

CASE 1894: Appl. of FREMONT FOR  
CONTRACTION OF VERTICAL LIMBS,  
ARIZONA  
CREATE NEW POOL & SPECIAL RULES.

Case Number

4894

Application  
Transcripts.

Small Exhibits

ETC.

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
CONFERENCE ROOM, STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO  
January 17, 1973

EXAMINER HEARING

IN THE MATTER OF:

Application of Felmont Oil Corporation  
for a dual completion, contraction of  
vertical limits, creation of a new  
pool, and special pool rules, Eddy  
County, New Mexico.

Case No. 4894

BEFORE: Elvis A. Utz  
Examiner

TRANSCRIPT OF HEARING

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1 MR. UTZ: Case 4894.

2 MR. CARR: Case 4894, application of Felmont Oil  
3 Corporation for a dual completion, contraction of vertical  
4 limits, creation of a new pool, and special pool rules, Eddy  
5 County, New Mexico.

6 MR. COX: Lewis Cox of Hinkle, Bondurant, Cox &  
7 Eaton representing Felmont Oil Corporation, and we have one  
8 witness, Mr. Bill Aycock.

9 At this time, Mr. Examiner, we would like to move  
10 to amend the application to limit the South line of the  
11 proposed new reservoir to the South line of Section 11,  
12 Township 18 South, Range 26 East, that special rules be  
13 promulgated to allow administrative determination of the  
14 northward extension of the new reservoir upon a showing of  
15 either lack of pressure communication or substantial  
16 differences in analysis of the gas, or both.

17 MR. UTZ: Now, Mr. Cox, what did you originally  
18 request?

19 MR. COX: We originally requested that definition  
20 of a new reservoir, separate reservoir for the entire pool  
21 and the evidence that we will submit shows that basically  
22 the pool lies south of the well in Section 11.

23 We intend to present evidence to show that there  
24 is a definite separation in the two formations, and separate  
25 reservoirs at the location of this well.

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1 MR. UTZ: Both zones, now.

2 MR. COX: Pardon. The two zones are separate  
3 reservoirs.

4 MR. UTZ: Well, are you requesting that the pool  
5 be extended through Section 11 for one zone, or neither zone?

6 MR. COX: Well, Section 11, I believe, is already  
7 in the zone and we are asking for designation of a new upper  
8 reservoir in Section 11.

9 MR. UTZ: We will consider your application to that  
10 effect.

11 MR. COX: I call Mr. Aycock as my first witness.

12 MR. SPERLING: Excuse me, Mr. Examiner, did you  
13 ask for other appearances?

14 MR. UTZ: No, I did not. I'm sorry.

15 MR. SPERLING: James A. Sperling of Modrall,  
16 Sperling, Roehl, Harris & Sisk, Albuquerque, appearing in  
17 this matter on behalf of Mobil Oil Corporation.

18 MR. UTZ: Are there other appearances?

19 (No response.)

20 MR. UTZ: You may proceed, Mr. Cox.

21 \* \* \* \* \*

22 WILLIAM F. AYCOCK,

23 habing been first duly sworn according to law, upon his oath,  
24 testified as follows:

25

DIRECT EXAMINATION

BY MR. COX

Q Would you state your name, address, employment, and capacity, please, sir?

A My name is William P. Aycock. I'm a consulting engineer with Sykes, Williamson & Runyon, Midland, Texas.

Q Would you spell your last name?

A A-y-c-o-c-k.

Q And what is your profession?

A Consulting engineer.

Q Have you previously testified before the Commission or an Examiner?

A Yes, sir, I have.

Q And have qualified in those proceedings?

A Yes, sir.

Q Are you familiar with the application that is presented in this case?

A Yes, sir.

MR. COX: Are the witness' qualifications acceptable?

MR. UTZ: Yes, sir, they are.

Q (By Mr. Cox) Would you tell the Examiner the purpose of this application, please, sir?

A Well, the purpose of the application, Mr. Examiner, is to request that the Commission recognize that the upper interval in which the area unit, No. 1, is

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1 completed, in spite of the fact that it has been treated  
2 as a portion of a common reservoir to the South  
3 previously at our location, as a separate reservoir  
4 because of differences in pressure and composition of  
5 the gases, and so designated for the unit that is in  
6 question.

7 We do this because we feel that it would  
8 constitute waste for us to commingle the gas in the  
9 wellbore, such as has been the previous practice in  
10 the wells to the South.

11 There are at least four wells that have had the two  
12 zones that are in question here; inasfar as geological  
13 terminology is concerned, commingling in the wellbore  
14 during completion, and they did not set out to do this,  
15 this is just something that developed out of the data,  
16 and it was incumbent upon us to come before the  
17 Commission.

18 Q The present formation is designated as an  
19 Atoka-Pennsylvanian Gas Pool, is that correct?

20 A Yes, sir. The lower set of perforations that are  
21 involved in this well, our evidence will show, and it  
22 is our opinion, are in communication with the rest of  
23 the producing wells in the fields; and this is the  
24 reason that, you know, this classification is no  
25 problem to us, but the upper zone is definitely not and

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1 it would be a problem to us to either leave the thing  
2 shut-in interminably, or commingle inside the wellbore  
3 with the lower zone.

4 Q Referring now to a document that has been marked as  
5 Exhibit 1, would you explain the purpose and significance  
6 of that exhibit, please?

7 A This is simply a current land plat with the proration  
8 unit that is currently assigned to the Belmont Aaron  
9 Unit shown in yellow, and it's intended simply to point  
10 out to the Commission the location of this well.

11 Q And, likewise, as to Exhibit 2.

12 A Exhibit 2 is an expanded scale print of the compensated  
13 acoustic velocity log in the Unit Aaron No. 1. That  
14 shows the proposed new pool and the current pool  
15 perforations, and the static bottomhole pressures that  
16 have been measured in each of them.

17 You will notice that the perforations that we are  
18 proposing for inclusion in the new pool are at 8894 to  
19 8914, under the indicated new pay zone on the log.

20 The static bottomhole pressure was 3252 psig  
21 at a datum of minus 5585 feet subsea, and it was  
22 completed on the 1st of November for a calculated  
23 absolute open-flow of 15,114 Mcf per day.

24 I believe the Commission has already had the C122  
25 submitted and I will point out to the Commission at



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1 this time that those submitted were both run on the  
2 tubing and it was done as a matter of convenience by  
3 implanting a wire line plug and shifting a sliding side  
4 door, and that the Belmont proposes, and I believe the  
5 rules would require, that if the Commission sees fit  
6 to honor our request, that new deliverability data  
7 would have to be submitted to the Commission before  
8 the time of actual connection.

9 In any case, Belmont has already taken a  
10 deliverability status on the casing and we will take  
11 another one and submit it to the Commission if the  
12 application is approved.

13 The map datum point for the subsequent geological  
14 data that we will show to a point is indicated here  
15 as being the bottom of the field pay zone. This  
16 conforms with what Mobil presented in Case 4715, I  
17 believe, largely; and it also conforms with the industry  
18 practice as established by the industry committee that  
19 published in the Roswell Geologic Society Symposium in  
20 1966, and we agree with the approach that was taken in  
21 both cases as being representative of the geology of  
22 the area.

23 You will also note that the static bottomhole  
24 pressure in the field pay zone was measured at 2464 psig,  
25 at a datum of minus 5654 feet and it was completed on

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1 the 4th of November of 1972 at a calculated absolute  
2 open-flow of 11,332 Mcf per day.

3 Q Would you also explain Exhibit 3?

4 A Exhibit 3 is a structure map contoured on the bottom  
5 of field pay, which is our selection of what the bottom  
6 of the main pay zone, or Zone B, if you use the "A" and  
7 "B" and "C" terminology, is.

8 Once again, this conforms to what Mobil's prior  
9 presentation has been, and we have shown this as  
10 repetition to the Commission, but it is to reacquaint  
11 the Commission with the fact that that is a monoclinial  
12 type of reservoir in which the gas current appears to  
13 be a function of reservoir rock quality, rather than  
14 a structural accumulation-type condition.

15 You will notice that there is a cross-section  
16 trace running from the Marathon State Well in the  
17 Southeast quarter of Section 16 up through the Brainard  
18 Mobil in the Southeast quarter of Section 11, which is  
19 the next exhibit.

20 Q Would you explain Exhibit 4?

21 A This is the cross-section whose trace was shown on the  
22 prior exhibit, and it shows each of the well's datum,  
23 we use a 5600 feet subsea, which you will notice is  
24 labeled.

25 And the dst's that were run and the scouting

1 information, as well as the perforations in which each  
2 well is completed, <sup>and</sup> ~~or~~ shown on this cross-section.

3 We've shown this to try to illustrate the differing  
4 sand conditions with different locations in the  
5 reservoir itself, as well as the separation that occurs  
6 in the area unit, which we believe our subsequent data  
7 will show is bonafide.

8 I will mention here that you will notice in the  
9 case of some of these other wells where the bottom of  
10 the zone is not as well developed, this would be open  
11 to interpretation, where the actual bottom would be:  
12 but I don't think the adjustment on any opinions of  
13 the exact point would obliterate the general agreement  
14 in the fact that it is a monoclinial type reservoir, and  
15 the structural position is not the main controlling  
16 factor here, but rather sand quality.

17 Q Referring to an instrument which has been marked as  
18 Exhibit 5, would you explain that?

19 A Exhibit 5 is the measured bottomhole flowing pressure  
20 with the choke sizes and the flowing pressures. Of  
21 course, its time after the opening of the well on the  
22 two tests that have been submitted to the Commission  
23 on the C-122 Form and you will notice that there are  
24 common choke sizes; in fact, all of the chokes on these  
25 are common and the flowing bottomhole pressures are

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1 greatly different; and we have subsidiary information  
2 that strongly infers that the reservoirs are separate.

3 You will notice that the pressures at which they  
4 began are quite different; and all of the pressures at  
5 which they flowed on these various choke sizes are also  
6 quite different.

7 Q And what does the instrument marked Exhibit 6 reflect?

8 A Exhibit 6 is the bottomhole shut-in pressure versus  
9 time and we have noted this in a little bit of an  
10 unusual fashion.

11 If I can beg the Commission's indulgence, the  
12 first hour is detailed on the left-hand side because  
13 on a scale sufficient to get all of the tests, you  
14 wouldn't be able to see the actual measured points  
15 during the first hour.

16 We show this for two reasons; one, both the  
17 completions reached very quickly <sup>what</sup> would appear to be  
18 the true static pressure, and remained there throughout  
19 the test -- and, in fact, we sent our people out  
20 yesterday and the completions have both been shut-in  
21 about 60 days and I'm prepared to tell the Commission  
22 exactly what he did measure with his surface <sup>gauge</sup> gauge.

23 The old pool, or the lower set of perforations  
24 that are shown on our Figure 2, on 11/4/72, reported  
25 a shut-in pressure of 1912 psig; on the 15th of January,

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1 using a calibrated pressure guage, we measured 1930  
2 psig.

3 The new pool perforations, the upper set that is  
4 involved in our application here, we reported to the  
5 Commission a surface shut-in pressure of 2471 psig on  
6 the 11th of November, 1972; and on the 15th of January,  
7 with a calibrated pressure guage, we measured 2450  
8 psig.

9 So, sitting there for 60 days additional time, in  
10 round numbers, we are still seeing a substantial  
11 difference in pressure between the two, indicating that  
12 not only have they yet not equalized because of any  
13 mechanical condition that wouldn't be sufficient to  
14 prevent down-hole communication, but we are still seeing  
15 the same order of magnitude pressure differences that  
16 we initially saw and reported on our exhibits that are  
17 presented here.

18 You will notice that 2252 psig is the final  
19 shut-in pressure on the new pool or upper set of  
20 perforations; and 2464 is the final pressure on the,  
21 what we are calling the old pool, or the lower set of  
22 perforations.

23 Q Would you refer to the instrument marked Exhibit 7 and  
24 explain that document?

25 A Exhibit 7 is a plot of the shut-in well head pressure

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1 and a few second cases, bottomhole pressures versus  
2 time.

3 All of the data that's presented on this exhibit  
4 was extracted from the New Mexico Oil Conservation  
5 Commission's annual reports as submitted by the  
6 operators, and it shows the wells that are in the  
7 vicinity of the Aaron 1 Unit location.

8 It shows in the report, the reported shut-in  
9 pressures versus time, and the degree of agreement  
10 that we have had between this group of wells; and as  
11 the Commission is aware, previous testimony has  
12 indicated the Mobil Brainard Unit has deviated from  
13 the trend that was indicated by the other wells, the  
14 Chevron-Martin, the Chevron-Everest, and Chevron-Terry;  
15 and we would also like to point out that Felmont's  
16 pressure data as shown, when it was taken in November  
17 of 1972, with the bottomhole pressures indicated by  
18 squares and the surface pressures indicated by circles;  
19 and, of course, what this illustrates is that the  
20 bottomhole pressure for the upper zone is probably very  
21 near what the initial bottomhole pressure would have  
22 been at this depth in virgin condition.

23 We are not prepared to absolutely state that it  
24 is equivalent to it; it's very near it.

25 The shut-in well head pressures are somewhat lower

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1 than those that were reported in '57 and '58 for the  
2 wells that were completed earlier, but the bottomhole  
3 pressure is higher than any previously reported to the  
4 Commission, and the old pool disagrees with it, with  
5 the measurement made for the new pool perforations, or  
6 upper set, substantially in absolute value as well as  
7 the fact that the pressures that are measured for the  
8 lower set of perforations come much closer to agreeing  
9 with the trend that has been previously established by  
10 the surface pressures and bottomhole pressures that  
11 have been reported to the Commission for the wells  
12 previously completed.

13 We think this is another strong indication of the  
14 position that we are taking here, and that is that the  
15 lower zone is probably in good pressure communication  
16 with the rest of the pools and the upper zone is not.

17 Q And referring to an instrument marked Exhibit 8, would  
18 you please explain that exhibit?

19 A This is a detailed molecular analysis of the two gas  
20 samples that were taken at the same time as the pressure  
21 test, this data has been presented to the Commission,  
22 and we show these samples were taken in an identical  
23 fashion from the gas that was flowing, wet gas that was  
24 flowing at the well head.

25 They were subjected to the same type of analysis

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1 by an independent laboratory, and the date is included  
2 at the bottom of the page.

3 We call the Commission's attention to the fact that  
4 there are substantial differences in the major  
5 constituents in the gas.

6 In methane, the new zone, or upper zone, has 91.4  
7 percent, rounding off the methane; whereas the lower  
8 zone has 76.96 percent, and so forth.

9 It follows right on down, and there are a  
10 substantial degree of disagreements, including the  
11 btu; and I'm going to have to retract and tell the  
12 Commission that we've mislabeled these zones, that we  
13 need to mark out lower and upper and retype the two.  
14 Let me check my samples and be certain, but I'm really  
15 positive, looking at this thing, that that is the case.

16 I apologize to the Commission for not catching it  
17 sooner.

18 The reason this is true is because the lower btu  
19 and the higher methane content would be consistent with  
20 the possibility that retrograde condensations had  
21 occurred due to loss of pressure in the lower zone.

22 Well, I'm positive that's correct, and I'd like to  
23 submit this, with the Commission's indulgence, by  
24 chance, the designation, and marking out where it says  
25 "upper zone," make that lower zone and you will notice



1 that the perforations will have to be exchanged also.

2 And, with the Commission's indulgence, I'll check  
3 this thing and provide a corrected exhibit that will  
4 properly reflect what's happened here.

5 MR. UTZ: That will be fine.

6 Q (By Mr. Cox) Is there anything else on Exhibit 8 that  
7 you would like to point out to the Commission?

8 A No, nothing, except the gravities, the heating values,  
9 and the gpm contents and molecular, are all --- they  
10 point to the same direction, and that is that there is  
11 substantial differences involved.

12 Q Is it your conclusion, based on this data, that there  
13 is definitely two reservoirs at the location of the  
14 Aaron Unit No. 1 Well?

15 A Yes, sir, that's my opinion, based on the data that  
16 we've submitted to the Commission.

17 I think that if they were in communication,  
18 regardless of what may have happened in the past, in  
19 60-days time, we would have seen some equalization with  
20 the type of permeability.

21 Q Have you already equipped the well for a dual completion?

22 A Yes, sir, it's properly equipped with the industry  
23 standard <sup>downhole</sup> downhaul equipment; and, of course, we would  
24 expect that the Commission would require a dual  
25 completion sketch to be submitted in case it should

1 approve this application.

2 All that data would be presented at that time with  
3 the proper packer leakage test and current C-122 Forms.

4 It was not done, of course, at this stage, because  
5 it was -- it would have been presumptuous to take a  
6 packer leakage test before the Commission had a chance  
7 to be exposed to the data and act upon it.

8 We recognize this will be a requirement if the  
9 Commission sees fit to grant our request.

10 Q Will the granting of this application, as amended, in  
11 your opinion, tend to prevent waste?

12 A Yes, sir, I think it will because I think it's readily  
13 apparent that if we were to commingle the upper zone  
14 with this amount of pressure, with the lower zone, we  
15 would probably dissipate a good deal of this gas into  
16 the lower zone.

17 By recharging it to some degree, a portion of that  
18 gas would probably become irrecoverable.

19 We feel that Mobil may want to consider redrilling  
20 the Brainard Unit at the end of this North trend and  
21 attempt to get porosity in this upper zone, if it is  
22 classified, and this would give them the opportunity  
23 to replace their well with a well located on the North  
24 end of their proration unit if they desire.

25 In addition, we feel that granting this application

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1 with the provision that the operator would be required  
2 to submit data that would establish to the Commission's  
3 satisfaction that the zones were seaparate in order to  
4 get a new gas pool classification, we would probably  
5 tend to accelerate development towards the North and  
6 Northeast, which is where we feel it's logical for it  
7 to go.

8 MR. COX: I have no further questions.

9 MR. UTZ: Are there questions of the witness?

10 MR. SPERLING: Yes, Mr. Examiner.

11 CROSS-EXAMINATION

12 BY MR. SPERLING

13 Q Mr. Aycok, do you feel that the Mobil Brainard Unit  
14 No. 1 Well and the Felmont Aaron Unit No. 1 Well are  
15 completed in both what you referred to as the upper and  
16 the lower pay zones?

17 A It is my opinion that the Mobil Brainard is not  
18 completed in what we are considering the new designation  
19 or what would be called the A Zone.

20 It is my opinion that they are probably in  
21 communication through what's called the old pool, or  
22 the B Zone, if you adhere to industry standard  
23 nomenclature.

24 Q You mean, in communication within the formation?

25 A Within the common reservoir, yes, sir. I say,

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1 "Probably," because obviously I can't state definitely  
2 that they are; I think the indications are that they  
3 are.

4 Q What are you proposing now, insofar as a horizontal  
5 limit of the new pool is concerned?

6 A We are proposing that they be separated. As far as the  
7 horizontal limits are concerned, we are proposing no  
8 particular horizontal limit. We are proposing the  
9 East-West line that is established by the South line  
10 of Section 11 be the proposed boundary for which the  
11 new pool could be requested, upon proper showing to  
12 the Commission that the zone was actually separated  
13 from the Atoka-Pennsylvanian main pay zone or B Zone,  
14 if you want to call it that.

15 Q So you think the South line of Section 11 represents  
16 the line of separation between the new pay zone and  
17 the field pay zone?

18 A At this time, we would say that the South half of 11,  
19 based on what we know, would be an adequate delineation  
20 point.

21 Standard and Mobil were both informed by me  
22 personally, and Chevron did not choose to put any  
23 appearance in this hearing as the Commission is aware.

24 Q Now, looking at your Exhibit 4, which is your  
25 cross-section, where do you find what you've designated

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1 on the Aaron Unit No. 1 Well as the new pay zone to be  
2 present in the Brainard Unit No. 1 Well?

3 A Well, I don't think the porosity is developed, and I  
4 don't have an exact depth interval that I could tell  
5 you they would correspond, because I don't think -- I  
6 think it's obvious that the logs are relatively similar  
7 and I would suspect that it's somewhere in the vicinity  
8 of 8980 to 9000 feet in that vicinity, if I had to make  
9 a guess at it.

10 Q I take it, then, it's your opinion that the Brainard  
11 No. 1 Well is now perforated in that new pay zone?

12 A Well, it doesn't appear there is any porosity developed.  
13 I would give Mobil credit, for if there was pay there,  
14 they would probably have perforated it, particularly  
15 since Mobil is aware that this is not a commercially  
16 valuable well as they had hoped when it was drilled.

17 Q Well, I thought I understood you to say that Mobil  
18 might want to consider the possibility of perforating at  
19 a different interval?

20 A No, sir, you misunderstood me. They might want to  
21 consider drilling another well at the end of this  
22 proration unit and attempt to find this upper zone,  
23 which in my opinion is possible; and we feel that using  
24 the South line of Section 11 as a delineation point  
25 would be a proper place to choose if Mobil chose to do

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1 SO.

2 Q Well, did I misunderstand you again when I thought you  
3 said that both Mobil wells and the Felmont Well are  
4 completed in both what you designated as the upper zone,  
5 the A Zone, and the B Zone?

6 A No, I don't believe the Mobil is completed in the A  
7 Zone. I believe it's completed in the B Zone.

8 Q I see. Now, on your Exhibit 7, this is your shut-in  
9 pressure exhibit, I take it that the pressures which  
10 you attribute to the Mobil Brainard Well are surface  
11 pressure measurements, is that correct?

12 A Yes, sir. As I pointed out, they were extracted from  
13 the OCC Annual Reports.

14 Q Do you know whether or not there were measured  
15 bottomhole pressures in the Mobil?

16 A No, sir, I do not. The only ones we used, other than  
17 our data, which we are presently hearing, were those  
18 data that the Commission published as having been  
19 officially submitted to it.

20 Q I see.

21 A And I felt like that for me to calculate the bottomhole  
22 pressure and put it in here would simply subject us  
23 to another matter of opinion that would require  
24 engineering interpretation and a lot of the Commission's  
25 time.

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I think the trend which is basically the most important thing to me here, is the trend, and this secondary factor is the absolute value of the pressures. I think you have to recognize it because we don't have measured bottomhole pressures, that those are not as explicit as they would be if we did have them.

I would tend to lower the surface pressure, and I'm certainly not prepared to say that we can attribute absolute significance to these surface pressures. I recognize that they are not as definitive as we would normally like to have.

I will say this, in my opinion, from looking at the relationship, the graphical solution of the volumetric balance equation, which is the bhp over Q extrapolation, it appears that the Mobil Brainard Unit could have recently, in the last two pressures that are shown here, in '71 and '72, it could be deviating from its prior trend quite substantially.

Q Well, now, I understood you to say earlier that it's your belief and opinion that the "A" and "B" Zones are in communication within the formation.

A They are in the South end of the field, yes, sir, because there are at least four wells, of which I know of, that have perforated both.

Q And they are in communication in the South half of

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1 Section 11, in your opinion, I take it?

2 A No, they are not in communication in the South half of  
3 Section 11. I don't believe that the Brainard is  
4 completed in the "A" Zone and I believe that the  
5 pressure differences that we have shown here in the  
6 Aaron Unit definitely indicates that in our unit, they  
7 are not in communication.

8 So I say that even though they have been treated  
9 as a single reservoir here, it does not appear to me  
10 that they are actually in communication.

11 Q And that conclusion is based primarily on your pressure  
12 data, is that right?

13 A Yes, sir, that's true. I think the geologic data, as  
14 I think all of us who have looked at this agree, is  
15 indicative that without subsidiary data, it can't be  
16 considered definitive.

17 Q What was the measured bottomhole pressure in the  
18 Chevron-Terry Well, initially?

19 A In the Chevron-Terry, I'll give you the exact number,  
20 that was reported to the Commission. Let's see, that's  
21 in '66, and there is a 3964 is what was reported to the  
22 Commission.

23 MR. UTZ: Which pressure was that that you stated?

24 THE WITNESS: The Chevron-Terry No. 2. Mr. Utz,  
25 right at the boundary between '66 and '67, there is a dotted



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square where it has bho, psia, and it says Chevron-Terry and it also shows a dot to the circle at the bottom and, shows the wellhead pressure, and according to this, there is a 3064 from the Commission's Reports.

Q And the 3265 was the initial bottomhole pressure on the Felmont Aaron Unit No. 1 in the upper zone, is that right?

A Yes, sir, that's correct.

Q And do you have any idea what the accumulated production from the Chevron-Terry Well has been?

A Yes, sir, if you will just give me a second I can look that up for you.

The cumulative at 11/1/72 is 2,701,134 Mcf, according to my tabulations of the figures reported to the Commission.

Q You consider that the Chevron-Terry Well is completed in the upper zone?

A There is no well in this immediate vicinity, in my opinion, that's completed in the upper zone, sir. I'm sorry, perhaps I didn't make it plain.

The zone that I believe correlates with what we are calling the new pool zone, is a datum of 8900 to about 8916 in the Paul Gas Pool No. 2, which is the third from the right on my Exhibit 4.

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1 I think Mobil and Whitton have both previously  
2 testified that this is a correlative interval without  
3 any question, and I would agree with that. It was also  
4 testified, and I was here, that it was a dirty zone  
5 and Chevron has given no indication that they thought  
6 it was commercial, to me verbally, or to anyone in any  
7 other way that I know of. That's the only well in this  
8 immediate vicinity that I consider that has a zone  
9 that we could truthfully say geologically correlates  
10 with what we are calling the new pool, or prospective  
11 new pay zone.

12 If I am not mistaken, both Mobil and Whitton's  
13 Exhibits that were presented in 4715 pointed this fact  
14 out.

15 Q Is there formation communication between the upper and  
16 lower zone in that Terry Well?

17 A Well, I'd have no way of knowing that. The pressure  
18 data doesn't indicate its -- about 62 billion, according  
19 to my figures, and I would attribute that, reasonably,  
20 with a rough look at the volumetric, to the zone in  
21 which they are completed.

22 That would mean that they, of course, would have  
23 to have a bad cement job. All I can say is that the  
24 performance of the well does not indicate that it's a  
25 high pressure, low-volume feed-in, such as I would

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1 expect if they did have a bad cement job.

2 Q What does the heavy blue line on the cross-section

3 indicate, what's that designed to lead us to conclude?

4 A Well, that is the datum on which we've prepared our

5 structure map. It roughly conforms to that which

6 Mobile and the industry have both used in prior

7 presentations.

8 Q I don't mean the exactly horizontal lines, I mean the

9 line that changes positions as it progresses from "A"

10 to "A" Prime.

11 A That's the cross-section trace, yes, sir.

12 Q Okay.

13 A And as I pointed out to you, I think it's apparent that

14 there could be minor disagreement among numerous

15 different people as to the exact location of where this

16 ought to be, based upon the development of the various

17 porosity intervals; but I don't think that any reasonable

18 degree of disagreement would occlude the main feature

19 that I was trying to illustrate here, and that is that

20 it is not a structural type accumulation.

21 I don't know of anyone that's ever brought any

22 information before this Commission to indicate that it

23 was structural.

24 My intent here is to show that it's primarily a

25 stratigraphic accumulation, and I think that everyone's

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1 testimony in the past has been to that effect.  
2 Structure is important, but only as it defines a sand  
3 development, content of the <sup>deposition.</sup> disposition.  
4 Q Well, the lines to which I have referred is supposed to  
5 be correlation points in the various logs, is that  
6 right?  
7 A Yes, sir.  
8 Q Going back once again to your Exhibit 7, Mr. Aycock,  
9 and the initial surface pressure shown for the Mobil  
10 Well, that appears to have been a pressure, or you  
11 stated it was a pressure reported to the Commission?  
12 A 9/9/64.  
13 Q Were you aware of a previous pressure having been filed  
14 with the Commission on a Form C-122, the day of the  
15 test being April 10, 1963?  
16 A Unfortunately, I do not have the C-122 for the Mobil  
17 Brainard due to an oversight on the gentleman that I  
18 got to go to the Artesia office, and I did not realize  
19 it until too late to remedy it.  
20 I was not aware of it, no, sir, until I had the  
21 C-122.  
22 Q Well, the pressure, a copy of that form report here,  
23 this is tubing pressure of 2783. This, as I say, as of  
24 April 10, 1963.  
25 A Yes, sir.

1 Q I'm sure you would accept that figure, that would put  
2 it near the trend of the Chevron-Martin and the  
3 Chevron-Everst, I believe.

4 Now, the calculated bottomhole pressure could be  
5 arrived at from that figure, could it not?

6 A Yes, sir, if we assume that we know the gas gravity  
7 and we know that there is no fluid in the hole and we  
8 are reasonably positive that most of the build-up is  
9 behind us, we can calculate the pressure.

10 We can calculate one anyway, but whether it has  
11 any meaning or not would depend on what the status of  
12 the build-up is.

13 Q Well, if the form shows that data on that, it would be  
14 a relatively simple matter to arrive at. What my  
15 information is, the calculated pressure of 381 psig  
16 is the reservoir pressure?

17 A I have no doubt. I haven't checked the calculations,  
18 but it sounds like it would probably be a reasonable  
19 number.

20 MR. SPERLING: I believe that's all I have at  
21 this time.

22 CROSS-EXAMINATION

23 BY MR. STAMETS

24 Q Mr. Aycock, you've stated that there were four wells  
25 located in the Atoka-Pennsylvanian Pool completed in

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1 this upper zone as well as the regular field of pay.  
2 I wonder if you would give us the location of those?  
3 A Okay, I surely will. Two of them are active and two  
4 of them are no longer active.

5 In my opinion, from looking at the logs, the two  
6 that are active that can be considered having the "A"  
7 and "B" Zone are in Sections D and L of Section 28.

8 Near as memory serves me, I do not have the logs  
9 available with me now, I didn't bring them with me, but  
10 the Amoco-Martin No. 3, which is in Unit D of Section  
11 23, had a few feet of pay, and I believe Mobil testified  
12 to this in 4715 as well, and the Amoco-Flint in Unit J  
13 of Section 22, I believe had both of them open; both  
14 of those wells are now watered out and no longer active.

15 Q I believe that there is some small difficulty in really  
16 identifying what the formational limits of this pool  
17 should be. It is called an Atoka-Pennsylvanian?

18 A Correct.

19 Q And actually, the way the Commission names pools, it  
20 would probably be called the Atoka-Morrow, if it would  
21 be named?

22 A Right.

23 Q How can we differentiate the vertical limits of the  
24 pools and come up with something workable? If we have  
25 to describe the vertical limits of the Atoka, the old

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1 Atoka-Pennsylvanian Pool, now, what would we include?

2 A Well, my suggestion to you is this, and I'm not trying

3 to tell you your business. I'm just trying to make a

4 suggestion, is that even though we requested in our

5 request, it says redefinition of vertical limits, I feel

6 that this would be difficult to do for the reasons that

7 the geology would then have to be the determining factor

8 and my only suggestion to differentiate between the

9 two is either pressure or data, so it could be done

10 without complications.

11 Any suggestion would be to make some sort of an

12 exception to the vertical limits as now defined upon

13 proper showing by a operator that there is physical

14 separation at his well site or location North of the

15 South line of Section 11.

16 I agree that it is a problem; I appreciate the

17 problem exactly because I see what you are talking

18 about, if we can't go on a geological correlation

19 basis.

20 Q Let me define this so that we would have this in the

21 record. If we followed the standard practice, we would

22 have an Atoka-Pennsylvanian Pool to the South, which

23 would include the entire Morrow formation.

24 A Yes, sir.

25 Q And then in the West half of Section 11, we would have

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1 two Atoka Pools, one which would include a lower Morrow  
2 formation, and one which would include an upper Morrow  
3 formation; so you would have the situation where  
4 immediately to the South, you had one pool with both  
5 horizons available to be opened and to the North, you'd  
6 have two pools with two separate horizons.

7 What is the nature of the formation between the  
8 "A" and "B" Zones?

9 A Well, all these sample descriptions I've seen simply  
10 describe it as shale. I don't doubt that it contains  
11 various amounts of sand, but as compared to the pay  
12 zone, it is what would be called a shale.

13 Q Mr. Aycock, referring to your shut-in pressure versus  
14 time exhibit, I don't have a number on that one,  
15 Exhibit Number 7, the shut-in pressure on the lower zone  
16 in the Felmont Well is somewhat higher than the field  
17 pressure?

18 A Right.

19 Q Does that indicate that this well is not connected with  
20 the old field in the lower zone, or what?

21 A It probably indicates that it does and drainage is  
22 taking place to this area from the production that has  
23 been withdrawn throughout the field to the East and the  
24 Brainard and to the South also.

25 Q Would the pressure differential be because the Chevron



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1 Wells had not had full time to build up?

2 Had they been left long enough, would they have  
3 equalized?

4 A Well, yes, within an indefinite amount of period,  
5 probably so. There is a definite differential that I  
6 attribute to drainage, this has been drained towards  
7 other wells, and, yes, if it were left long enough  
8 without disturbance, in my opinion, it would probably  
9 equalize.

10 Q Does either of the two zones in your well produce  
11 liquid?

12 A Yes, sir, they do produce some liquids.

13 Q How much?

14 A Well, let's see, I'm not satisfied with the figures that  
15 we reported to you on these forms. It looks like we've  
16 got a mistake of 1,000 on one of them. And where we  
17 say Mcf, probably it should be 163 and 368 Mcf per  
18 barrel, and we have had erroneous reports in cubic feet  
19 per barrel, looks like, in the new zone.

20 Q If you have given us the figures correctly, then the  
21 lower zone produces approximately twice as much liquids  
22 per barrel as the upper zone?

23 A Yes, sir.

24 Q I believe that you stated that if the two zones were  
25 thrown together, gas would go into the lower zone which

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1 would never be recovered?

2 A Parts of it would never be recovered, yes, sir, I think.

3 Q Now, why is that?

4 A Well, part of it would tend to be recharging a common  
5 reservoir that's already approaching -- many of the  
6 wells are somewhat approaching the economic limit --  
7 and it would refresh, it would be lost to this probably  
8 much larger reservoir; and the amount of refreshing it  
9 would generate would probably not be such as to allow  
10 those wells to recover a substantial portion of it, but  
11 we would lose all of that portion at our well location.

12 In other words, we are dissipating what is  
13 presumably a good deal smaller reservoir; or, what would  
14 be recoverable in a small package, would not be  
15 recoverable in its being dissipated to a larger zone.

16 Q What are the line pressures?

17 A They range from 500 to 700 pounds, is my understanding.

18 Q And you are talking about shut-in pressures of a  
19 couple of thousand pounds on this well?

20 A Yes.

21 Q It looks like it would be sometime before the well  
22 would be supplemented in either zone. It would seem  
23 like there would be an ample opportunity to recover  
24 anything that was accidentally injected into the lower  
25 zone?

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1 A Well, I don't know how to -- in my opinion, it wouldn't  
2 be prudent for Belmont to commingle and I've so  
3 advised them.

4 I think every engineering and conservation practice,  
5 to my knowledge, at this stage, would simply say it  
6 would be presumptuous to commingle the two.

7 Q Do you have any idea how many Morrow Pools, gas pools,  
8 there are in the State?

9 A Not right offhand.

10 Q If I said more than 60, would you think that would be  
11 a reasonable figure?

12 A It probably would be, because there are a lot of them  
13 that have two or three wells, I'm aware.

14 Q Do you know of how many Morrow Pools do not include the  
15 entire Section?

16 A I do not.

17 Q If I said two, would you think maybe I was about right?

18 A I'm sure you're right.

19 Q Do you know if any of the people with dual completions  
20 in these two Morrow Pools -- actually, the one I'm  
21 thinking of is the Rock Tank Upper Morrow and Lower  
22 Morrow.

23 Do you know if any of the people who are  
24 completing wells have experienced any problem because  
25 of this completion?

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1 A No, I don't, I'm not familiar with it at all.

2 Q If I told you they had --

3 A That wouldn't surprise me.

4 Q Is the nature of the Morrow formation such as that in  
5 the offsetting well to the Belmont Well that you might  
6 find a different zone productive?

7 A It's entirely possible.

8 Q Is it possible that we might find the two zones under  
9 consideration here productive in such low quantities  
10 that they would not justify dual completion?

11 A It's possible.

12 Q Is it possible that if a operator were forced to dually  
13 complete an offset well that he might abandon the  
14 project rather than spending the money for dual  
15 completion?

16 A Well, I suppose that's right. I would say this, that  
17 anytime you have one that is going to be that marginal,  
18 the conservation effect is probably going to be pretty  
19 small.

20 Probably, as I see it in a conservation status,  
21 is that both of these are very prolific, I think that  
22 as far as surface deliverability is concerned, the  
23 lower zone ought to have the capacity of 6,000,000 a  
24 day currently, and the higher zone in the vicinity of  
25 10,000,000 a day, and that's a substantial pressure,

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1 that's not all the way drawn down.

2 So, the problem is that even the takes that are  
3 reasonable, we are still going to have pressure  
4 differentials in the zone.

5 You can see our problem is somewhat unique, I grant  
6 you, and that we do have two prolific zones located  
7 this close together.

8 Q You are familiar with the Washington Ranch Pool. As I  
9 recall, in that pool, there is a well or two of Cities  
10 Service's that is completed in both the upper and  
11 the lower zone, and they are completed in the same  
12 wellbore?

13 A I don't think so. I think all they have is the lower  
14 Morrow pay in their wells.

15 Q Okay. Are you familiar with the Carlsbad-Morrow Gas  
16 Pool?

17 A Vaguely, only.

18 Q Are you aware that there are separate zones?

19 A I am aware that there are separate zones.

20 Q And some wells produce from one and some produce from  
21 another. Are you aware that some wells produce from  
22 many of the zones?

23 A Yes.

24 Q Is this not a common practice when you reach the margins  
25 of a Morrow Gas Pool where you have to complete a lot

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1 of pools to make the well economic?

2 A I think if our well were of a quality that you are  
3 talking about, this would never have come up, because  
4 we would never have been able to detect the difference  
5 in space. It's only because we had this very unique,  
6 what I consider unique, circumstance with very high  
7 permeability that we are able to detect it.

8 Q Still, the Commission must consider the Morrow as a  
9 whole in this pool and what may happen, and what waste  
10 might result from the issuance of any order.

11 A That's correct.

12 Q If your application were denied, would Felmont remove  
13 the dual completion equipment from this well?

14 A Well, they will leave the upper zone shut-in  
15 indefinitely, I feel. They will not commingle unless  
16 they are coerced.

17 Q They could commingle on the surface through the use  
18 of pressure regulators?

19 A Well, yes. Of course, under those circumstances, we  
20 are essentially saying that we would sacrifice our  
21 competitive position in the lower zone just to produce  
22 the upper.

23 We would like to talk of both, to be producing the  
24 lower and the upper; and our position, I think, would  
25 be then -- it would amount to the same thing as far as

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our competitive position and the protection of the correlative rights, and on working and royalty-interest owners, and that is that they would be drained under those set of circumstances.

Q Once the well reached the marginal status, though, this would be done to maintain it's allowable position in the pool?

A Yes, sir, that's correct.

Q What about the allowable position in the pool; considering what nominations might be made in there with this very good well, are there other wells which would be classified as non-marginal?

A I'm sorry, I don't understand the question.

Q What I'm saying is, this well is so good that when Belmont gets connection, will the nominations by its transporter be such that it will probably be the only top-allowable well in the pool?

A I'm not prepared to even make an opinion on that, because I don't know what Transwestern's plans are. I haven't talked to them.

I think it's obvious that this well is producing, or right now it appears that it's capable of producing sustained rates for the two zones in the vicinity of 6,000,000 a day.

Q Well, this could have a substantial effect on the

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allowable for the Atoka Pool, if it's considered one?

A Probably, yes.

Q And that effect might have an effect on whether Felmont decides to shut-in the upper zone or not?

A Well, I don't know. The only thing I can state is that the manager, local manager, told me unequivocally that they are not going to commingle the two if they could keep from it; and they are not going to produce one to the detriment of the other.

Now, I say, if they were all to capacity, it might be a different situation.

Q Assuming now that the well is left in the condition it is, and the pool is left as one pool, will waste occur?

A No, no waste will occur.

Q And will Felmont's correlative rights be harmed?

A Not as long as it's not produced.

MR. STAMETS: I believe that's all the questions

I have.

CROSS-EXAMINATION

BY MR. UTZ

Q Mr. Aycock, going into my questions a little bit further so that the record will show this <sup>discussion</sup> discretion, we also, to enlighten you a little bit in regard to proration, at the present time, there are only five non-marginal wells in the pool.



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1 Classification might very well reduce it two or  
2 three. With your high-capacity well coming into the  
3 pool, it would certainly increase the allowable for  
4 the remaining non-marginal wells, as well as yours.

5 A That's right.

6 Q Now, what did you say that probably capacity of the  
7 lower zone in your well is?

8 A In the vicinity of 6,000,000 a day at 500 pounds  
9 delivery pressure. Of course, we recognize we are  
10 subject to a 78 percent factor by the Commission's  
11 rules.

12 Q You have a penalty factor of --

13 A I believe, if I am not mistaken, that was the factor  
14 that was --

15 MR. STAMETS: It does have a penalty factor because  
16 of its non-standard location, but I'm not sure of what that  
17 is. It's in that 70 percent range somewhere.

18 Q (By Mr. Utz) Well, in all probability, you would  
19 probably be allowed to produce, or the allowables would  
20 be for the remaining non-marginal wells, substantially  
21 higher than they are now.

22 But I thought that your well would become, well,  
23 I would say this, I would suggest that your well will  
24 certainly be a non-marginal well and the allowables  
25 will not be as high as 6,000,000 a day.

1 A I'm sure that's true. Certainly, due to the penalty  
2 factor alone, it's not going to be that high.

3 MR. UTZ: Are there other questions?

4 RE-CROSS-EXAMINATION

5 BY MR. STAMETS

6 Q I believe that you said that the combined two-zone  
7 producing rate would be on the order of 16,000,000?

8 A Yes.

9 Q So if you are looking at the whole well, it would be  
10 substantially above six.

11 MR. UTZ: Well, I was looking at it from the  
12 standpoint that the upper zone might have to produce some  
13 gas in order to produce a non-marginal well.

14 MR. STAMETS: Right.

15 MR. UTZ: Do you have some more questions, Mr.

16 Cox?

17 MR. COX: I have just a couple.

18 REDIRECT EXAMINATION

19 BY MR. COX

20 Q You stated in an answer to a question that Mr. Sperling  
21 asked that your conclusion was based primarily on  
22 pressure data.

23 Is your conclusion also based on the tests of the  
24 gas?

25 A Yes, sir.

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1 Q And in answer to the question from Mr. Stamets, he was  
2 concerned whether or not waste would occur, I believe  
3 his question was, leaving all things as they are.

4 Does that assume no commingling between what you  
5 have defined as the upper and lower zones?

6 A Yes, sir. If the cement and casing are able to  
7 withstand the differential pressure that will  
8 doubtlessly increase with time, as the lower zone is  
9 depleted.

10 Obviously, I don't know what the limits of it is,  
11 it's entirely possible that when we get to the range  
12 of 2,000 to 3,000 pounds, it may give way, I don't  
13 know.

14 We've got 800 pounds right now, we are able to  
15 show that, we can show that; but whether we can hold  
16 over an extended period of time, I don't have any idea.  
17 Somewhere we run the risk of surfacing -- in my opinion,  
18 what the cement bond between the casing and the cement--  
19 we know the cement in the formation will withstand  
20 commingling inside the wellbore, but inside the hole  
21 itself --

22 Q And if there is commingling, there will be waste?

23 A In my opinion, there will be, yes, sir.  
24  
25

RECROSS-EXAMINATION

BY MR. UTZ

Q Mr. Aycock, do you expect more development in this portion of the pool?

A Mr. Utz, I think I do expect more development if some way can be worked out to define this as a physically separate reservoir from the old pool. I would expect it would accelerate it, yes, sir.

I wouldn't be surprised at all, as I said before, if Mobil might decide to try to drill another well on the North half of their East half of Section 11 in an attempt to pick up this upper zone, because it appears to me geologically they have a good possibility of doing that.

MR. UTZ: Are there other questions?

RECROSS-EXAMINATION

BY MR. SPERLING

Q I don't quite understand why it is, under the conditions in the pool rules, as they presently exist, that Felmont would elect not to produce the upper zone.

A Well, all that would do is not allow Felmont to produce its share from the common reservoir, in which case, if that's the case, then somebody else is going to produce it.

Q Well, I meant to include the penalty factor that's

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1 already been mentioned by reason of the unorthodox  
2 location.

3 A Well, that just reduces us that much further from what  
4 our capacity would be, which makes it even that much  
5 more probable that drainage will occur from our location  
6 to some other location.

7 Q In the "A" Zone?

8 A In the "B" Zone.

9 Q You mean, even having in mind the differential in the  
10 producing capacities of the wells in the vicinity of  
11 your well?

12 A Well, let's look at it this way: We've already  
13 established that, in our opinion, we've got the capability  
14 to produce a maximum of 6,000,000 a day, which we  
15 recognize is going to be reduced because of the  
16 operation of the field rules and the penalty factor.

17 Now, if I understood correctly what will happen,  
18 if we chose to go this thing together and don't get  
19 any additional allowable for it, then all that means is  
20 that we lose that much more to the lower zone, which in  
21 our belief, is not a common reservoir; and if that's  
22 the case, then there is no doubt that some drainage  
23 will take some place to some other location.

24 MR. SPERLING: That's all.  
25

RECROSS-EXAMINATION

BY MR. UTZ

Q Mr. Aycock, if you had been in a standard location, would you have picked up the upper zone?

A From what we know --

Q Well, from what I see at that location, you would have a better chance of picking up the upper zone.

A It was Jim Whitton's testimony in 4715 that that was the reason for requesting the non-standard location, was the hope that this upper zone would prove to be productive, which it did.

That was premised on the fact that because they were all in communication on the South quarter of the field, that we would not be finding the conditions that we did find.

We tested them as a single reservoir, and it was not until later that we recognized that we were dealing with two completely different things. We expected that they would be as they are in the South, let's put it that way, and it worked out totally against our expectations.

Q And the circumstances which led to your penalty was of your own decision?

A Yes, sir. It was a willingness to accept the penalty to risk the drilling of the well.

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1 MR. UTZ: Are there other questions of the witness?

2 (No response.)

3 MR. UTZ: Take the case under advisement.

4 MR. SPERLING: Mr. Examiner, we have a witness  
5 that we would like to present in this matter. It is now  
6 approaching the noon hour, could I suggest that we recess?

7 MR. UTZ: I think that's an excellent suggestion.  
8 We will recess until 1:30.

9 (Whereupon, Case 4894 was recessed until 1:30 P.M.)

10 MR. UTZ: The hearing will come to order, please.  
11 I believe when we recessed for lunch, we were about ready  
12 to hear from Mr. Sperling.

13 MR. SPERLING: Yes, sir, I believe I entered my  
14 appearance earlier.

15 We have a witness, Mr. Vic Inman, who has not been  
16 sworn.

17 \* \* \* \* \*

18 VICTOR INMAN,  
19 having been first duly sworn according to law, upon his oath,  
20 testified as follows:

21 DIRECT EXAMINATION

22 BY MR. SPERLING

23 Q Mr. Inman, would you give us your full name, your  
24 address, the name of your employer, and the capacity in  
25 which you are employed?

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1 A My name is Victor Inman, I'm a Senior Production  
2 Geologist with Mobil Oil Corporation in Midland, Texas.

3 Q Are you familiar with the area which is the subject of  
4 this hearing?

5 A Yes, sir, I am.

6 Q Have you, on any previous occasion, testified before  
7 this Commission so that your qualifications as a  
8 geologist are a matter of record?

9 A Yes, I have.

10 MR. SPERLING: Are Mr. Inman's qualifications  
11 acceptable?

12 MR. UTZ: Yes, sir, they are.

13 Q (By Mr. Sperling) Okay. Would you please refer to  
14 what we have marked for identification as Mobil's  
15 Exhibit Number 1 in this matter?

16 The exhibit marked as Mobil's Exhibit Number 1 in  
17 this matter appears to be a cross-section: would you  
18 identify it and tell us in your own words and in  
19 whatever details you consider appropriate, what this is,  
20 how it was constructed, and what it is intended to  
21 show?

22 A The first thing I want to point out is the scale in the  
23 bottom center of the cross-section. The one-inch  
24 equals 300-foot horizontal scale is correct, but the  
25 vertical scale of one-inch equals 200 feet is in error,



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1 and it should be one-inch equals 40 feet, the vertical  
2 scale.

3 Q I assume those are one-inch increments marked  
4 respectfully?

5 A 250, and 500, and 750, yes, they are.

6 Q And they should indicate 40, 80, and 120?

7 A Yes, sir.

8 MR. UTZ: That's on the vertical scale?

9 THE WITNESS: Yes, sir, which gives two and a half  
10 inches on the log equals 100 feet and that's a seven and a  
11 half to one vertical exaggeration.

12 The cross-section here consists of gamma ray sonic,  
13 or acoustic, log on three wells and these three wells are  
14 the three northernmost wells in the Atoka-Pennsylvanian Gas  
15 Fields.

16 Now, down in the bottom left-hand corner, there is  
17 an index map that shows the location of these wells in the  
18 cross-section. They are connected by red lines.

19 The well on the right of the cross-section is the  
20 Mobil Number 1 Brainard Unit, the well in the center is the  
21 Felmont Number 1 Aaron Unit; those are about one-half mile  
22 apart. The well on the left is the Chevron Number 2  
23 Paul-Terry Gas Com, which is about three-quarters of a mile  
24 Southwest of the Felmont Well.

25 The index map has some red circles of wells that

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1 are circled in red, and those are wells that have penetrated  
2 the Atoka-Penn Morrow Gas Pool, and the ones that have a  
3 gas symbol are producing in the field.

4 The first thing on the cross-section I want to  
5 bring to your attention is the two blue lines that are  
6 correlated across the cross-section. Now, this is a  
7 stratigraphic cross-section in that the cross-section  
8 hang-line or datum plain is the base of the lower lithographic  
9 unit colored in blue; and to give you an idea of the  
10 relative subsea datum on the base of this line, I have the  
11 in-hole depth and the subsea depth on the right-hand tract  
12 of the log of each log on that lower blue lithologic unit,  
13 just to the right of the depth tract.

14 You can see that the Mobil Well is about 145, 140  
15 feet low to the Belmont Well, and that datum, and it becomes  
16 a little bit lower below that datum.

17 Now, these two lithographic units, or lithologic  
18 units, that I have colored in blue, they are the furthest  
19 correlations that can easily be seen above the Pennsylvanian  
20 Gas Sand Zones in the Atoka-Penn Field.

21 The next thing I want to bring to your attention  
22 are the two blue correlation lines on the bottom of the  
23 cross-section, on the bottom of the logs.

24 Now, between those two lines, there are two  
25 characteristic curves on the logs, and particularly on the

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1 sonic side of the log, you can see that that bottom one is  
2 a spike, or kick, and immediately above there is a little  
3 bit more rounded lithologic unit; and these correlate in  
4 these three wells, they are characteristic as they are in  
5 the other wells in the field.

6 Now, the zones that I have colored red are the  
7 perforated and producing, or potentially productive,  
8 Atoka-Penn Sands in these three wells.

9 Now, if anyone -- well, these also indicate what  
10 I believe are the correlations of these sands in these three  
11 wells, and also of the induction electric logs with the SP  
12 curves and the resistivity that I can correlate through  
13 here, if anyone wishes to further delineate these correlations  
14 or to verify them.

15 Now, the bottom, which I call the zone which I  
16 believe they referred to as the "B" Zone, in the Chevron  
17 and the Felmont Wells is the main pay in the field in that  
18 it is more widely distributed and the better reservoir and  
19 produces in most of the wells in the field.

20 This bottom correlation line, the one that has the  
21 characteristics right there, now has the sand unit that  
22 produces sporadically throughout the field and produces in  
23 the field, along with these other sands.

24 Now, the upper sand, or I believe they referred to  
25 it as the "A" Sand, it is sporadically developed throughout

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1 the field, but produces in the field.

2 Now, you will note in the Mobil Well in the depth  
3 tract I have marked the perforations, or where the  
4 perforations are in that well. You can see that the  
5 perforations, that well is producing out of these  
6 perforations, and that "A", or upper sand, is correlative  
7 to the sand in the Belmont Well which they have asked to  
8 be designated as a new pool sand.

9 In the Mobil Well, the lower sand is also  
10 perforated and those are comingling down-hole and productive  
11 in this well. The lower sand is a poorer sand, the SP in  
12 ~~the case~~ *indicates* that it has a lower permeability, considerably less  
13 than the upper sand in the Mobil Well.

14 And on this basis, it looks like, to me, that the  
15 upper sand in the Mobil Well is producing in the same sand  
16 as the "A" Sand or the upper sand in the Belmont Well, that  
17 that zone has been producing since the Mobil Well was  
18 completed, since 1963 in the Atoka-Penn Gas field.

19 Q Is that the same zone, the upper zone, present in the  
20 Chevron Well which is shown on the extreme left of  
21 the Section?

22 A Yes, it is the upper or "A" Zone in the Chevron Well,  
23 but as far as I know, it has not been perforated. It  
24 has SP character, which indicates it does have some  
25 permeability; but it has not been perforated.

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1 Q Well, then, it's your conclusion from the correlative  
2 points which you have verified that the "A" Zone, or  
3 upper zone, is presently in both the Mobil Well and the  
4 Felmont Well?

5 A Yes, sir.

6 Q Okay. Do you conclude from this that the upper zone,  
7 as delineated in the log on the Felmont Well, is  
8 actually a new reservoir; in other words, that it would  
9 constitute a new discovery, when you have testified that  
10 it is present in the Mobil Well?

11 A I don't believe so, according to the way I understand  
12 the terminology, that it would not. These have been  
13 producing in the field under the same field  
14 designations.

15 Q Do you have anything else, Mr. Inman?

16 A No, sir, I believe that's all.

17 MR. SPERLING: That's all I have, Mr. Examiner.

18 I'd like to offer Mobil's Exhibit Number 1 in this  
19 matter.

20 MR. UTZ: Without objection, Exhibit Number 1 will  
21 be entered into the record of this case.

22 Are there questions of the witness?

23 MR. COX: Can I have just a moment?

24 MR. STAMETS: I'll ask you a couple.

25

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CROSS-EXAMINATION

BY MR. STAMETS

Q Mr. Inman, has it been your experience with the Morrow sands, Morrow Gas Pools, that the sands are discontinuous and you might have one series of sands producing in one well, and part of that same source in other sands producing in adjacent wells?

A Yes.

Q As a practical matter, do you think that the Commission should divide the Morrow vertically and force dual completions when this situation is found?

A I don't believe so. From my experience, say, from the study I made of the Atoka-Penn Pool, say, of what I call the three sand zones present in the field, that some of them are erratic.

Like I say, the top zone produces in a few wells, in the field, as does the bottom zone, and one of the things that have come to mind was that I think you have mentioned that if it is, if you establish separate reservoirs in the field and the erratic nature of the sands in that they have a limited aerial extent at times, that economically it could become unfeasible to make a dual completion.

And, well, it would seem like it would be impractical.

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1 South Carlsbad, I think, has been mentioned before,  
2 is consistent with similar situations.

3 Q If the Felmont Well were a Mobil Well, do you have a  
4 reasonable idea as to how Mobil would complete that  
5 well?

6 A My personal opinion, we wouldn't have considered anything  
7 other than the normal field rules.

8 Q In other words, Mobil would have opened both zones into  
9 the wellbore?

10 A I'm sure we would have because with Morrow sands, we  
11 do that in other fields.

12 Q You heard Mr. Aycock say that he felt that this would  
13 result in waste.

14 Do you have anything to say on that particular  
15 point?

16 A No. Geologically, I don't think I'm qualified to  
17 express -- it would be just an opinion, which would have  
18 no basis.

19 MR. STAMETS: That's all the questions I have.

20 CROSS-EXAMINATION

21 BY MR. UTZ

22 Q Mr. Inman, how do you account for the differential in  
23 the pressure?

24 A I don't. As I say, it's essentially just a very  
25 limited amount, as far as the pressure data in these

1 wells, is what I know, and I just --- I couldn't testify  
2 as to what the pressures are, or what they mean.

3 In other words, essentially what I'm doing is  
4 presenting the geological interpretation of these three  
5 wells; but, I could make one comment which is from the  
6 scout card.

7 In Mobil's Well, when Mobil completed it in 1963,  
8 they did acidize and water frace the well and I could  
9 read the information off, if you would like.

10 Q Well, if you have it, it would probably be in order.

11 A And I think it's a pretty common knowledge now that the  
12 Morrow is very easily contaminated and you can create  
13 a permeability block with your treatment and particularly  
14 with a water exposed formation, which swells the plate  
15 barrels between the sands and can cause considerable  
16 permeability damage.

17 After the well was perforated, it was treated with  
18 1,000 gallons.

19 Q Which well are we speaking of now?

20 A This is the Mobil Number 1 Brainard Unit. After it was  
21 perforated, it was treated with 1,000 gallons of acid,  
22 water fraced for 15 gallons of gelled saltwater and  
23 1,500 pounds of sand, and then it flowed 467 Mcf on a  
24 one-inch choke: and they flowed it and then they  
25 retreated the sand with 1,000 gallons of acid, rewater

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1 fraced with 3,800 gallons of gelled water and sand. I  
2 think that could be --- this is a possibility --- one  
3 thing that affects the produceability of that well.

4 It could have initially, but it seems to have the  
5 productivity, indicates that it has a permeability  
6 problem and it could be that, it could be toward the  
7 down dip edge of the sands, which could affect the  
8 permeability.

9 MR. UTZ: Are there other questions of the  
10 witness?

11 MR. COX: No questions.

12 MR. UTZ: Are there other questions of the  
13 witness?

14 (No response.)

15 MR. UTZ: The witness may be excused.

16 Do you have any further witnesses?

17 MR. SPEELING: No, sir.

18 MR. UTZ: Are there statements in the case? Does  
19 anyone have statements in the case?

20 MR. SPEELING: Yes, Mr. Examiner. Mobil Oil  
21 Corporation opposes the application of Belmont in this  
22 matter for the reason that it seems, from the information  
23 presented by the parties concerned, that since the discovery  
24 of this field and since the drilling of the wells, the Mobil  
25 Well, the Brainard Unit No. 1 in 1963, that the reservoirs

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1 which are designated as separate reservoirs by Belmont in  
2 this hearing are actually in communication through the  
3 wellbore, and are actually a part of the Atoka-Pennsylvanian  
4 Pool as presently designated.

5 It seems to me that if there was a separate pool  
6 classification for what has been referred to as the upper  
7 zone, or the "A" Zone, and since it seems to be clear that  
8 this zone is presently erratic in a number of wells throughout  
9 the field, that it would cause almost administrative chaos  
10 in trying to properly administer the field as well as cause  
11 all sorts of impediment to the economic development of the  
12 pool to whatever its limits may be.

13 The suggestion that these wells would have to be  
14 dually completed in order to be produced is unduly burdensome,  
15 based upon the information that is presented at the present  
16 time.

17 Therefore, we respectfully request that the  
18 application be denied.

19 MR. UTZ: Do you have a statement, Mr. Cox?

20 MR. COX: Yes. In closing, Mr. Examiner, I believe,  
21 we feel that the application is justified in that it is in  
22 the best interest of conservation and prevention of waste.

23 The testimony, which I don't think has been  
24 successfully refuted, is that there is no pressure  
25 communication in this well with the rest of the wells in the

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1 upper, or "A" Zone.

2 There definitely is a pressure communication in  
3 the lower zone between the various wells.

4 It's the position of Belmont that this is definitely  
5 a new reservoir and should be treated as such, based on the  
6 testimony that we've presented by Mr. Aycock. And the  
7 geological information and the theories to be drawn  
8 therefrom do indicate, based on the interpretation of  
9 geological information, the placing of the lines on Mobil's  
10 Exhibit, indicate that there may be some correlation between  
11 the upper zones; but the testimony that we've presented  
12 concerning the difference in pressures and the difference  
13 in content of the gas, clearly establishes, in our opinion,  
14 the fact that we are talking about two different reservoirs,  
15 and in order to allow the producer to recover a reasonable  
16 return.

17 To take the gas that he's found in this new  
18 reservoir without jeopardizing its loss in commingling itself  
19 with the lower reservoir, we contend that this application  
20 should be granted.

21 MR. UTZ: Are there other statements in this case?

22 (No response.)

23 MR. UTZ: The case will be taken under advisement.  
24  
25

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

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

9   
10 NOTARY PUBLIC

11  
12 My Commission Expires:  
13 August 4, 1976  
14  
15  
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I do hereby certify that the foregoing is  
a complete record of the proceedings in  
the Examiner hearing of Case No. 4894  
heard by me on Jan 17, 1973.

  
New Mexico Oil Conservation Commission

NOTARIAL PUBLIC  
STATE OF NEW MEXICO  
COUNTY OF BERNALILLO  
I do hereby certify that the foregoing is  
a complete record of the proceedings in  
the Examiner hearing of Case No. 4894  
heard by me on Jan 17, 1973.

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I N D E X

WITNESS

WILLIAM P. AYCOCK

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WITNESS

VICTOR INMAN

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## OIL CONSERVATION COMMISSION

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

April 27, 1973

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CHAIRMAN

LAND COMMISSIONER  
ALEX J. ARMIJO  
MEMBER

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

Mr. Lewis Cox  
Hinkle, Bondurant, Cox & Eaton  
Attorneys at Law  
Post Office Box 10  
Roswell, New Mexico 88201

Re: Case No. 4894  
Order No. R-4512  
Applicant:  
Felmont Oil Corporation

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.  
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC x  
Artesia OCC x  
Aztec OCC           

Other Mr. Jim Sperling, Mr. Bill LeMay

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. 4894  
Order No. R-4512

APPLICATION OF FELMONT OIL CORPORATION  
FOR A DUAL COMPLETION, CONTRACTION OF  
VERTICAL LIMITS, CREATION OF A NEW  
POOL, AND SPECIAL POOL RULES, EDDY  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 17, 1973, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 26th day of April, 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 pursuant to the provisions of Order No. R-4310, dated May 24, 1972, the applicant, Felmont Oil Corporation, drilled and completed its Aaron Unit Well No. 1 at an unorthodox location 990 feet from the South line and 1650 feet from the West line of Section 11, Township 18 South, Range 26 East, Atoka-Pennsylvanian Gas Pool, Eddy County, New Mexico, said well being assigned an acreage factor for proration purposes of 0.78 due to its unorthodox location.

(3) That the applicant in completing said well encountered and perforated two productive zones of porosity and permeability, one being from approximately 8894 feet to 8914 feet and the other being from approximately 8966 feet to 8980 feet.

(4) That both of said zones are in the Morrow interval of the Pennsylvanian formation, and both are presently included within the vertical limits of the Atoka Pennsylvanian Gas Pool.

(5) That the applicant seeks the contraction of the vertical limits of said Atoka-Pennsylvanian Gas Pool underlying Section 11, Township 18 South, Range 26 East, NMPM, only, to include only the Lower Pennsylvanian formation and the concurrent creation of a new gas pool underlying said Section 11,



-2-

Case No. 4894  
Order No. R-4512

the vertical limits of which would comprise only the Upper Pennsylvanian formation; applicant further seeks approval for the dual completion of the above-described Aaron Unit Well No. 1 to permit the production of gas from each of the proposed new pools through tubing and the casing-tubing annulus, with separation of the zones achieved by means of a packer set at approximately 8931 feet.

(6) That the Atoka-Pennsylvanian Gas Pool is in fact a Morrow gas pool, inasmuch as all wells in said pool appear to be completed in the Morrow zone of the Pennsylvanian formation.

(7) That it is characteristic of the Morrow zone of the Pennsylvanian formation to be composed of numerous separate sand stringers, or zones of porosity and permeability, which may or may not be continuous from one well to another, and which are often erratic in nature and are often of limited geographic extent in any given area.

(8) That each of the zones of porosity and permeability present in and capable of producing from applicant's Aaron Unit Well No. 1 is present in and capable of producing from other wells in the Atoka-Pennsylvanian Gas Pool.

(9) That to vertically separate the Atoka-Pennsylvanian Gas Pool into separate pools for the various stringers of porosity and permeability, even in areas of limited extent, would create offset obligations which would require the drilling of numerous additional wells or the dual completion of numerous wells, both of which are unnecessary under the present definition of the pool.

(10) That in order to prevent waste and protect correlative rights, to avoid the economic loss caused by the drilling of unnecessary wells, and to avoid the augmentation of risk arising from the drilling of excessive wells, the application should be denied.

IT IS THEREFORE ORDERED:

(1) That the application of Felmont Oil Corporation in the subject case is hereby denied.

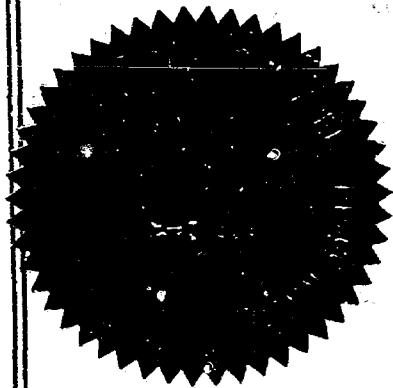
(2) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

-3-

Case No. 4894

Order No. R-4512

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



STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*Bruce King*  
BRUCE KING, Chairman

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

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

S E A L

dr/

Case 4894  
Filed 1-17-73  
Recd 1-29-73

Denise Admairs request  
for a new Post for the upper  
member of the Morrow zone  
of the Penn. fm.  
I am of the opinion that this  
zone is just in the offset  
well - the Mobil-Braided #1  
P-11-18526E. as well as other  
wells in the footwall therefore  
is actually not a new post.  
Since Admair has already  
drilled the well they can protect  
themselves from any pressure  
communications in the event  
they believe there will be any.  
Trust etc.

EXHIBIT  
SUMMARY OF FRACTIONAL ANALYSIS REPORTS  
FELMONT OIL CORPORATION - AARON UNIT 1  
ATOKA (PENN) FIELD  
EDDY COUNTY, NEW MEXICO

Component	Upper Zone*		Lower Zone**	
	Perforations @8894'-8914'		Perforations @8968'-8978'	
	Mol. %	G. P. M.	Mol. %	G. P. M.
Nitrogen	0.41		0.26	
Carbon Dioxide	0.41		0.49	
Methane	91.36		76.96	
Ethane	4.24		10.82	
Propane	1.37	0.376	5.93	1.627
Iso - Butane	0.20	0.065	1.05	0.343
Normal Butane	0.33	0.104	1.52	0.478
Iso - Pentane	0.12	0.044	0.53	0.193
Normal Pentane	0.10	0.036	0.38	0.137
Hexanes	0.12	0.049	0.48	0.197
Heptanes Plus	1.36	0.617	1.58	0.727
Hydrogen Sulfide	None***		None***	
TOTALS	100.00	1.291	100.00	3.702
Heating Value, BTU/CF				
Calculated from % Composition		1139		1349
Calculated Water Saturated		1119		1325
Specific Gravity, @14.7PSIA & 60°F		0.647		0.782

\*Southwestern Laboratories File No. C-1902-G, Lab. No. 19001, secured on November 12, 1972 by A & A Engineering and run on November 13, 1972.

\*\*Southwestern Laboratories File No. C-1902-G, Lab. No. 18995, secured on November 9, 1972 by A & A Engineering and run on November 10, 1972.

\*\*\*By Tutwiler test.

FIGURE NO.  
COMPARATIVE GAS ANALYSES  
UPPER AND LOWER ZONES  
AARON UNIT NO. 1  
ATOKA (Penn) FIELD  
EDDY COUNTY, NEW MEXICO

FELMONT OIL CORPORATION

App 1 Ex 8

COUNTY	POOL <i>St. Louis - Penn.</i>						
TOWNSHIP	RANGE						NMPM
6	5	4	3	2	1		
7	8	9	10	11	12		
18	17	16	15	14	13		
19	20	21	22	23	24		
30	29	28	27	26	25		
31	32	33	34	35	36		

*Ammon Creek well #1 N 11-18-26*

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

LAW OFFICES  
HINKLE, BONDURANT, COX & EATON

600 HINKLE BUILDING

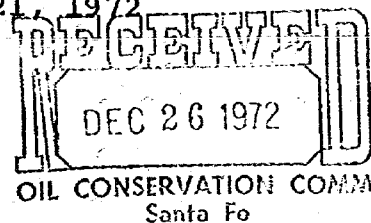
POST OFFICE BOX 10

ROSWELL, NEW MEXICO 88201

TELEPHONE (505) 822-6510

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

December 21, 1972



Mr. Dan Nutter  
Oil Conservation Commission  
Box 2088  
Santa Fe, New Mexico 87501

*Case 4894*

Dear Dan:

We forwarded to you yesterday application of Felmont Oil Corporation for the dual completion of its Aaron Unit No. 1 well in Section 11, Township 18 South, Range 26 East. I called you today that the application was in error in that we had misunderstood Roy Williamson when he gave us the information in that it is the Upper Pennsylvanian zone that is a new discovery rather than the lower. We have redrafted the application and enclose the same in triplicate and would appreciate your destroying or disregarding the original application, except that the exhibit is the same.

Yours sincerely,

HINKLE, BONDURANT, COX & EATON

By Clarence E. Hinkle  
*CH*

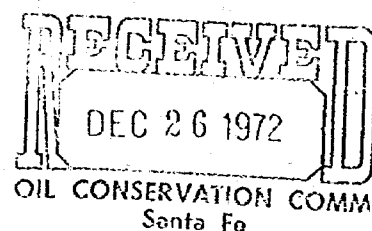
CEH:cs  
Enc.  
cc: Roy Williamson

DOCKET MAILED

Date 1-5-73

BEFORE THE OIL CONSERVATION COMMISSION  
STATE OF NEW MEXICO

APPLICATION OF FELMONT OIL CORPORATION TO AMEND THE SPECIAL RULES AND REGULATIONS FOR THE ATOKA PENNSYLVANIAN GAS POOL, EDDY COUNTY, NEW MEXICO TO EXCLUDE THE PRODUCING INTERVAL FROM 8894 FEET TO 8914 FEET IN WHICH THE FELMONT OIL CORPORATION AARON UNIT NO. 1 WELL LOCATED IN UNIT N, SECTION 11, TOWNSHIP 18 SOUTH, RANGE 26 EAST HAS BEEN COMPLETED AS A GAS WELL, AND WHICH APPEARS TO BE A SEPARATE RESERVOIR FROM WHICH OTHER WELLS IN THE POOL ARE COMPLETED AND WHICH SHOULD BE DESIGNATED AS A NEW POOL. APPLICANT ALSO SEEKS APPROVAL OF THE DUAL COMPLETION OF THE WELL FOR PRODUCTION OF GAS IN THE UPPER PENNSYLVANIAN FORMATION THROUGH PERFORATIONS FROM 8894 FEET TO 8914 FEET AND IN THE LOWER PENNSYLVANIAN FORMATION FROM 8966 FEET TO 8980 FEET, SAID WELL AS TO EACH ZONE TO BE SUBJECT TO SEPARATE SPECIAL POOL RULES AND SEPARATE ALLOWABLES.



*Case 4894*

Oil Conservation Commission  
Box 2082  
Santa Fe, New Mexico 87501

Comes Felmont Oil Corporation, acting by and through the undersigned attorneys and hereby makes application to amend the special rules and regulations for the Atoka Pennsylvanian Gas Pool, Eddy County, New Mexico to exclude the producing interval from 8894 feet to 8914 feet in which the Felmont Oil Corporation Aaron Unit No. 1 well located in Unit N, Section 11, Township 18 South, Range 26 East has been completed as a gas well, and which appears to be a separate reservoir from which other wells in the pool are completed and which should be designated as a new pool. Applicant also seeks approval of the dual completion of the well for production of gas in the Upper Pennsylvanian formation through perforations from 8894 feet to 8914 feet and in the Lower Pennsylvanian formation from 8966 feet to 8980 feet, said well as to each zone to be subject to separate special pool rules and separate allowables, and in support thereof respectfully shows:

1. Applicant has completed its Aaron Unit No. 1 well located 990 feet from the south line and 1650 feet from the west line (Unit N) Section 11, Township 18 South, Range 26 East, Eddy County, New Mexico.

This well encountered gas in the pay zone in which other wells located in the Atoka Pennsylvanian Gas Pool are producing and also encountered gas in a separate zone from which other wells are not producing and which is believed to constitute a new discovery and a separate reservoir. This well has been dually completed for the production of gas from both zones through perforations for the Upper Pennsylvanian zone from approximately 8894 feet to 8914 feet and through perforations in the Lower Pennsylvanian zone from approximately 8968 feet to 8978 feet.

2. The gas in the Upper Pennsylvanian zone is of a different quality from that encountered in the Lower Pennsylvanian zone and there is a considerable differential in the pressures encountered in the two zones, indicating that the upper zone is separate and distinct from the lower zone from which other wells are producing.


3. There is attached hereto, made a part hereof and for purposes of identification marked Exhibit "A", a plat showing the location of the subject well and the other wells located in the Atoka Pennsylvanian Gas Pool.

4. Applicant requests that this matter be set down for hearing at the examiner's hearing to be held on January 17, 1973.

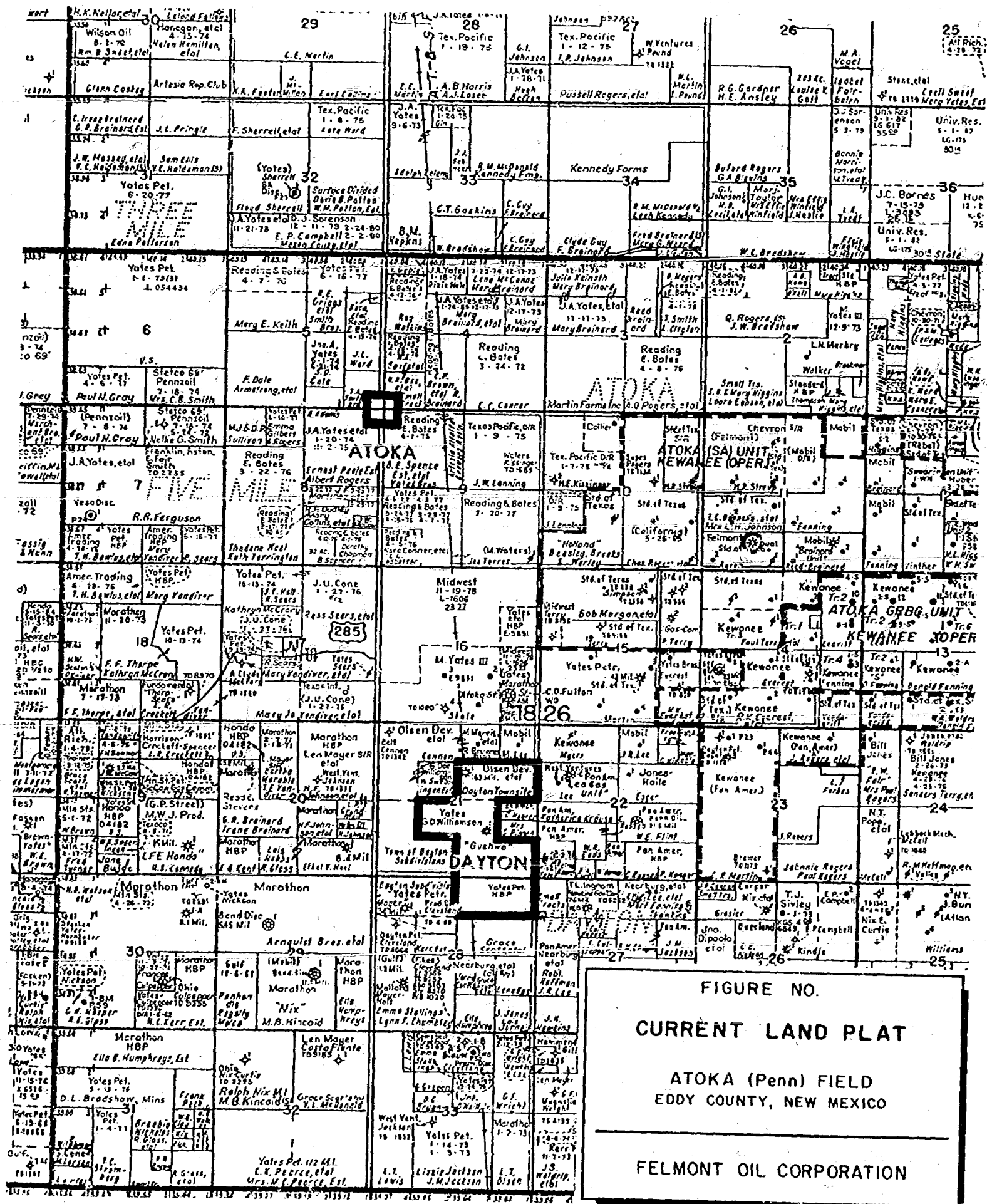
Respectfully submitted,

FELMONT OIL CORPORATION

By

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

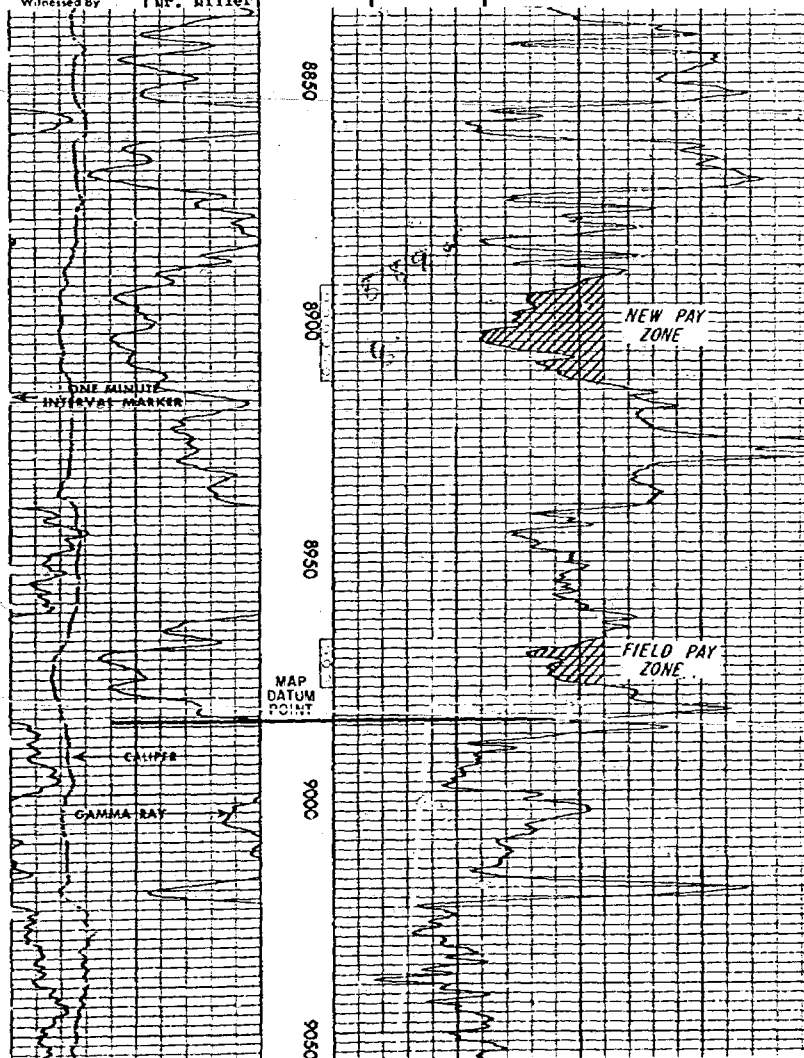






# COMPENSATED ACUSTIC VELOCITY LOG

COMPANY FELMONT OIL CORPORATION	
WELL	AARON UNIT # 1
FIELD	ATOKA PENN
COUNTY	EDDY STATE NEW MEXICO
Location	990' FGL & 1650' FWL
Sec. 11	Twp 18-S Rge 26-E
Permanent Datum	Ground Level Elev. 3319'
Log Measured From	K. B. - 13 Ft. Above Perm. Datum
Drilling Measured From	Kelly Bushing
Date	10/23/72
Run No.	One
Depth-Driller	9182
Depth-Welex	9191
Str. Log Inter.	9185
Top Log Inter.	Surface
Casing-Driller	8-7/8" @ 1500'
Casing-Welex	
Bit Size	7-7/8"
Type Fluid in Hole	Mud
Dens. & Visc.	9.2 @ 45
pH & Fluid Loss	15.8 ml
Source of Sample	Circulated
R. @ Meas. Temp.	1.10 @ 66 °F
R. @ Meas. Temp.	0.70 @ 60 °F
R. @ Meas. Temp.	@ °F
Source R. R.	Measured
R. @ BHT	0.56 @ 147°
Time Since Circ.	
Max. Rec. Temp.	147° @ B.H.
Equip. Location	8444 Hobbs
Recorded By	B.H. Strou
Witnessed By	Mr. Miller



NEW POOL PERFORATIONS AT 8894-8914  
STATIC BHP 3257 PSIG @ DATUM OF -5585'SUBSEA.  
COMPLETED 11-11-72 FOR CAOPF OF 15,114 MCF/D.

OLD POOL PERFORATIONS AT 8966-8980'  
STATIC BHP 2465 PSIG @ DATUM OF -5654'SUBSEA.  
COMPLETED 11-4-72 FOR CAOPF OF 11,332 MCF/D.

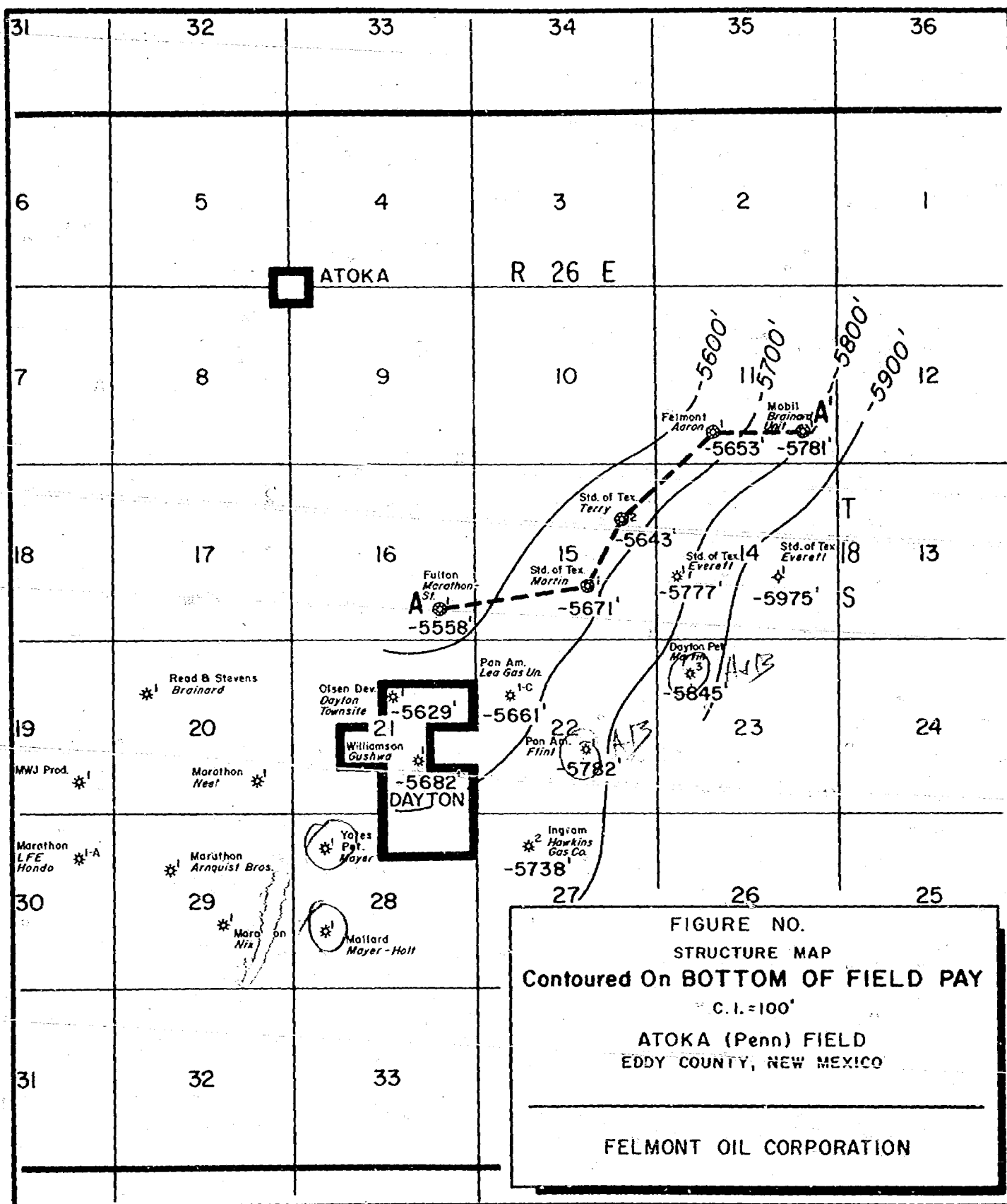
5654  
5585  
69

FIGURE NO.  
WELL LOG  
COMPLETION & PAY DATA

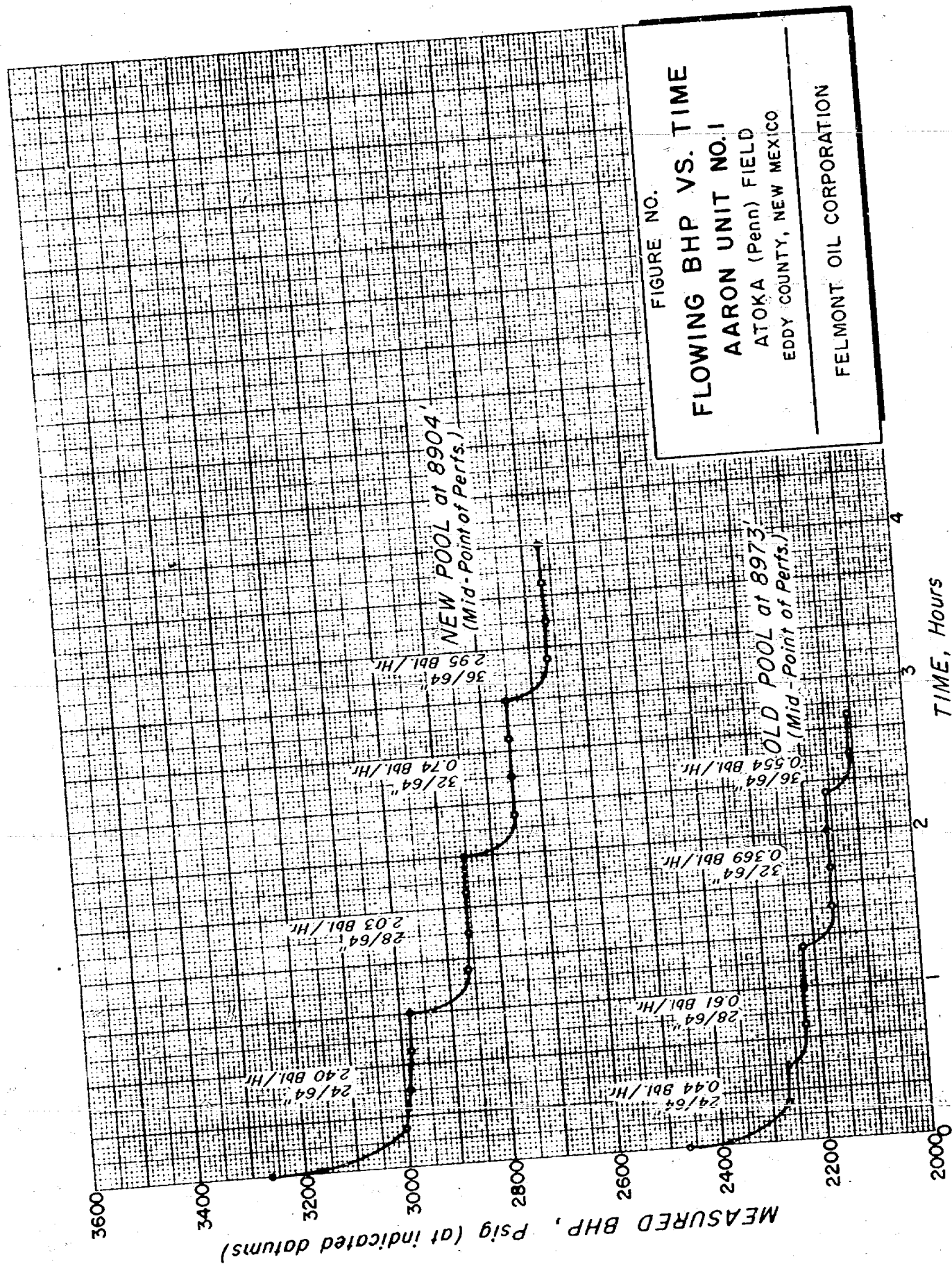
ATOKA (Penn) FIELD  
EDDY COUNTY, NEW MEXICO

FELMONT OIL CORPORATION

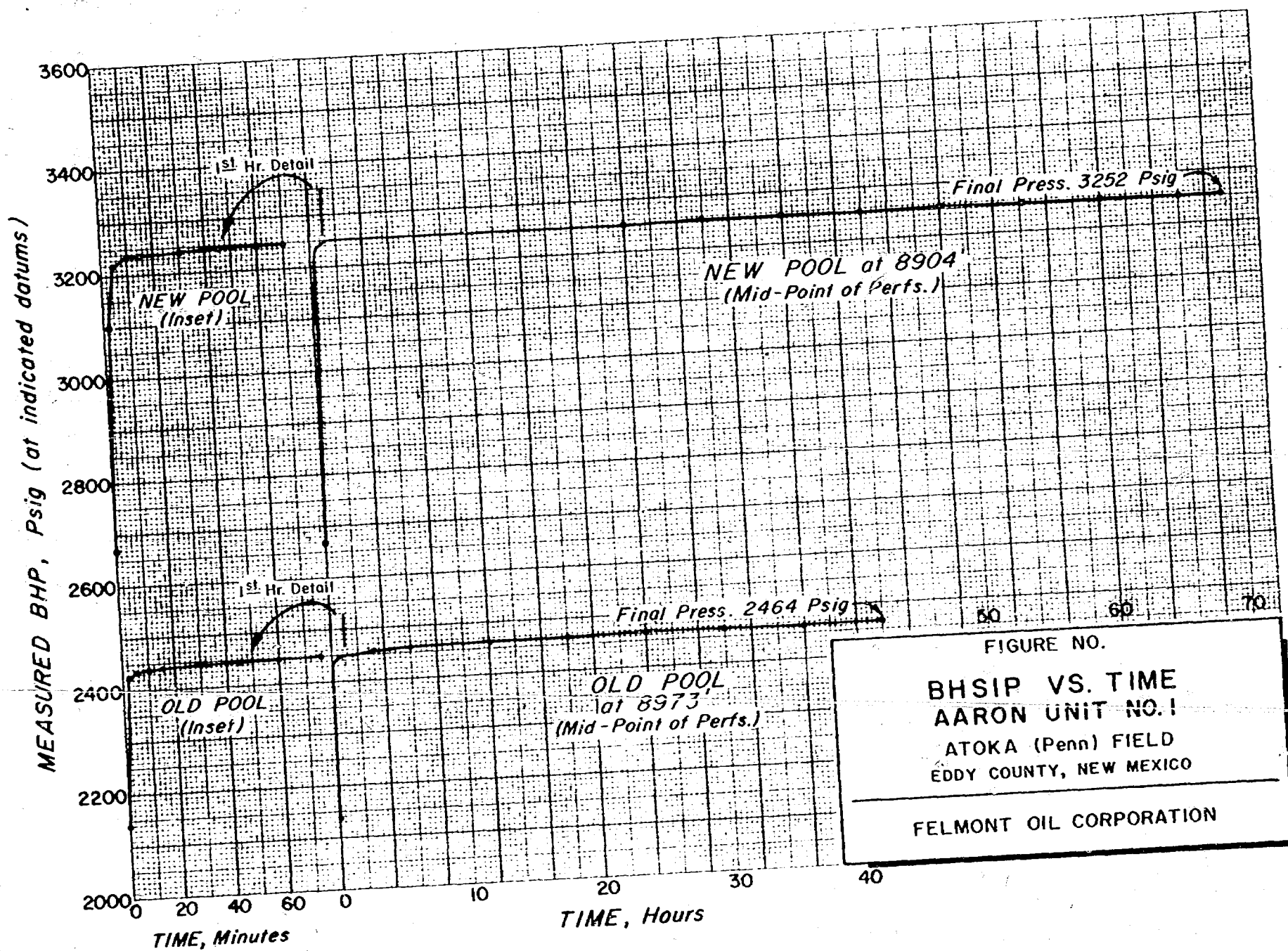
Appl Ex 2



App/E43



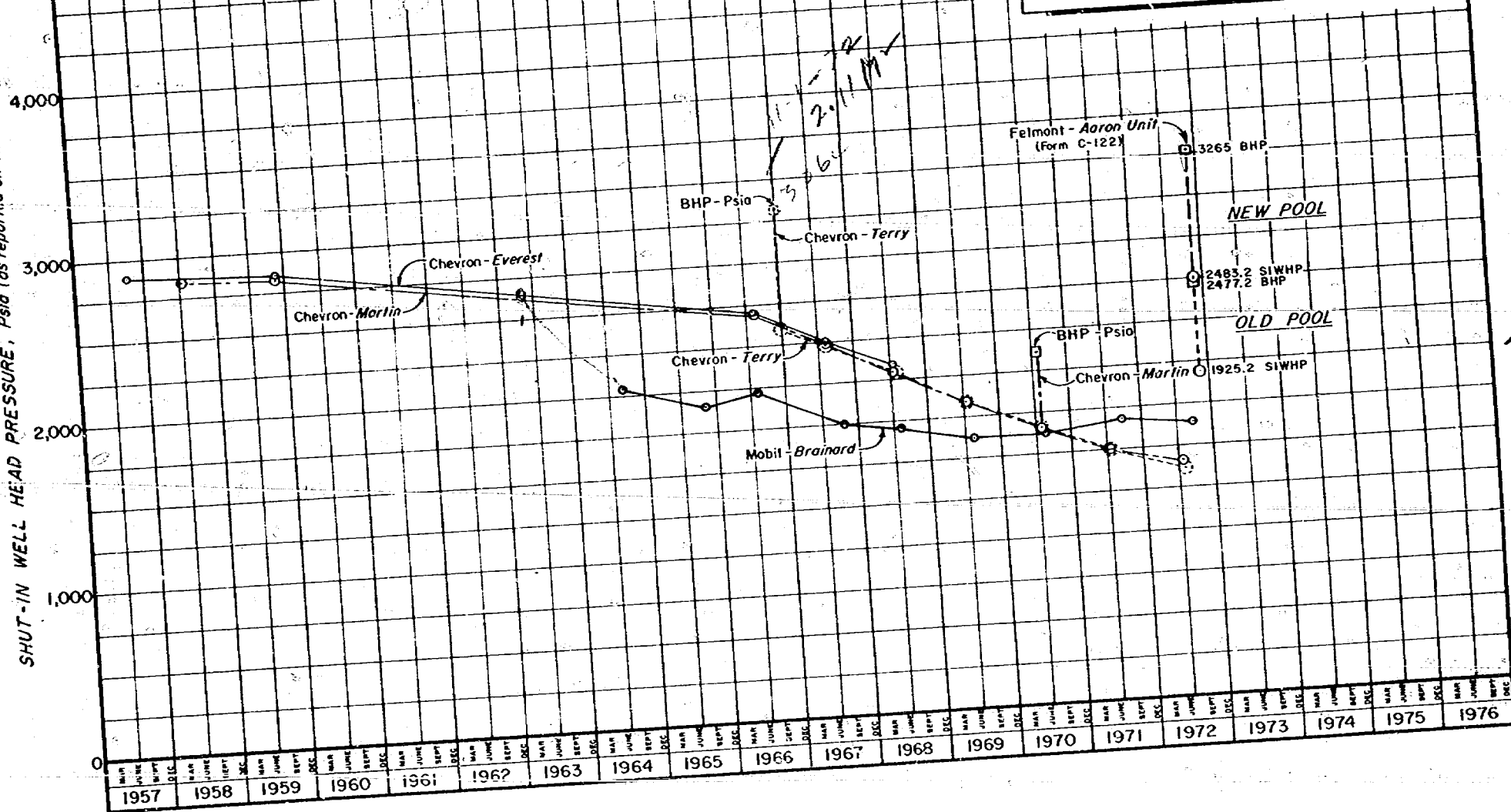
App 15x5



App'l Ex'l

SHUT-IN WELL HEAD PRESSURE, Psia (as reported on NMOC-form C-125)

FIGURE NO.  
SHUT-IN PRESSURE VS TIME  
ATOKA (Penn) FIELD  
EDDY COUNTY, NEW MEXICO  
FELMONT OIL CORPORATION

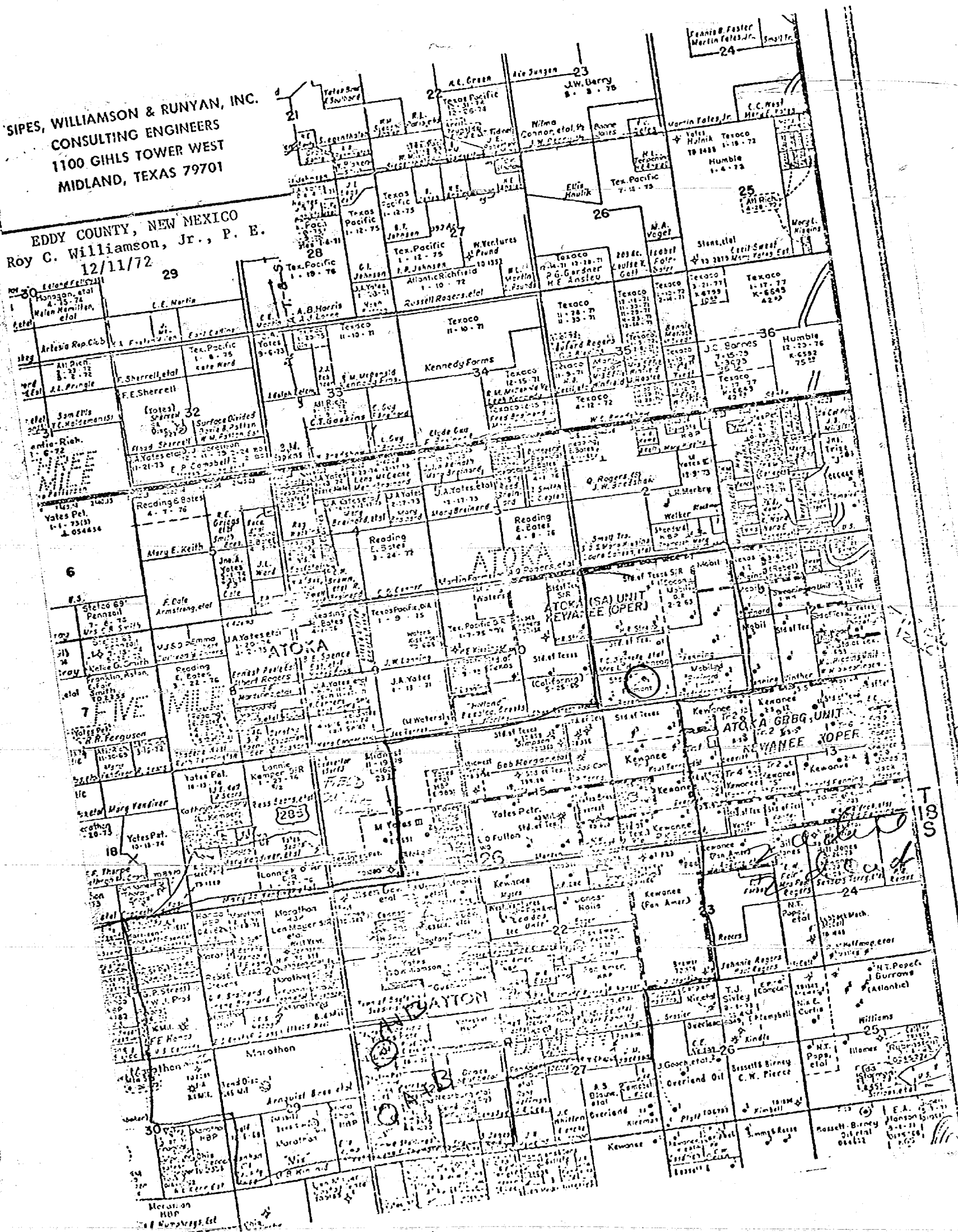


App 1 Ex 7



SIPES, WILLIAMSON & RUNYAN, INC.  
CONSULTING ENGINEERS  
1100 GIRLS TOWER WEST  
MIDLAND, TEXAS 79701

EDDY COUNTY, NEW MEXICO  
Roy C. Williamson, Jr., P. E.  
12/11/72



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 OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 4894

Order No. R-4512

APPLICATION OF FELMONT OIL  
CORPORATION FOR A DUAL COMPLE-  
TION, CONTRACTION OF VERTICAL  
LIMITS, CREATION OF A NEW POOL,  
AND SPECIAL POOL RULES, EDDY  
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 17, 1973,  
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this April day of April, 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 pursuant to the provisions of Order No. R-4310,  
dated May 24, 1972, the applicant, Felmont Oil Corporation, drilled  
and completed its Aaron Unit Well No. 1 at an unorthodox location  
990 feet from the South line and 1650 feet from the West line of  
Section 11, Township 18 South, Range 26 East, Atoka-Pennsylvanian  
Gas Pool, Eddy County, New Mexico, said well being assigned an  
acreage factor for proration purposes of 0.78 due to its unorthodox  
location.



(3) That the applicant in completing said well encountered and perforated two productive zones of porosity and permeability, one being from approximately 8894 feet to 8914 feet and the other being from approximately 8966 feet to 8980 feet.

(4) That both of said zones are in the Morrow interval of the Pennsylvanian formation, and both are presently included within the vertical limits of the Atoka Pennsylvanian Gas Pool.

(5) That the applicant seeks the contraction of the vertical limits of said Atoka-Pennsylvanian Gas Pool underlying Section 11, Township 18 South, Range 26 East, NMPM, only, to include only the Lower Pennsylvanian formation and the concurrent creation of a new gas pool underlying said Section 11, the vertical limits of which would comprise only the Upper Pennsylvanian formation; applicant further seeks approval for the dual completion of the above-described Aaron Unit Well No. 1 to permit the production of gas from each of the proposed new pools through tubing and the casing-tubing annulus, with separation of the zones achieved by means of a packer set at approximately 8931 feet.

(6) That the Atoka-Pennsylvanian Gas Pool is in fact a Morrow gas pool, inasmuch as all wells in said pool appear to be completed in the Morrow zone of the Pennsylvanian formation.

(7) That it is characteristic of the Morrow zone of the Pennsylvanian formation to be composed of numerous separate sand stringers, <sup>or zones of porosity and permeability,</sup> which may or may not be continuous from one well to another, and which are <sup>often</sup> erratic in nature and are <sup>often</sup> of limited areal <sup>geographic</sup> extent in any given area.

(8) That each of the zones of porosity and permeability present in and capable of producing from applicant's Aaron Unit Well No. 1 is present in and capable of producing from other wells in the Atoka-Pennsylvanian Gas Pool.

(9) That to vertically separate the Atoka-Pennsylvanian Gas Pool into separate pools for the various stringers of porosity and permeability, even in areas of limited extent, would create offset obligations which would require the drilling of numerous additional wells or the dual completion of numerous wells, both of which are unnecessary under the present definition of the pool.

(10) That in order to prevent waste and protect correlative rights, to avoid the economic loss caused by the drilling of unnecessary wells, and to avoid the augmentation of risk arising from the drilling of excessive wells, the application should be denied.

IT IS THEREFORE ORDERED:

(1) That the application of Felmont Oil Corporation in the subject case is hereby denied.

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

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

for hearing 1-17-73  
Special Agent  
12/15  
both your requests to

8966-8980  
Lower River

8894-8914  
above upper River  
needs approval of

also from other users  
your more requests  
N-11-185-26E 200y  
8980  
#1

to include 8966 to  
your Post  
American Cofaka River  
Tollman Oil Corp

CASE 4895: Application of LLANO,  
INC. FOR APPROVAL OF THE GRAMA  
RIDGE MORROW UNIT AGREEMENT.