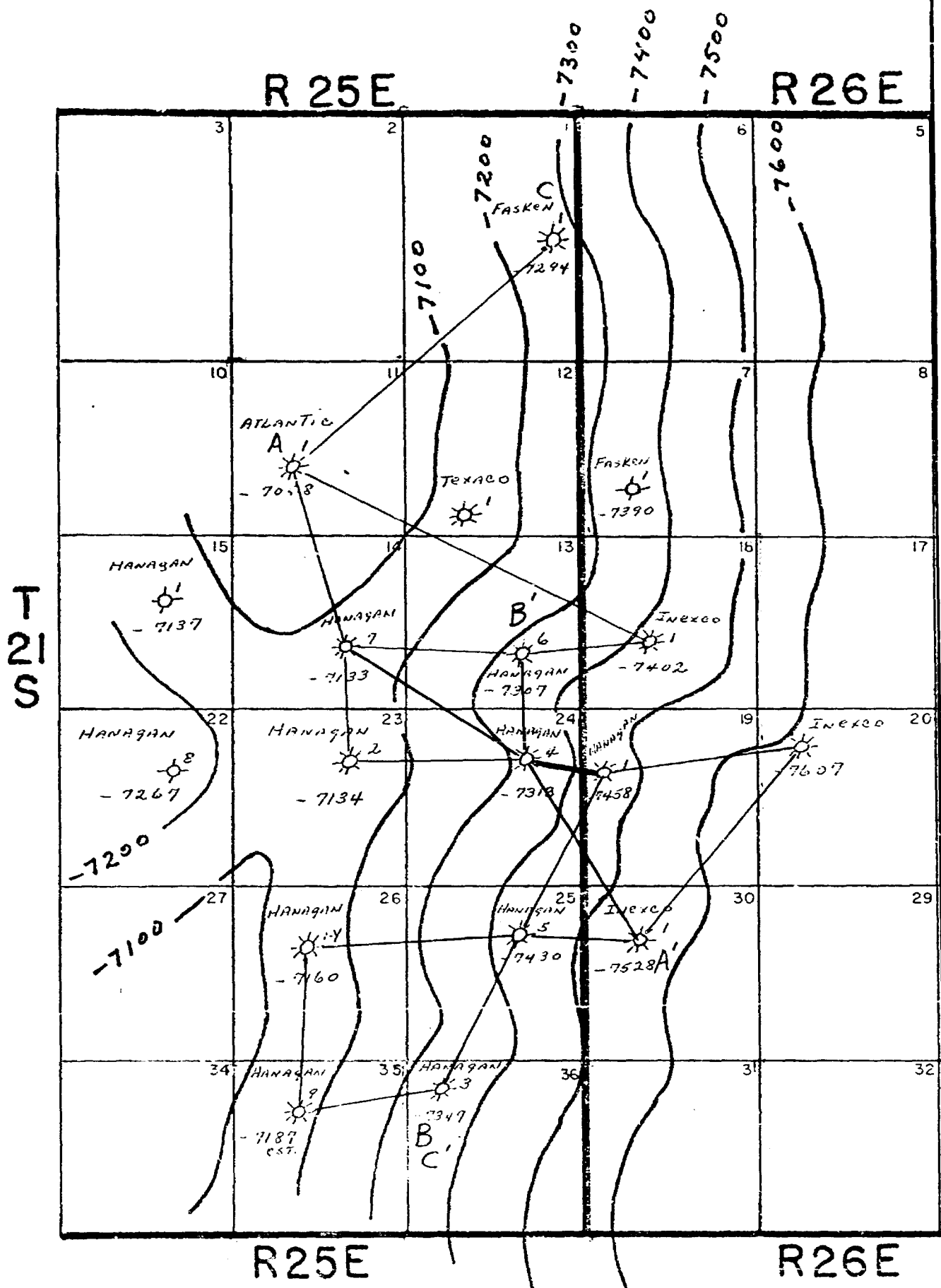
Ex 1

Ex 2

5

Ex 6

Ex 7



N.M. Oil Conservation Commission

# STRUCTURE MAP

CATCLAW DRAW  
MORROW GAS POOL

Base Morrow - Top Barnett

Carl Ulvog

Nov. 1973

PC 5

CATCLAW DRAW MORROW GAS POOL

AUG '73 ACTUAL DELIVERY CAPACITY

BETTER WELLS (BY TEST)

LEASE	WELL NO.	MCF PER DAY	FTP	LP
CATCLAW DRAW UNIT	1-Y	3614	760	710
"	2	10913	830	730
"	4	9709	750	700
"	6	5929	840	705
"	7	7887	1000	700
NAN-BET	1	14500		
TOTAL		52552		

POORER WELLS (FROM AUG. PRODUCTION)

LEASE	WELL NO.	MCF PER DAY
AVALON	1	100
PURE FED.	1	1009 <i>should be 1000</i>
CATCLAW DRAW UNIT	5	1134
BOSCOWITZ	1	944 <i>should be 1000</i>
MC MINN ST.	1	1502
TOTAL		4689

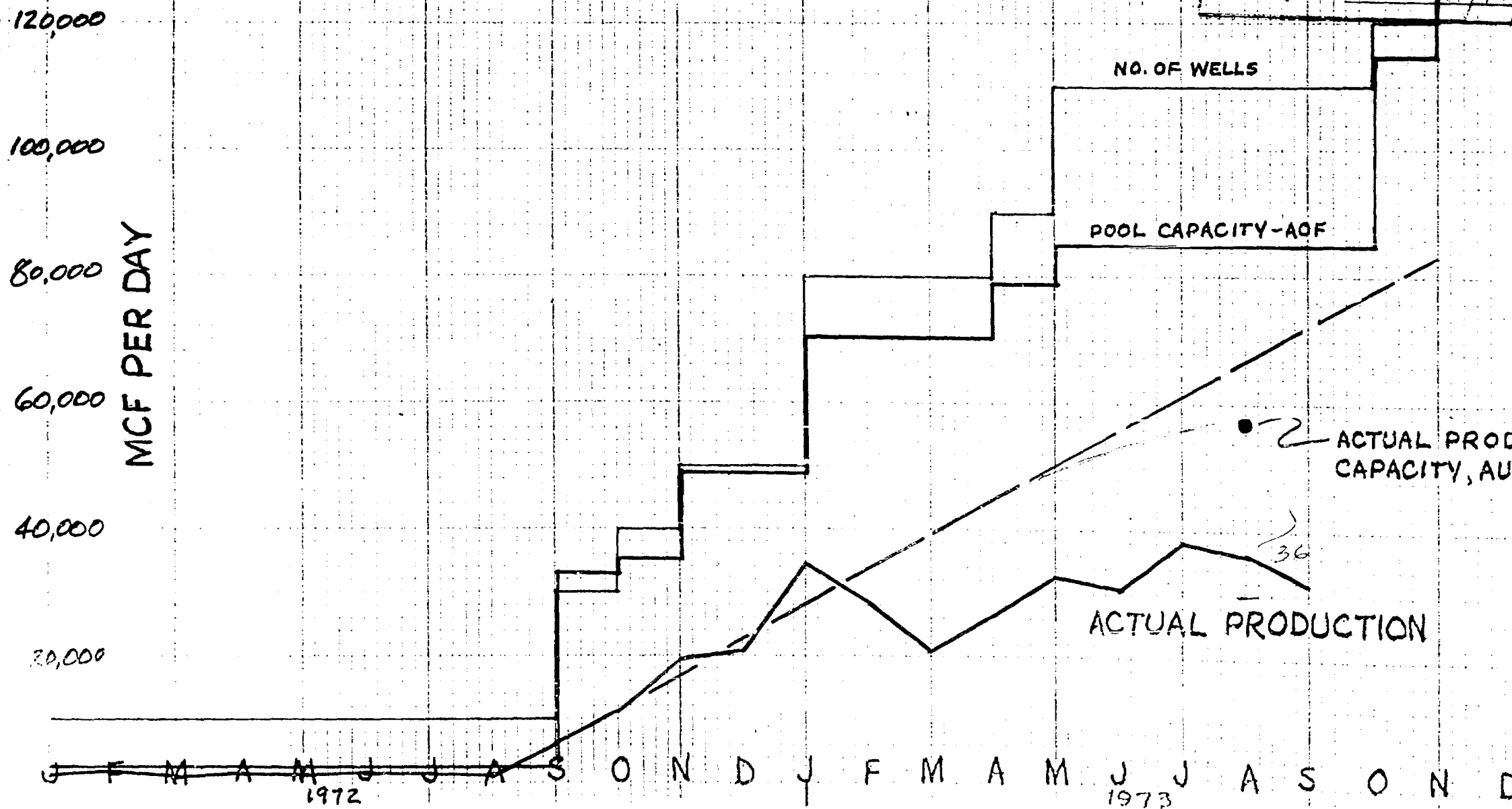
BEFORE EXAMINER STAMPS  
OIL CONSERVATION COMMISSION  
EXAMINER NO. 5  
POOL TOTAL 5109  
Submitted by N. H. H. H.  
Hearing Date 11/15

57,241 MCF/DAY

# CATCLAW DRAW-MORROW GAS POOL

EDDY COUNTY  
NEW MEXICO

FOR EXAMINER STATE  
CONSULTATION COMMISSION  
000 EXHIBIT NO. 3  
CASE NO. 5109  
Submitted by Nutter  
Hearing Date 11/13

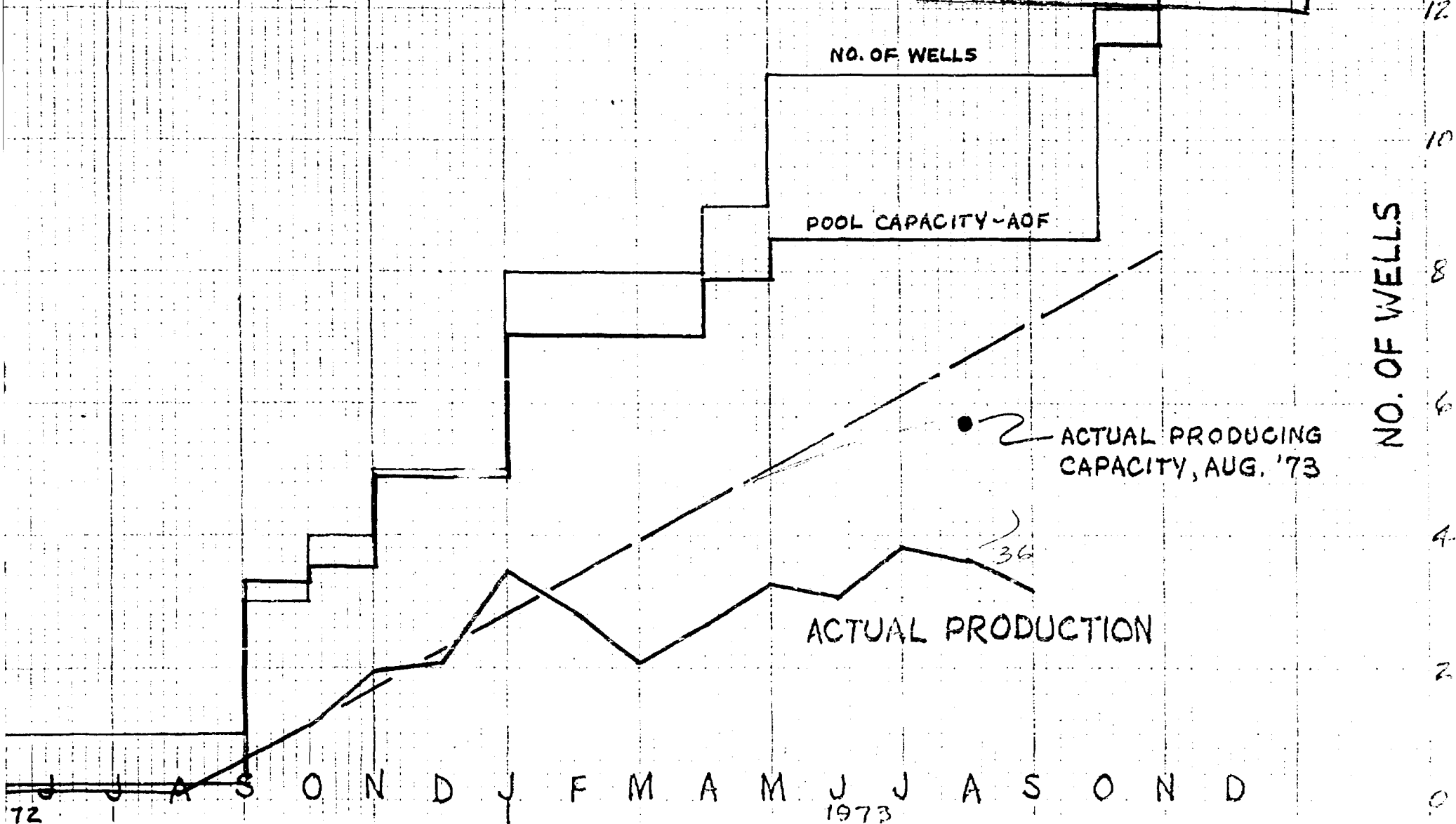


# ATCLAW DRAW-MORROW GAS POOL

EDDY COUNTY  
NEW MEXICO

EXG

FOR EXAMINER STAMETS	
CONS. COMMISSION	
000 EXHIBIT NO. 6	
CASE NO. 5109	
Submitted by Nuttall	
Hearing Date 11/15/73	



In the matter of the hearing called  
by the Oil Conservation Commission  
on its own motion to consider  
extending the horizontal limits of the  
Cotlow Draw - Morrow Gas Pool,  
Eddy County, New Mexico, to include  
all of Section 35, Township 21 South,  
Range 25 East.

Also to be considered will be the  
institution of gas prorationing in  
said pool to provide for fixing  
the total allowable natural gas  
production from said pool to an  
amount equal to reasonable  
market demand and to the  
capacity of the gas transportation  
facilities. Also to be considered  
will be the adoption of special  
rules and regulations for said pool  
including a provision for allocat-  
ing the allowable production  
among the wells in the pool.

DRAFT

DSN/dr

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING CALLED BY THE  
OIL CONSERVATION COMMISSION ON ITS OWN MOTION  
TO CONSIDER EXTENDING THE HORIZONTAL LIMITS OF  
THE CATCLAW DRAW-MORROW GAS POOL, EDDY COUNTY,  
NEW MEXICO, TO INCLUDE ALL OF SECTION 35,  
TOWNSHIP 21 SOUTH, RANGE 25 EAST.

CASE NO. 5109  
Order No. R-4704-A

IN THE MATTER OF THE HEARING CALLED BY THE  
OIL CONSERVATION COMMISSION ON ITS OWN MOTION  
TO CONSIDER EXTENDING THE HORIZONTAL LIMITS OF  
THE BURTON FLATS-MORROW GAS POOL, EDDY COUNTY,  
NEW MEXICO, TO INCLUDE THE S/2 OF SECTION 34,  
TOWNSHIP 20 SOUTH, RANGE 28 EAST, AND THE N/2  
OF SECTIONS 8 AND 9, AND ALL OF SECTION 10,  
TOWNSHIP 21 SOUTH, RANGE 27 EAST.

CASE NO. 5111  
Order No. R-4706-A

IN THE MATTER OF THE HEARING CALLED BY THE  
OIL CONSERVATION COMMISSION ON ITS OWN MOTION  
TO CONSIDER EXTENDING THE HORIZONTAL LIMITS OF  
THE BURTON FLATS-STRAWN GAS POOL, EDDY COUNTY,  
NEW MEXICO, TO INCLUDE ALL OF SECTION 10, TOWN-  
SHIP 21 SOUTH, RANGE 27 EAST.

CASE NO. 5112  
Order No. R-4707-A

NUNC PRO TUNC ORDER OF THE COMMISSION

(1) It appearing to the Commission that Order No. R-4704, dated January 15, 1974, which instituted gas prorationing in the Catclaw Draw-Morrow Gas Pool; Order No. R-4706, dated January 18, 1974, which instituted gas prorationing in the Burton Flats-Morrow Gas Pool, and Order No. R-4707, dated January 18, 1974, which instituted gas prorationing in the Burton Flats-Strawn Gas Pool, all in Eddy County, New Mexico, are improperly numbered due to clerical error,

IT IS THEREFORE ORDERED:

- (1) That effective January 15, 1974, Order No. R-4704 is hereby renumbered Order No. R-1670-O.
- (2) That effective January 18, 1974, Order No. R-4706 is hereby renumbered Order No. R-1670-P.



-2-

CASE NO. 5109  
Order No. R-4704-A

CASE NO. 5111  
Order No. R-4706-A

CASE NO. 5112  
Order No. R-4707-A

(3) That effective January 18, 1974, Order No. R-4707 is hereby renumbered Order No. R-1670-Q.

IT IS FURTHER ORDERED:

(1) That the amendments set forth in this order be entered nunc pro tunc on the above specified dates.

DONE at Santa Fe, New Mexico, this \_\_\_\_\_ day of February, 1974.

DPATM

TWD/jr

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. 5108

Order No. R-4704

IN THE MATTER OF THE HEARING CALLED  
BY THE OIL COMMISSION ON ITS OWN MOTION  
TO CONSIDER EXTENDING THE POOL LIMITS OF  
THE CATCLAW DRAW-MORROW GAS POOL, EDDY COUNTY,  
NEW MEXICO, TO INCLUDE ALL OF SECTION 35 TOWNSHIP  
21 SOUTH, RANGE 25 EAST, NMPM, TO CONSIDER THE  
INSTITUTION OF GAS PRORATIONING IN SAID POOL, AND TO  
CONSIDER THE ADOPTION OF SPECIAL RULES AND REGULATIONS  
FOR SAID POOL.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 15, 1973,  
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this January day of December, 1973, 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 Order No. R-4157 dated June 21, 1971, the  
Commission created the Catclaw Draw-Morrow Gas Pool, Eddy County,  
New Mexico for the production of gas from the Morrow formation and  
at that time no objection to the formation of said pool was received.

(3) That the horizontal limits of said pool have been extended  
from time to time by order of the Commission.

(5) That the Catclaw Draw-Morrow Gas Pool is Eddy County, New Mexico should be extended to include therein:  
TOWNSHIP 21 SOUTH, RANGE 25 EAST, NMPM  
Section 35: All

(4) That the horizontal limits of the Catclaw Draw-Morrow Gas Pool as defined by the Commission at the time of hearing this case comprise the following described area:

EDDY COUNTY, NEW MEXICO  
TOWNSHIP 21 SOUTH, RANGE 25 EAST, NMPM  
Sections 1, 11 through 14,  
23 through 26, 36: All  
  
TOWNSHIP 21 SOUTH, RANGE 26 EAST, NMPM  
Sections 18, 19, 30: All

(6) That at the time of hearing of this case there were  
13 wells producing from the subject pool.

(7) That at the time of the hearing of this case, gas was being taken from wells producing from the subject pool by TWO transporters, ~~there~~ being Llano Pipeline Company and Southern Union Gas Company.

(8) That during the month of August, 1973, the latest month for which figures are available, the total tested deliver~~ing~~<sup>ing</sup> capacity of the wells within the subject pool was at least 57,241 mcf per day.  
<sup>eleven which had pipeline connections</sup>

(9) That during the month of August, 1973, the actual production <sup>the aforesaid eleven</sup> from wells within the subject pool was approximately 36,000 mcf per day.

<sup>the market demand</sup>  
(10) That since, during the month of August, 1973, no restrictions <sup>other</sup> were placed upon the production from wells within the subject pool, ~~actual~~ <sup>the</sup> production should be considered as market demand ~~for purposes~~ of determining whether to institute prorationing <sup>for gas from the</sup> in the subject pool.

(11) That during the month of August, 1973, the total deliver~~ing~~<sup>ing</sup> capacity of the wells within the subject pool exceeded market demand for gas from the subject pool.

(12) That under the conditions that now exist in the subject pool, there ~~exists~~ <sup>is</sup> a potential for non-ratable taking by pipelines from the various wells in the pool, ~~and for violation of correlative rights~~ through unrestricted production from the various wells within the pool.

(13) That non-ratable taking by pipelines from the various wells in the pool would constitute a violation of correlative rights.

(14) That a non-ratable production from the subject pool is a potential for ~~drainage~~ <sup>drainage</sup> which is not equitably ~~by~~ <sup>by</sup> ~~drainage~~ <sup>drainage</sup> and that such drainage constitutes a violation of correlative rights.

(15) That the protection of correlative rights is a necessary part of the prorationing of gas.

(16) ~~(21)~~ That in order to prevent waste and ensure that all owners of property in the subject pool have the opportunity to produce their <sup>without waste</sup> fair share of the gas <sup>in the pool,</sup> the subject pool should be prorated ~~in order to limit~~ the amount of gas to be recovered from each tract to <sup>that tract's share</sup> the reasonable ~~market demand for gas from that tract~~ <sup>for gas</sup> which can be produced without waste.

(17) ~~(21)~~ That to ensure that each owner of property in the subject pool has the opportunity to produce that amount of gas that can be practicably obtained without waste substantially in the proportion that the recoverable gas under his tract bears to the total recoverable gas in the pool, ~~the~~ subject pool should be prorated in order to limit the amount of gas to be produced from the pool to the reasonable market demand and the capacity of the gas transportation facilities serving that pool.

(18) ~~(21)~~ That the subject pool has not been completely developed.

(19) ~~(21)~~ That production from the Morrow formation in the subject pool is from many separate stringers which vary greatly <sup>in areal extent and in</sup> porosity, ~~and thickness, both within individual stringers and between stringers.~~

(20) ~~(21)~~ That the above-described stringers are not continuous across the pool but are <sup>interconnected</sup> ~~inner connected~~ by the perforations in the various completions in the pool.

(21) ~~(21)~~ That due to the above-described variations in the stringers and the lack of <sup>continuity</sup> ~~continuation~~ of the stringers, the effective feet of pay <sup>and the reserves underlying each</sup> ~~porosity of the pay and water saturation of the pay~~ <sup>underlying</sup> ~~each~~ developed tract cannot be practicably determined from the data <sup>obtained</sup> ~~attained~~ at the wellbore.

(22) ~~(21)~~ That there are recoverable gas reserves <sup>underlying</sup> ~~underlying~~ each of the developed <sup>640</sup> ~~528~~-acre tracts within the horizontal limits of the subject pool; that there are <sup>640</sup> ~~528~~ developed <sup>640</sup> ~~528~~-acre tracts in the pool as defined by the Commission.

(23) ~~That~~ That due to the nature of the reservoir, the amount of recoverable gas under each producer's tract cannot be practicably determined in the subject pool by a formula which considers effective feet of pay ~~porosity and water saturation~~. and pore volume.

(24) That due to the nature of the reservoir, the <sup>total</sup> amount of recoverable gas in the subject pool cannot be practicably determined by a formula which considers effective feet of pay and pore volume.

(25) That due to the nature of the reservoir, the proportion of <sup>recoverable</sup> gas underlying each tract to the total amount of recoverable gas in the subject pool cannot be practicably determined by a formula which considers effective feet of pay and pore volume.

(26) That ~~due to the nature of the reservoir~~ the amount of recoverable gas under each producer's tract cannot be practicably determined in the subject pool by a formula which considers ~~only~~ the deliverability of a well.

(27) That the total amount of recoverable gas in the subject pool cannot be practicably determined by a formula which considers ~~only~~ the deliverability of the wells in the pool.

(28) That the proportion of recoverable gas underlying each tract to the total amount of recoverable gas in the subject pool cannot be practicably determined by a formula which considers ~~only~~ the deliverability of <sup>the</sup> wells.

(29) That the amount of ~~gas~~ recoverable gas under each producer's tract cannot be practicably determined by a formula which considers previous production and pressure decline.

(30) That due to the early state of depletion of the subject pool, the total amount of recoverable gas in the pool cannot be practicably determined by a formula which considers previous production and pressure decline.

(31) That the proportion of recoverable gas underlying each tract to the total amount of recoverable gas in the subject pool cannot be practicably determined by a formula which considers previous production and pressure decline.

within the pool.

(32) ~~(20)~~ That the amount of gas ~~which can~~ be practicably <sup>obtained</sup> attained

without waste by the owner of each property in the subject pool substantially in the proportion that the recoverable gas under his tract bears to the total recoverable gas in the pool can be practicably determined best by allocating ~~to~~ allowable production among the wells on the basis of developed tract acreage compared to total developed tract acreage in the pool.

(33) ~~(21)~~ That, considering the nature of the reservoir and the known extent of development, a proration formula based upon surface acreage will afford the owner of each property in the pool the opportunity to produce his just and equitable share of the gas in the pool so far as such can be practicably obtained without waste substantially in the proportion that the recoverable gas under such property bears to the total recoverable gas in the pool.

(34) ~~(22)~~ That in order to prevent waste the total allowable production from each gas well producing from the subject pool should be limited to <sup>that each well's share of the</sup> the reasonable market demand for gas from <sup>the pool.</sup> that well.

(35) ~~(23)~~ That in order to prevent waste the total allowable production from all gas wells producing from the subject pool should be limited to <sup>total</sup> the reasonable market demand for gas from the pool.

~~(36) That in order to prevent waste the total allowable production from gas wells in the subject pool should be limited to the capacity of the gas transportation system for the subject pool's share of said transportation facility.~~

(27) That, considering the available reservoir information, a 100 percent surface acreage formula is ~~presently~~ the most reasonable basis for allocating the allowable production among the wells delivering to the gas transportation facilities.

(28) That, in order to prevent drainage ~~drainage~~ between tracts that is not equalized by counter drainage, the allowable production from the pool should be prorated to the various producers on a just and equitable basis.

(29) That the adoption of a 100 percent surface acreage formula for allocating the allowable production in the subject pool will, insofar as is presently practicable, prevent drainage between producing tracts which is not equalized by counter drainage.

(30) That in order to ensure that each operator is afforded the opportunity to produce his property ratably with all other operators ~~connected to the same gas transportation facility,~~ <sup>in the pool,</sup> allowable production from the pool should be prorated to the various producers upon a just and equitable basis.

(31) That the adoption of a 100 percent surface acreage formula for allocating the allowable production in the subject pool will insofar as is presently practicable allow each operator the opportunity to produce his property ratably with all other operators ~~connected to the~~ <sup>in the pool,</sup> ~~same transportation facility.~~

(32) That the subject pool should be governed by the general rules and regulations for the prorated gas pools of southeastern New Mexico promulgated by Order No. R-1679 as amended insofar as such general rules and regulations are not inconsistent with this order or the special rules and regulations for the subject pool promulgated by this order.

(1) That the Catclaw Draw-Morrow Gas Pool in Eddy County, New Mexico, as heretofore classified, defined and described, is hereby extended to include therein: TOWNSHIP 31 SOUTH, RANGE 25 EAST NMPM  
Section 35: All

-6-

CASE NO. 5108

Order No. R-

IT IS THEREFORE ORDERED:

(2) That the Catclaw Draw-Morrow Gas Pool in Eddy County, New Mexico is hereby prorated effective April 1, 1974.

(3) That the subject pool shall be governed by the general rules and regulations for the prorated gas pools of southeastern New Mexico promulgated by Order No. R-1670 as amended insofar as such general rules and regulations are not inconsistent with this order or the special rules and regulations for the subject pool as hereinafter set forth in which event the special rules shall apply.

SPECIAL RULES AND REGULATIONS  
FOR THE  
CATCLAW DRAW-MORROW GAS POOL

A. WELL LOCATION AND ACREAGE REQUIREMENTS

RULE 1. Each well completed or recompleted in the Catclaw Draw-Morrow Gas Pool or in the Morrow formation within one mile thereof and not nearer to nor within the boundaries of another pool producing from the Morrow formation shall be spaced, drilled, operated and prorated in accordance with the rules for the Catclaw Draw-Morrow Gas Pool as set forth herein.

RULE 2. Each well shall be located no nearer than 1650 feet to the outer boundary of the section ~~and~~ nor nearer than 330 feet to any governmental quarter-quarter section ~~line~~. *line.*

C. ALLOCATION AND GRANTING OF ALLOWABLES

RULE 8. (A) The total allowable to be allocated to gas wells in the pool regulated by this order each month shall be equal to the sum of the "preliminary" or "supplemental" nominations (which ever is applicable) together with any adjustments which the Commission deems advisable. The allowable remaining each month after deducting the total allowable assigned to marginal wells shall be allocated among the non-marginal wells entitled to an allowable in the <sup>pro</sup>portion that each well's acreage factor bears to the total of the acreage factors for all non-marginal gas wells in the pool.



-7-

CASE NO. 5108  
Order No. R-

RULE 8. (B) Allowables to newly completed gas wells shall commence on the day of connection to a gas transportation facility as determined from an affidavit furnished to the Commission (Drawer DD, Artesia New Mexico, 88210) by the purchaser or the date of filing of form C-104 and a plat (Form C-102) which ever data is the later.

RULE 9. (A) A standard unit consisting of 640 acres shall be assigned an acreage factor of 1.00, *provided however, the acreage tolerances provided in Rule 5(A) shall apply.*  
C. GENERAL

RULE 25. The vertical limits of the Catclaw Draw-Morrow Gas Pool shall be the Morrow formation.

RULE 26. The first proration period for the Catclaw Draw-Morrow Gas Pool shall commence on April 1, 1974.

IT IS FURTHER ORDERED:

(1) 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.