

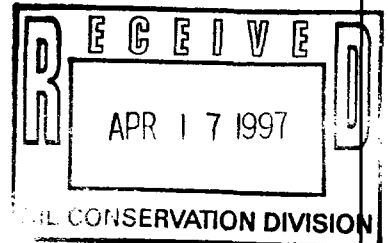
STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT  
OIL CONSERVATION DIVISION

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

CASE NO. 11,040

IN THE MATTER OF CASE NO. 11,040 BEING )  
REOPENED PURSUANT TO THE PROVISIONS OF )  
DIVISION ORDER NO. R-5353-O-1, WHICH )  
ORDER PROMULGATED TEMPORARY SPECIAL )  
RULES AND REGULATIONS FOR THE BURTON )  
FLAT-BONE SPRING ASSOCIATED POOL IN )  
EDDY COUNTY, NEW MEXICO )

ORIGINAL



REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: DAVID R. CATANACH, Hearing Examiner

March 20th, 1997

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, DAVID R. CATANACH, Hearing Examiner, on Thursday, March 20th, 1997, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

\* \* \*

STEVEN T. BRENNER, CCR  
(505) 989-9317

## I N D E X

March 20th, 1997  
 Examiner Hearing  
 CASE NO. 11,040

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APPLICANT'S WITNESSES:	
<u>SHANE LOUGH</u> (Geologist)	
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<u>RICHARD GILL</u> (Engineer)	
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\* \* \*

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\* \* \*

## A P P E A R A N C E S

FOR THE DIVISION:

RAND L. CARROLL  
Attorney at Law  
Legal Counsel to the Division  
2040 South Pacheco  
Santa Fe, New Mexico 87505

FOR MARALO, INC.:

CAMPBELL, CARR, BERGE and SHERIDAN, P.A.  
Suite 1 - 110 N. Guadalupe  
P.O. Box 2208  
Santa Fe, New Mexico 87504-2208  
By: WILLIAM F. CARR

\* \* \*

1           WHEREUPON, the following proceedings were had at  
2   11:42 a.m.:

3

4           EXAMINER CATANACH: At this time we'll call Case  
5   11,040.

6           MR. CARROLL: In the matter of Case Number 11,040  
7   being reopened pursuant to the provisions of Division Order  
8   Number R-5353-0-1, which order promulgated temporary  
9   special rules and regulations for the Burton Flat-Bone  
10   Spring Associated Pool in Eddy County, New Mexico.

11           EXAMINER CATANACH: One correction. I believe  
12   that's R-5353-"0"-1.

13           MR. CARROLL: What did I say?

14           EXAMINER CATANACH: You said "zero"-1.

15           Are there appearances in this case?

16           MR. CARR: May it please the Examiner, my name is  
17   William F. Carr with the Santa Fe law firm Campbell, Carr,  
18   Berge and Sheridan. We represent Maralo, Inc., in this  
19   matter.

20           Maralo was the Applicant in the original case, in  
21   which temporary rules were established for the Burton Flat  
22   Bone Spring Associated Pool.

23           I have two witnesses.

24           EXAMINER CATANACH: Okay, can I get the witnesses  
25   to stand and be sworn in?

1 (Thereupon, the witnesses were sworn.)

2 SHANE LOUGH,

3 the witness herein, after having been first duly sworn upon  
4 his oath, was examined and testified as follows:

5 DIRECT EXAMINATION

6 BY MR. CARR:

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

8 A. Shane Lough.

9 Q. And where do you reside?

10 A. Odessa, Texas.

11 Q. By whom are you employed?

12 A. Maralo.

13 Q. What is your position with Maralo?

14 A. Geologist.

15 Q. Mr. Lough, have you previously testified before  
16 this Division and had your credentials as an expert in  
17 petroleum geology accepted and made a matter of record?

18 A. I have.

19 Q. Are you familiar with the Application filed in  
20 the original case on behalf of Maralo?

21 A. Yes.

22 Q. Are you familiar with the area which is involved  
23 in and about the Burton Flat Bone Spring Associated Pool?

24 A. Yes.

25 Q. Have you prepared a geological study of the area?

1           A.    Yes.

2           Q.    Have you prepared a review of the results of that  
3 study with Mr. Catanach?

4           A.    I have.

5           MR. CARR: Are the witness's qualifications  
6 acceptable?

7           EXAMINER CATANACH: Yes, they are.

8           Q.    (By Mr. Carr) Mr. Lough, could you briefly state  
9 what is being sought in this case?

10          A.    Yes, adoption of permanent pool rules for the  
11 Burton Flat-Bone Spring Associated Pool, including  
12 maintaining classification as an associated pool, a GOR of  
13 5000 to 1, and reversion to statewide spacing of 40 acres  
14 for oil wells and 160 acres for gas wells.

15          Q.    When was this case originally presented to the  
16 Oil Conservation Division?

17          A.    Originally in July, 1994, and subsequently in  
18 September of 1995.

19          Q.    At this time, is there adequate data available on  
20 the reservoir to enter an order establishing permanent  
21 rules for the pool?

22          A.    We believe there is.

23          Q.    Have you prepared certain exhibits for  
24 presentation in this case?

25          A.    Yes.

1 Q. These are actually the same exhibits that were  
2 presented in earlier hearings; is that not correct?

3 A. That's correct.

4 Q. And the initials on the exhibit show they were  
5 prepared by J.T. Who is that?

6 A. John Thoma.

7 Q. And he was with Maralo at that time?

8 A. That's correct.

9 Q. Have you reviewed the exhibits, and can you  
10 testify as to their accuracy?

11 A. Yes, I have.

12 Q. All right, let's go to Exhibit Number 1. Can you  
13 identify and review this for Mr. Catanach?

14 A. Yes, this is a structure map on the top of the  
15 first Bone Spring sand, which is the pay sand for the  
16 reservoir.

17 It shows the current producing well locations, it  
18 shows two additional locations that Merit Energy plans to  
19 drill during the summer, the red triangles.

20 And it shows the structural relationship of the  
21 pay sand, being primarily a structural monocline dipping to  
22 the east southeast with a structural nose across our  
23 acreage.

24 Q. What are the current boundaries for this pool, as  
25 defined by the Division?

1           A.    Section 32 of Township 20 South, Range 28 East,  
2   being the east half in the northwest quarter, and the  
3   northeast quarter of Section 4 of Township 21 South and 27  
4   East.

5           Q.    Okay, let's go to Exhibit Number 2, the isopach.  
6   Would you review that for the Examiner?

7           A.    Yes, this is an isopach of the first Bone Spring  
8   sand, again, the pay sand for the reservoir, and it's  
9   showing the depositional boundaries of the sand as well as  
10   the thickness of the sand.

11                   And again, it shows the producing wells and the  
12   proposed wells by Merit.

13           Q.    And Exhibit Number 3?

14           A.    Exhibit Number 3 is a land plat that shows the  
15   ownership of the -- within the pool.

16           Q.    And who are the current owners? Are they --

17           A.    Currently, Maralo and Merit Energy.

18           Q.    Those are the only operators of wells in the  
19   pool?

20           A.    That's correct.

21           Q.    Will Maralo call an engineering witness to review  
22   the technical portion of this case?

23           A.    Yes.

24           Q.    Were Exhibits 1 through 3 compiled under your  
25   direction?



1 A. Yes.

2 MR. CARR: At this time, Mr. Catanach, we would  
3 move the admission into evidence of Maralo Exhibits 1  
4 through 3.

5 EXAMINER CATANACH: Exhibits 1 through 3 will be  
6 admitted as evidence.

7 MR. CARR: That concludes my direct examination  
8 of Mr. Lough.

9 EXAMINATION

10 BY EXAMINER CATANACH:

11 Q. Mr. Lough, is the well in Section 29, is that not  
12 within this pool?

13 A. That's correct, it's not within the Burton Flat  
14 Bone Spring Pool.

15 Q. Okay. Of the wells that -- Let's see. Does  
16 Maralo operate all the wells in Section 32?

17 A. Yes, we do.

18 Q. And who operates the well in the northeast  
19 quarter of Section 4?

20 A. Merit Energy.

21 Q. Okay, and they plan to drill two additional  
22 wells?

23 A. That's correct, uh-huh.

24 Q. Okay. Can you tell me which wells at this time  
25 are gas wells in this pool?

1           A.    Yes, I can.

2                   We have an engineering witness that can probably  
3 better address that, but if you would like for me to point  
4 those out, I can.

5           Q.    I can wait for the engineer if you want.

6           A.    Okay.

7           Q.    Do the gas wells that exist in this pool at this  
8 time -- are they related to structure?

9           A.    Yes, they are.

10          Q.    They are?

11          A.    Uh-huh.

12          Q.    Okay. So they're high on the structure?

13          A.    They're high on the structure, yes, sir.

14          Q.    So in your opinion this is a pool that has a gas  
15 cap involved in it?

16          A.    That's correct.

17          Q.    Okay. Is the current spacing 80 acres for oil  
18 wells?

19          A.    That's what -- The temporary rules were 80 acres  
20 for oil wells, yes, sir.

21          Q.    Okay. And Maralo seeks to reduce that to  
22 statewide 40 acres?

23          A.    Correct.

24          Q.    And the current gas spacing is 160?

25          A.    Yes, sir.

1 Q. Okay, that's going to stay the same.

2 Do you know what the current GOR is?

3 A. Again, our engineering witness can probably  
4 better address that question.

5 Q. Okay. What do you think is going to be the  
6 extent of development in this pool?

7 A. We don't foresee a tremendous amount of further  
8 development beyond the two wells that Merit plans.

9 Now, Merit -- Those wells that Merit has planned  
10 to drill, they're pretty well set in motion. They're  
11 almost certain that they're going to drill those two.

12 If the well nearest our acreage becomes -- is  
13 drilled and actually looks like it's going to be a pretty  
14 commercial well, then we would seriously consider  
15 offsetting it on our acreage in 32.

16 But if the wells are drilled and are completed as  
17 the ones that are currently producing in the pool and are  
18 not significantly better than those, then we probably would  
19 not do any additional development work. The wells are  
20 marginally economic.

21 Q. You don't plan any additional development, say,  
22 in the southwest quarter of 32?

23 A. No, we do not.

24 EXAMINER CATANACH: I have nothing further.

25 MR. CARR: At this time we call Richard Gill.

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RICHARD GILL,

the witness herein, after having been first duly sworn upon  
his oath, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CARR:

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

A. My name is Richard Gill.

Q. Where do you reside?

A. In Midland, Texas.

Q. By whom are you employed?

A. Maralo, Incorporated.

Q. What is your position with Maralo?

A. I'm their division engineer.

Q. Have you previously testified before this  
Division?

A. Yes, I have.

Q. At the time of that testimony, were your  
credentials as an expert in petroleum engineering accepted  
and made a matter of record?

A. Yes, they were.

Q. Are you familiar with the Burton Flat-Bone Spring  
Associated Pool?

A. Yes, I am.

Q. Are you prepared to make recommendations to Mr.  
Catanach concerning the adoption of permanent rules for

1 this pool?

2 A. Yes, I am.

3 MR. CARR: Are the witness's qualifications  
4 acceptable?

5 EXAMINER CATANACH: Yes, they are.

6 Q. Mr. Gill you've prepared exhibits for  
7 presentation here today?

8 A. Yes, I have.

9 Q. Could you identify what has been marked as Maralo  
10 Exhibit Number 4?

11 A. Exhibit 4 is a collection of the decline curves  
12 on all of the producing wells in the Burton Flat-Bone  
13 Spring Pool, being Maralo's five operated wells in Section  
14 32 and the one Merit well in Section 4.

15 Q. Let's refer to these decline curves and also at  
16 the same time look back at our structure map, Exhibit  
17 Number 1, and I would ask you to review for Mr. Catanach  
18 why Maralo believes this pool is, in fact, an associated  
19 reservoir.

20 A. Okay, based on the production data we have from  
21 the decline curves, you can see that the -- to the west of  
22 Section 32 are our Keystone Number 4 well and our Hondo  
23 State Number 1 well, and they are the highest wells  
24 structurally in the pool. And from the decline curves, you  
25 can see that those wells are operating with a GOR in the

1 30,000 to 40,000 range.

2 The remaining wells in the pool operate with GORs  
3 ranging in about the 10,000 to 20,000 range. So there's a  
4 definite difference between the higher structural wells in  
5 terms of GOR and the wells that are lower in structure.

6 Q. If we look at the Merit Energy Well Number 5, how  
7 does that well compare structurally to other wells in the  
8 pool?

9 A. The Merit well is about equally the lowest  
10 structural well in the pool.

11 Q. And what is its GOR?

12 A. Currently it's dipped a little bit below 10,000  
13 to 1.

14 Q. In your opinion, is there an oil leg in this  
15 reservoir?

16 A. Yes.

17 Q. Is there a gas cap in the reservoir?

18 A. Yes.

19 Q. The farthest updip wells are producing GORs of  
20 what range, approximately?

21 A. Between 30,000 and 40,000.

22 Q. In the earlier hearings, was PVT data presented?

23 A. Yes, it was. In our initial hearing we presented  
24 PVT data on the field.

25 Q. And that information would still be valid today?

1 A. Yes, it is.

2 Q. And what does that show?

3 A. It shows that the fluid was a gas condensate  
4 reservoir with a dew point of about 4800 pounds, but the  
5 initial reservoir pressure was about 2200 pounds, so we're  
6 producing below dew point. Thereby you're dropping oil out  
7 of the gas, which would, in fact, create a gas cap.

8 Q. Now, we're also seeking the maintenance of a  
9 5000-to-1 gas-oil ratio for the reservoir?

10 A. That's correct.

11 Q. Upon what does Maralo base that request?

12 A. We base that mostly on the production on the  
13 Hondo State and the Keystone Number 4. We have just in the  
14 last month or so put plunger lift systems in there, and  
15 both wells are currently producing at the rate of about 350  
16 MCF per day, which is --

17 Q. Now, that is in excess of the statewide 2000 to  
18 1?

19 A. That is correct.

20 Q. It is below 5000-to-1 GOR?

21 A. On each well it is, that's right.

22 Q. Do you still want to maintain a GOR at 5000 to 1?

23 A. Yes, we do.

24 Q. And why is that?

25 A. Well, for two reasons. One, Merit Energy, I've

1 talked to them, are very interested in keeping that, mainly  
2 for their new wells.

3 You can go back to the curves on some of our  
4 wells, and initially the producing gas rates were up close  
5 to where the 5000 GOR would require, and Merit is assuming  
6 that their new wells will be at those kinds of rates as  
7 well.

8 Q. What happens if you choke those wells back during  
9 the initial producing phase?

10 A. The oil in this area has a tremendous paraffin  
11 problem, and we're constantly battling that. So keeping  
12 the fluid moving as best we can eliminates as much of the  
13 problem as we can.

14 Q. And for that reason you're still seeking a gas-  
15 oil ratio of 5000 to 1?

16 A. That's correct.

17 Q. How do the rules which you're, in fact, seeking  
18 for this reservoir compare to rules for other Bone Spring  
19 pools in the area?

20 A. They're very similar to -- The only one that I  
21 know about, the old Millman Ranch field, which is located  
22 about three miles north of ours, northeast of ours, has  
23 very similar rules.

24 Q. Mr. Gill, in fact, at this time is there any data  
25 you could offer that would support maintenance of an 80-



1 acre oil spacing rule?

2 A. No, there is not.

3 Q. If we revert back to 40-acre spacing, is the  
4 interest of any owner in this reservoir going to be  
5 adversely affected? That is, are there people in wells now  
6 who will be cut out?

7 A. No, there won't be.

8 Q. So the ownership and the production will remain  
9 unchanged?

10 A. That's correct.

11 Q. Can you identify what has been marked as Maralo  
12 Exhibit Number 5?

13 A. Exhibit Number 5 is just the tabulated production  
14 data that was used to create these decline curves in  
15 Exhibit 4.

16 Q. At this point in time, we're looking at a  
17 reservoir that soon will probably be fully developed; is  
18 that right?

19 A. That's correct, yes.

20 Q. In your opinion, will the granting of this  
21 application and the adoption of permanent rules for the  
22 Burton Flat-Bone Spring Associated Pool, including a 5000-  
23 to-1 GOR, be in the best interest of conservation, the  
24 prevention of waste and the protection of correlative  
25 rights?

1 A. Yes, it will.

2 Q. Were Exhibits 4 and 5 prepared by you?

3 A. Yes, they were.

4 MR. CARR: At this time, Mr. Catanach, we would  
5 move the admission into evidence of Maralo, Inc., Exhibits  
6 4 and 5.

7 EXAMINER CATANACH: Exhibits 4 and 5 will be  
8 admitted as evidence.

9 MR. CARR: And that concludes my direct  
10 examination of Mr. Gill.

11 EXAMINATION

12 BY EXAMINER CATANACH:

13 Q. Mr. Gill, on the land issue --

14 A. Yes.

15 Q. -- do you know, if we were to downspace this  
16 thing back to 40 acres, would that have any effect on the  
17 interest owners in the Merit well?

18 A. I don't know. I've talked to Merit, and they  
19 weren't concerned about that. They were very interested in  
20 us getting these permanent rules, but he -- I told him we  
21 were going to go for 40-acre oil spacing, and he said that  
22 was fine with them. I'm assuming there would be no --

23 Q. That well currently that they have is classified  
24 as an oil well?

25 A. Yes, it is. I think your map -- It seems like

1 one of the maps might have showed it as a gas well, but  
2 it's an oil well.

3 MR. CARR: There's an error in Exhibit 3, Mr.  
4 Catanach. The Merit Energy Number 1 is shown as a gas  
5 well. It actually is an oil well.

6 Q. (By Examiner Catanach) They've expressed no  
7 concern about your proposal, but you don't know for sure  
8 whether that would affect any interest owner?

9 A. I don't know for sure.

10 EXAMINER CATANACH: Mr. Carr, can you pursue  
11 that --

12 MR. CARR: I can confirm that --

13 EXAMINER CATANACH: -- with Merit?

14 MR. CARR: -- the first of the week, with a  
15 letter confirming to you that there will be no loss of  
16 interest by anyone in that Merit Energy well --

17 EXAMINER CATANACH: Okay.

18 MR. CARR: -- by reversion to statewide rule.

19 EXAMINER CATANACH: That would be helpful.

20 Q. (By Examiner Catanach) So currently are three of  
21 your wells classified as gas wells?

22 A. Two, the two in the west half.

23 Q. Two in the west half?

24 A. Of 32.

25 Q. And the two you were referring to that you -- you

1 put on plunger lift; is that right?

2 A. Right, it's those two wells.

3 Q. Is the pool -- Do we currently have a GOR of 5000  
4 in this pool?

5 A. Yes, we do.

6 Q. And that was based on -- Was that based on  
7 initial PVT data that we established that?

8 A. Right, the initial hearing, all we had at the  
9 time was the Number 1 well and the PVT data. You can see  
10 on the curve from the Number 1 well, the initial gas  
11 production was running about 20 million a month. So about  
12 700 MCF a day.

13 In fact, I think we had tests that were even  
14 higher than that, that encouraged us to go -- to try to get  
15 the 5000 GOR. And I think also the rules that were in  
16 effect at old Millman Ranch say -- I think at that time  
17 they had temporary rules there that -- with the 5000-to-1  
18 GOR.

19 Q. What is the gas limit in this pool at this time?

20 A. Right now, with the 80-acre oil spacing, it's  
21 like 1.1 million per day. At 40 acres, it would be 710, I  
22 believe.

23 Q. The gas wells have an allowable of what? What  
24 would that be?

25 A. They would be -- Under the rules we're seeking, I

1 think it would 710 MCF per day.

2 Q. What are some of the other wells producing? You  
3 said the -- Was it the Hondo State Number 1?

4 A. Right.

5 Q. And the Keystone Number 4, those are your two gas  
6 wells, those are producing about 350 a day?

7 A. That's correct.

8 Q. What are some of the other wells producing?

9 A. The Keystone Number 1 is producing a little under  
10 100 MCF a day, say about 100 MCF a day. The Keystone  
11 Number 2 is about the same. And the Keystone Number 5 is  
12 about 60 MCF per day.

13 Q. Getting any oil with these?

14 A. Yes, sir, we're making -- it looks like they're  
15 all around five or six barrels of oil a day.

16 I believe they're in the process of trying to  
17 plunger-lift in this Keystone Number 2, but again, some of  
18 those efforts are more for the paraffin problems than they  
19 are for the -- to increase production, to keep them  
20 pumping.

21 Q. Do you believe that keeping the pool at 5000-to-1  
22 GOR is not adversely affecting anything or reducing oil  
23 recovery from the reservoir?

24 A. No, sir, I don't. I think the -- In Exhibit 5  
25 you can see the cumulative oil production. Most of these

1 wells range in the -- It's been 14,000 to 20,000 barrels of  
2 oil, is all we've made, and I think that's a function of  
3 low permeability. It requires large frac jobs, and I don't  
4 think there's -- the pressure depletion, that it's creating  
5 any problems.

6 EXAMINER CATANACH: I don't think I have anything  
7 further, Mr. Carr.

8 MR. CARR: That concludes our presentation in  
9 this case, and we will confirm the status of the Merit well  
10 to you well early next week.

11 EXAMINER CATANACH: Okay. There being nothing  
12 further in this case, Case 11,040 will be taken under  
13 advisement.

14 (Thereupon, these proceedings were concluded at  
15 12:03 p.m.)

16 \* \* \*

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21 I do hereby certify that the foregoing is  
22 a complete record of the proceedings in  
the Examiner's hearing of Case No. 11040,  
heard by me on March 20 19 87.

23 David R. Catanch, Examiner  
24 Oil Conservation Division  
25

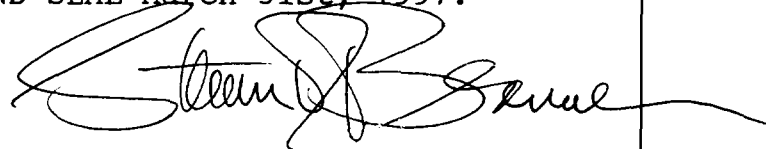
CERTIFICATE OF REPORTER

STATE OF NEW MEXICO    )  
                                   )   ss.  
 COUNTY OF SANTA FE    )

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL March 31st, 1997.




---

STEVEN T. BRENNER  
 CCR No. 7

My commission expires: October 14, 1998