

CASE 6114: TEXAS OIL AND GAS COMPANY  
FOR SPECIAL POOL RULES OR A SPACING  
EXCEPTION, EDDY COUNTY, NEW MEXICO

*any*

Case Number

6114

Application

Transcripts.

Small Exhibits

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BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
January 4, 1978

EXAMINER HEARING

IN THE MATTER OF:

Application of Texas Oil and Gas Company ) CASE  
for special pool rules or a spacing excep- ) 6114  
tion, Eddy County, New Mexico. )

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

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

For Texas Oil & Gas:                      A. J. Losee, Esq.  
LOSEE & CARSON, P.A.  
Attorneys at Law  
300 American Home Building  
Artesia, New Mexico

For Amoco Production Company: Guy Buell, Esq.  
Legal Counsel  
P. O. Box 3092  
Houston, Texas

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

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WILLIAM SIRUTA

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LES SKINNER

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1 MR. NUTTER: We will call Case Number 6114.

2 MS. TESCHENDORF: Case 6114, application of Texas  
3 Oil and Gas Company for special pool rules or a spacing  
4 exception, Eddy County, New Mexico.

5 (THEREUPON, a discussion was held  
6 off the record.)

7 MR. NUTTER: The hearing will come to order.

8 The record will show that we have previously called  
9 Case 6114. We will now resume with that case.

10 MR. LOSEE: Mr. Examiner, Mr. A. J. Losee, Losee  
11 and Carson, Artesia, New Mexico, appearing on behalf of the  
12 applicant. I have two witnesses.

13 MR. BUELL: May it please the Examiner, for Amoco  
14 Production Company, Guy Buell. We do not plan any direct  
15 presentation.

16 (THEREUPON, the witnesses were duly sworn.)

17  
18 WILLIAM SIRUTA  
19 called as a witness, having been first duly sworn, was  
20 examined and testified as follows:

21 DIRECT EXAMINATION

22 BY MR. LOSEE:

23 Q Would you state your name and residence, please?

24 A My name is William Siruta from Midland, Texas.

25 Q Where do you live?

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1 A 3514 Humble in Midland, Texas.

2 Q What is your occupation?

3 A Geologist.

4 Q Would you briefly state for the Examiner your  
 5 educational and experience background in the field of geology?

6 A I graduated in 1972 with a BS from Fort Hayes  
 7 Kansas State College in Hayes, Kansas. I had two years of  
 8 graduate work at Utah State University at Logan, Utah. I was  
 9 employed three and a half years by Gulf Oil Corporation  
 10 working in Texas and New Mexico. Two and a half years of my  
 11 experience was in southeast New Mexico with Gulf and I have  
 12 been employed four and a half months with Texas Oil and Gas  
 13 also working in southeast New Mexico.

14 Q Has your experience in southeastern New Mexico  
 15 consisted in part on the Pennsylvanian formation?

16 A Yes.

17 MR. LOSEE: Are Mr. Siruta's qualifications  
 18 acceptable?

19 MR. NUTTER: Yes, they are.

20 MR. LOSEE: For the record, Mr. Examiner, let me  
 21 interrupt and explain that the purpose of the application,  
 22 although it is plead in an alternative, is to restrict the  
 23 hundred and sixty acre spacing to the presently defined  
 24 limits of the Shugart-Pennsylvanian Field so that any well  
 25 drilled outside of those present horizontal limits will be

1 governed either by the statewide Rule 320 or if it is  
2 connected with another pool, those pool rules.

3 Q (Mr. Losee continuing.) Would you please refer  
4 to what has been marked as Exhibit A or Exhibit One and  
5 explain what is portrayed by this exhibit?

6 A This is a land plat of the area that we are con-  
7 cerned with. The area that is outlined in green on the  
8 exhibit is the Penn Pool that Amoco has their wells completed  
9 in. The area outlined in red is the North Shugart Pool. The  
10 colored dots are just the wells that are highlighted that are  
11 either completed in or have drilled through the Pennsylvanian  
12 section.

13 Q Now the wells that Amoco presently has in what is  
14 known as the Shugart Pennsylvanian Pool.

15 A Yes.

16 Q Would you explain for the Examiner the present  
17 condition of each of these wells shown on this map and  
18 whether or not they are or are not producing from the Morrow  
19 or the Atoka?

20 A The well located in Section 34 of 18, 31, is Amoco's  
21 Greenwood Unit No. 2. It is presently completed in both the  
22 Atoka and Morrow.

23 The well located in the southeast quarter in  
24 Section 27 is presently completed in the Siluro-Devonian.

25 The well in the northeast quarter of Section 27, the

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1 Greenwood Unit No. 3, is presently completed in the Morrow.

2 MR. NUTTER: Would you go through those three wells  
3 again, please?

4 A The well in 34, the Amoco Greenwood Unit No. 2 is  
5 completed in both the Atoka and Morrow.

6 MR. NUTTER: Now that is not as a dual completion,  
7 is it?

8 A No, they are commingled downhole.

9 MR. NUTTER: Because this pool has been designated  
10 a Pennsylvanian Pool so the entire Pennsylvanian is the pool.

11 A Yes.

12 MR. NUTTER: And this was completed in the Morrow  
13 and Atoka zones?

14 A Yes, sir.

15 MR. NUTTER: Then the well in the southeast of 27  
16 again?

17 A It's the Greenwood Unit No. 1 and it is a Siluro-  
18 Devonian completion.

19 MR. NUTTER: So it's not in the Pennsylvanian at all  
20 then?

21 A Yes, sir, that's right.

22 MR. NUTTER: And the one in the northeast was a  
23 Morrow?

24 A Yes.

25 MR. NUTTER: Okay.

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1 Q (Mr. Losee continuing.) What about the well in 26,  
2 No. 6?

3 A Okay, the Continental Greenwood Unit No. 6 is  
4 presently P & A'ed and was originally completed in the Atoka.

5 Q Please turn to what has been marked as Exhibit  
6 Two, being a production map of this area, and explain what is  
7 shown by this exhibit?

8 A The numbers that I have placed beside the wells here  
9 the top part of the number is the total cumulative production  
10 from the different zones. The number underneath the line is  
11 the last recorded daily rate.

12 The Amoco Greenwood Unit No. 2 located in Section 34  
13 has a cumulative production in excess of ten BCF with over  
14 two hundred thousand barrels of oil and it is presently  
15 producing six hundred and fifty-nine cubic feet of gas per  
16 day.

17 Amoco's Greenwood Unit No. 1 which is a Siluro-  
18 Devonian producer in Section 27 has a cumulative production  
19 in excess of sixteen BCF and over nine hundred thousand  
20 barrels of oil and is presently producing five hundred and  
21 sixty-one cubic feet of gas per day.

22 The Amoco Greenwood Unit No. 3 which was originally  
23 completed in the Devonian and had a cumulative production of  
24 one point two BCF, plus in excess of sixty-two thousand  
25 barrels of oil and then was at a later date completed in the

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1 Bone Spring with a cumulative production of one hundred and  
2 three thousand barrels of oil and then at a later date yet it  
3 was completed in the Morrow and had a cumulative production  
4 of one point four BCF, plus thirty thousand barrels of oil.

5 The Continental Oil Greenwood Unit No. 6 located in  
6 Section 26 was originally completed in the Atoka and had a  
7 cumulative production of thirteen million cubic feet of gas,  
8 plus three hundred and fifty barrels of oil and is presently  
9 plugged and abandoned.

10 Also this map indicates the recently completed  
11 Gulf wells, the Gulf Littlefield EN Federal in Section 20 which  
12 was completed as an Atoka Morrow dual. The Atoka had a  
13 calculated absolute open flow of three point three million  
14 cubic feet of gas per day. The Morrow had a calculated  
15 absolute open flow of fourteen point nine million cubic feet  
16 of gas per day.

17 The Gulf North Shugart Deep Working Interest Unit  
18 No. 1 located in Section 29 was completed as a Morrow well and  
19 had a calculated absolute open flow of five point four million  
20 cubic feet of gas per day.

21 MR. NUTTER: Now what's the Gulf Littlefield Well  
22 in 22?

23 A It was drilled originally as a Siluro-Devonian test  
24 and was plugged back to a Delaware sandstone producer.

25 MR. NUTTER: It's an oil well?

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1 A Yes.

2 MR. NUTTER: Did it produce from the Siluro-  
3 Devonian?

4 A No, sir.

5 Q (Mr. Losee continuing.) These two Gulf wells in  
6 Sections 20 and 29 were drilled in this year, 1977?

7 A Yes, sir.

8 Q And the four wells shown in 26, 27 and 30 were  
9 drilled by Amoco many years ago, fifteen or twenty years ago?

10 A Yes, sir.

11 Q Mr. Siruta, do you have an opinion as to whether or  
12 not the approval of this application, that is limiting the  
13 horizontal limits of the Shugart Pennsylvanian Field to its  
14 present limits will avoid the drilling of unnecessary wells  
15 and protect correlative rights?

16 A Yes, sir.

17 Q And your opinion is that it will?

18 A Yes, sir.

19 Q Were Exhibits One and Two prepared by you or under  
20 your direction?

21 A Yes, sir.

22 MR. LOSEE: I move the introduction of those exhibits.

23 MR. NUTTER: Exhibits One and Two will be admitted  
24 into evidence.

25 (THEREUPON, Exhibits One and Two were

admitted into evidence.)

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Siruta, as I understand your statement in response to the question by the attorney, it is your proposal, despite what the advertising of this case says, it is your proposal that the spacing for the Shugart-Pennsylvanian Pool would remain the same as it is, that is on one hundred and sixty acre spacing, is that correct?

A Yes, sir.

Q And that the spacing for that pool would be limited to the boundaries of the pool?

A Yes, sir.

Q And that wells drilled outside of the pool would be governed by the statewide rules?

A Yes, sir.

Q Or the rules of another pool if they fell within that pool?

A Yes, sir.

Q But that the hundred and sixty acre spacing for the Shugart-Pennsylvanian Pool would be one hundred and sixty but confined to the boundaries of the pool, is that correct?

A Yes, sir.

MR. NUTTER: Is that your proposal, Mr. Losee?

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1 MR. LOSEE: Yes, sir.

2 MR. NUTTER: Mr. Buell, is that agreeable to Amoco  
3 Production Company?

4 MR. BUELL: Yes, sir, our main concern, Mr. Examiner  
5 was to protect the integrity of the spacing within the  
6 defined limits of the Shugart-Penn Gas Pool.

7 MR. NUTTER: The Shugart-Penn Gas Pool is defined  
8 as being the east half of Section 27, the south half of  
9 Section 26 and the northeast quarter of Section 34 of  
10 Township 18 South, Range 31 East, Eddy County, New Mexico?

11 MR. BUELL: Yes, sir, that is my understanding.

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

14 (THEREUPON, the witness was excused.)  
15

16 LES SKINNER

17 called as a witness, having been first duly sworn, was  
18 examined and testified as follows:

19 DIRECT EXAMINATION

20 BY MR. LOSEE:

21 Q State your name and residence, please?

22 A My name is Les Skinner and I reside in Midland,  
23 Texas.

24 Q What is your occupation?

25 A I'm District Reservoir Engineer for Texas Oil and

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1 Gas Corporation in Midland.

2 Q For the benefit of the Examiner would you please  
3 briefly state your educational qualifications and experience  
4 qualifications as a petroleum engineer?

5 A Yes, sir. I graduated in May of 1972 with a BS  
6 degree in Chemical Engineering from Texas Tech University in  
7 Lubbock. I was employed upon my graduation by Amoco Produc-  
8 tion Company and served with Amoco for a little over five  
9 years in various reservoir engineering capacities, engineer-  
10 ing supervisory positions, before resigning in September of  
11 1977 to join Texas Oil and Gas.

12 Q What is your title with Texas Oil and Gas?

13 A I'm District Reservoir Engineer, sir.

14 Q Now during your time of five years or so with  
15 Amoco and your four months or so with Texas Oil and Gas, have  
16 you had any experience in southeast New Mexico in the  
17 Pennsylvanian formation?

18 A Yes, sir, I have.

19 MR. LOSEE: Are Mr. Skinner's qualifications  
20 acceptable?

21 MR. NUTTER: Yes, they are.

22 Q (Mr. Losee continuing.) Please refer to what has  
23 been marked as Exhibit Three and explain what is portrayed  
24 by this graph?

25 A First of all, Mr. Losee, there is an error on this

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1 exhibit that I would like to correct at this time. The last  
2 marked label for drainage area on the ordinance scale should  
3 be three hundred and twenty acres as opposed to three hundred  
4 and sixty as shown on the exhibit.

5 This exhibit is based on my volumetric calculations  
6 on the Amoco Greenwood Unit No. 2 located in Section 34. This  
7 well is the nearest producer from the Atoka Morrow formations  
8 in the Penn section to our proposed location in Section 33.  
9 As Mr. Siruta testified, this well has currently recovered  
10 some ten point eight BCF and the purpose of our Exhibit  
11 Number Three is to show that in all likelihood the Greenwood  
12 Unit No. 2 recovered those reserves from a drainage area of  
13 approximately three hundred and twenty acres.

14 Q Now please refer to what has been marked as Exhibit  
15 Four and without going into detail is this the calculations  
16 upon which Exhibit Three, this is a summary?

17 A Yes, sir, and this exhibit involves the most recent,  
18 most reliable data we have on the Greenwood Unit No. 2.

19 Q Do you have an opinion as to whether the Atoka  
20 Morrow in the area of this Greenwood No. 2 and your proposed  
21 location will drain three hundred and twenty acres?

22 A Yes, sir, and my opinion is that it will drain  
23 three hundred and twenty acres.

24 Q Mr. Skinner, do you have an opinion as to whether  
25 the approval of this application will avoid the drilling of

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1 unnecessary wells and protect the correlative rights of the  
2 parties in the area?

3 A Yes, sir, my opinion is that it will.

4 Q Were Exhibits Three and Four prepared by you and  
5 under your direction?

6 A Yes, sir, they were.

7 MR. LOSEE: I move the introduction of Exhibits  
8 Three and Four.

9 MR. NUTTER: Texas Oil and Gas Exhibits Three and  
10 Four will be admitted into evidence.

11 (THEREUPON, Texas Oil and Gas Exhibits  
12 Three and Four were admitted into evidence.)

13 MR. LOSEE: That's my direct examination, Mr.  
14 Nutter.

15 MR. NUTTER: Are there any questions of this  
16 witness? He may be excused.

17 (THEREUPON, the witness was excused.)

18 MR. NUTTER: Do you have anything further, Mr.  
19 Losee?

20 MR. LOSEE: No, sir.

21 MR. NUTTER: Does anyone have anything they wish  
22 to offer in Case Number 6114? Ms. Teschendorf?

23 MS. TESCHENDORF: I have a letter here from Gulf  
24 Energy Minerals Company concerning this case. Gulf Oil  
25 Corporation does not operate in the Shugart-Pennsylvanian

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1 Gas Pool, however, they are the operator of the North Shugart  
2 Deep Working Interest Unit situated immediately north of  
3 Section 33, the subject of this hearing and they said that  
4 they believe one hundred and sixty acre proration units are  
5 not necessary and would, in fact, constitute economic waste  
6 and they said that they supported Texas Oil and Gas in  
7 recommending that the Commission assign a special three  
8 hundred and twenty acre proration unit which has now been  
9 changed at this hearing. That is their statement.

10 MR. NUTTER: Thank you, Ms. Teschendorf.

11 Mr. Losee, one of your witnesses might be able to  
12 answer this question for me. Mr. Siruta introduced Exhibit  
13 Number One, I believe. Mr. Siruta, in Section 33 of your  
14 Exhibit Number One, you show two wells in the northeast  
15 quarter, the 1-A and the 2-A. Is either one of those the  
16 proposed well we are talking about?

17 MR. SIRUTA: No, sir, these are both shallow  
18 Grayburg wells.

19 MR. NUTTER: Have those wells been drilled?

20 MR. SIRUTA: Yes, sir, Phillips drilled both of  
21 those wells.

22 MR. NUTTER: What is your proposed location for the  
23 unit we are discussing here today?

24 MR. SIRUTA: It would be nineteen eighty from the  
25 north line and six sixty from the east line.

1 MR. NUTTER: And you would dedicate the east half  
2 of Section 33, is that correct?

3 MR. SIRUTA: Yes, sir.

4 MR. NUTTER: I believe that's all I have, Mr.  
5 Siruta. Thank you.

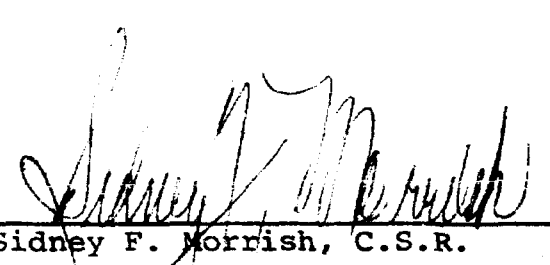
6 Does anyone have anything further in Case Number  
7 6114? We will take the case under advisement.

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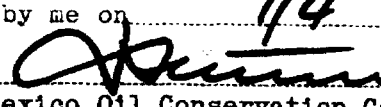
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REPORTER'S CERTIFICATE

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

  
Sidney F. Morrish, C.S.R.

I do hereby certify that the foregoing is  
a complete record of the proceedings in  
the Examiner hearing of Case No. 6114  
heard by me on 1/4, 1978.

 Examiner  
New Mexico Oil Conservation Commission

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# OIL CONSERVATION COMMISSION

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



DIRECTOR  
JOE D. RAMEY

LAND COMMISSIONER  
PHIL R. LUCERO  
January 17, 1978

STATE GEOLOGIST  
EMERY C. ARNOLD

Mr. Jerry Losee  
Losee & Carson  
Attorneys at Law  
Post Office Box 239  
Artesia, New Mexico 88210

Re: CASE NO. 6114  
ORDER NO. R-5621

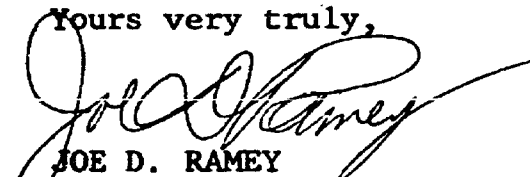
Applicant:

Texas Oil and Gas Company

Dear Sir:

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

Yours very truly,

  
JOE D. RAMEY  
Director

JDR/fd

Copy of order also sent to:

Hobbs OCC X  
Artesia OCC X  
Aztec OCC           

Other Guy Buell

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. 6114  
Order No. R-5621

APPLICATION OF TEXAS OIL & GAS  
CORPORATION FOR SPECIAL POOL RULES  
OR A SPACING EXCEPTION, EDDY COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 4, 1978, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 17th day of January, 1978, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant herein, Texas Oil & Gas Corporation, proposes to drill a Pennsylvanian gas test well in the NE/4 of Section 33, Township 18 South, Range 31 East, NMPM, Eddy County, New Mexico, dedicating thereto the E/2 of said Section 33.
- (3) That said well would be located within one mile of the outer boundary of the Shugart-Pennsylvanian Gas Pool, and would therefore be subject to the Commission rules applicable to said pool.
- (4) That said Shugart-Pennsylvanian Gas Pool was created and designated by the Commission by Order No. R-1179, effective June 1, 1958.
- (5) That by Commission Order No. R-2707, dated May 25, 1964, Rule 104 of the Commission Rules and Regulations was amended to provide that all gas pools of Pennsylvanian age or older in Southeast New Mexico which were created and defined June 1, 1964, or later shall have 320-acre spacing and proration units, inasmuch as it was found that in Southeast New Mexico, "...a gas well completed in the Pennsylvanian formation or a deeper formation will efficiently and economically drain and develop a 320-acre tract."

-2-

Case No. 6114  
Order No. R-5621

(6) That the applicant in the instant case seeks the promulgation of rules including a provision for 320-acre spacing for the Shugart-Pennsylvanian Gas Pool in Eddy County, New Mexico, inasmuch as that pool was excluded from the provisions of Order No. R-2707, because it was created and defined prior to the cut-off date of June 1, 1964.

(7) That the operator of all wells currently producing from said Shugart-Pennsylvanian Gas Pool appeared and objected to the promulgation of 320-acre spacing rules for said pool, but waived objection to limiting the application of the present 160-acre spacing rules to wells located within the boundaries of said pool as they now exist.

(8) That such limitation of the application of the pool rules would preserve the integrity of the current acreage dedication pattern for the existing wells in the Shugart-Pennsylvanian Gas Pool, and would also allow the applicant to develop its acreage outside the boundaries of said pool in accordance with the present rules applicable to Pennsylvanian gas wells in Southeast New Mexico.

(9) That limitation of the application of the present 160-acre spacing rules to wells located within the boundaries of the Shugart-Pennsylvanian Gas Pool as they now exist will not cause waste nor impair correlative rights, and should be approved.

IT IS THEREFORE ORDERED:

(1) That the 160-acre spacing rules applicable to the Shugart-Pennsylvanian Gas Pool shall be effective only insofar as they apply to the following described lands in Eddy County, New Mexico:

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM  
Section 26: S/2  
Section 27: E/2  
Section 34: NE/4

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

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

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

PHIL R. LUCERO, Chairman

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

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

S E  
jr/

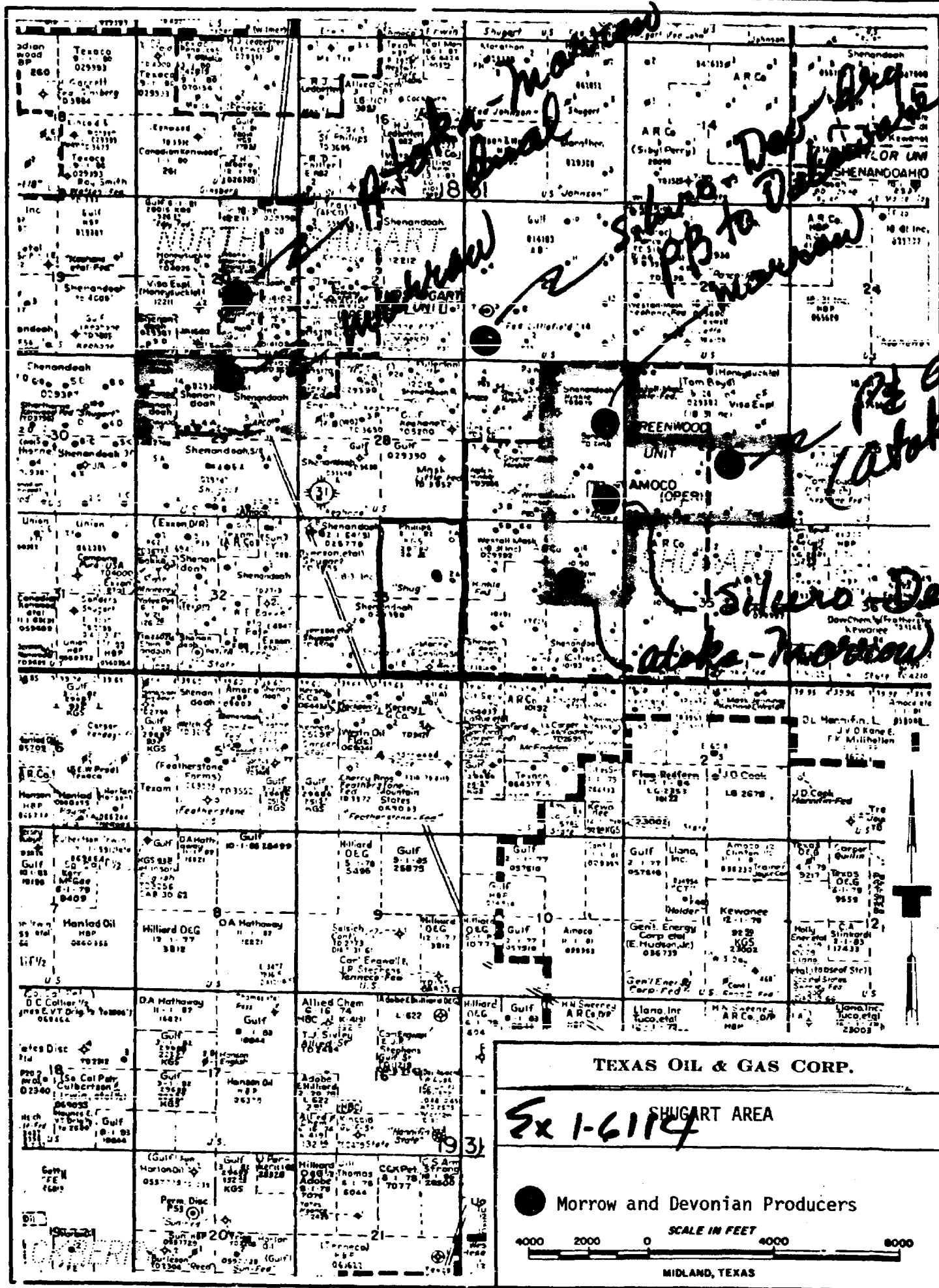
Dockets Nos. 2-78 and 3-78 are tentatively set for hearing on January 18 and February 8, 1978. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - JANUARY 4, 1978

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

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

- CASE 6113: Application of Transocean Oil, Inc., for a unit agreement, Catron County, New Mexico. Applicant, in the above-styled cause, seeks approval for its Cibola Unit Area comprising 30,733 acres, more or less, of Federal, State, and fee lands in Townships 1 and 2 North, Ranges 14 and 15 West, Catron County, New Mexico.
- CASE 6114: Application of Texas Oil and Gas Company for special pool rules or a spacing exception, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Shugart-Pennsylvanian Gas Pool, Eddy County, New Mexico, to provide for 320-acre spacing rather than 160 acres. In the absence of objection, this pool will be placed on the standard 320-acre spacing for Wolfcamp and Pennsylvanian gas pools rather than the present 160-acre spacing. In the alternative applicant seeks the assignment of a 320-acre gas spacing and proration unit consisting of the E/2 of Section 33, Township 18 South, Range 31 East, Eddy County, New Mexico, to a well to be drilled to the Pennsylvanian formation at a standard location thereon.
- CASE 6096: (Continued from November 30, 1977, Examiner Hearing)  
Application of Texas Oil & Gas Corporation for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp and Pennsylvanian formations underlying the S/2 of Section 14, Township 21 South, Range 34 East, Lea County, New Mexico, to be dedicated to applicant's South Wilson State Well No. 1 to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.
- CASE 6115: Application of Merrion and Bayless for downhole commingling, Sandoval County, New Mexico. Applicants, in the above-styled cause, seek approval for the downhole commingling of Pictured Cliffs and Chacra production in their Jicarilla 428 Wells Nos. 3, 4, and 5, located respectively, in Unit M of Section 29 and Unit D of Section 32 and Section 31, Township 23 North, Range 4 West. Applicant further seeks blanket approval for downhole commingling of said formations in Sections 29 thru 32, Township 23 North, Range 4 West, and Sections 22 thru 26 and 35 and 36, Township 23 North, Range 5 West, all in Sandoval County, New Mexico.
- CASE 6116: Application of Merrion and Bayless for salt water disposal, San Juan County, New Mexico. Applicants, in the above-styled cause, seek authority to dispose of produced salt water into the Mesaverde formation thru the perforated interval from 3374 feet to 3395 feet in applicants' Hudson Well No. 1, located in Unit D of Section 26, Township 30 North, Range 12 West, San Juan County, New Mexico.
- CASE 6117: Application of Amoco Production Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for its South Culebra Bluff Unit Area comprising 1280 acres, more or less, of Federal and fee lands in Township 23 South, Range 28 East, Eddy County, New Mexico.
- CASE 6118: Application of Inexco Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for its Long Box Unit Area comprising 3,808 acres, more or less, of Federal and State lands in Townships 20 and 20 1/2 South, Ranges 23 and 24 East, Eddy County, New Mexico.
- CASE 6119: Application of Caulkins Oil Company for a dual completion and downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Pictured Cliffs, Chacra and Mesaverde production in the wellbore of its Breech Well No. 228, to be located in Unit A of Section 18, Township 26 North, Range 6 West, Rio Arriba County, New Mexico, and to dually complete the commingled formations and the Dakota formation in said well.
- CASE 6120: Application of Caulkins Oil Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Chacra and Mesaverde production in the wellbores of its Breech E Wells Nos. 109 in Unit M of Section 3 and 104 in Unit P of Section 5 and its Breech A Wells Nos. 627 in Unit B of Section 8, 677 and 679 in Units L and J, respectively, of Section 9, and 207 in Unit A of Section 10, all in Township 26 North, Range 6 West, Rio Arriba County, New Mexico.
- CASE 6121: Application of Caulkins Oil Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Pictured





BEFORE EXAMINER NUTTER

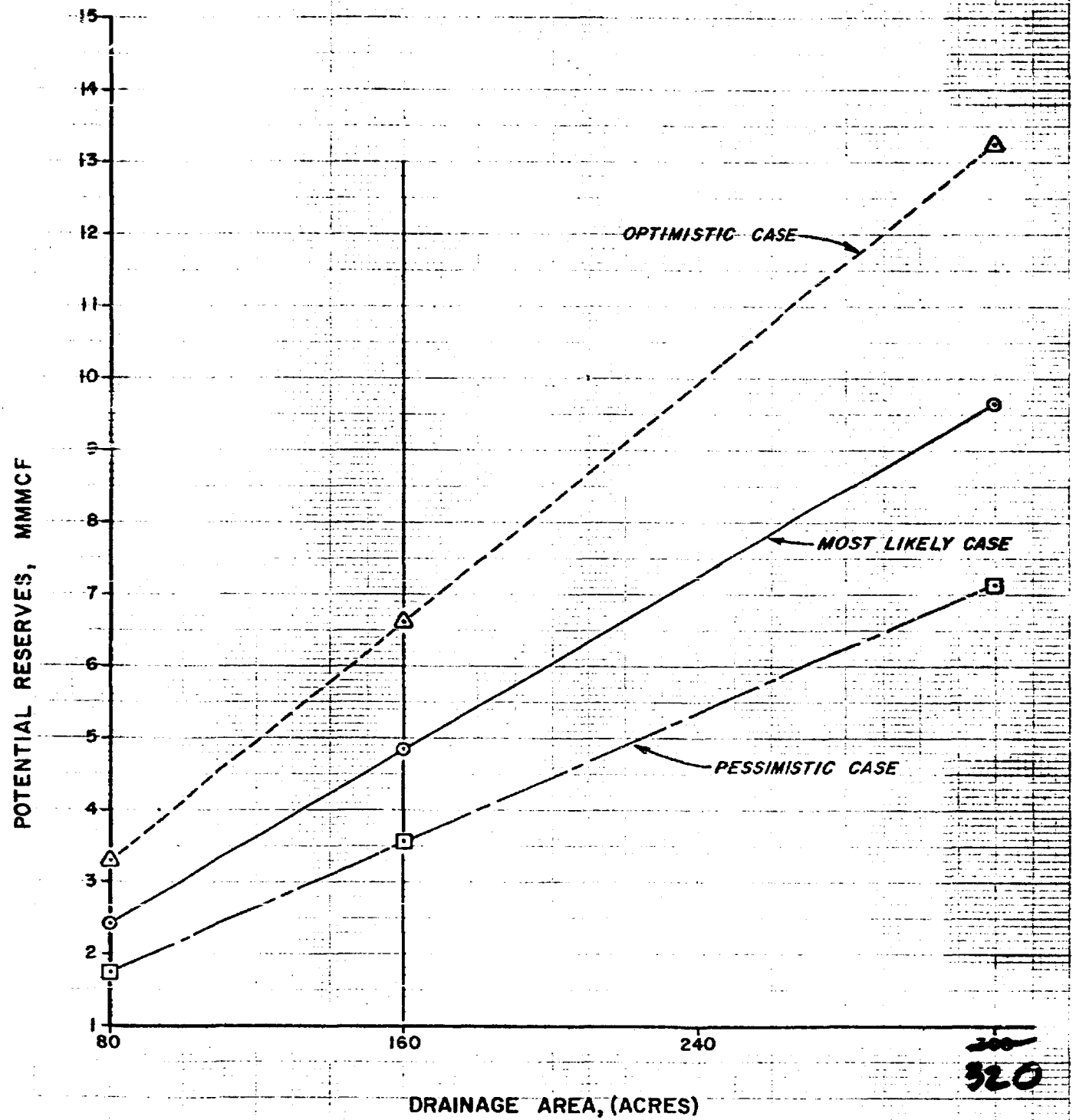
OIL COMMISSION COMMISSION

EXHIBIT NO. 3

CASE NO. 6114

AMOCO-GREENWOOD UNIT No. 2  
SHUGART PENN POOL  
EDDY COUNTY, NEW MEXICO

POTENTIAL RESERVES vs DRAINAGE AREA  
FROM  
VOLUMETRIC CALCULATIONS



TEXAS OIL & GAS CORP.	
FORM NO. 4	
CASE No.	6119
Date	

12-29-77

VOLUMETRIC CALCULATION  
 AMOCO-GREENWOOD UNIT No. 2

1980' FSXEL's, SECTION 34, T-18-S, R-31-E  
 CEN. COUNTY, NEW MEXICO

ATOKA -

$h = 31'$  (NOT PAY) - from log (WELLY GR-N, 11-8-57) Amoco-GREENWOOD UNIT No. 2

Porosity ( $\phi$ ) = 12%\*

WATER SATURATION ( $S_w$ ) = 43.5%\*

BHT = 143°F - from log HEADLINE, Amoco-GREENWOOD UNIT No. 2 (10,971')

GAS GRAVITY = 0.694 - REPORTED ON SCOUT TICKET FOR <sup>ATOKA IN</sup> GULF OIL CORP'S-LITTLEFIELD "EM" FED. Com. No. 1,

1980' FSXEL's of SEC. 20, T-18-S, R-31-E

BHP = 4740 psi - from SCOUT TICKET DATED 11-13-57, DST 10,907'-971', 90# FSIP - Amoco GREENWOOD UNIT No. 2

MORROW -

$h = 10'$  - from log (WELLY)

$\phi = 7.25\%*$

$S_w = 35.9\%*$

BHT = 150°F - from log HEADLINE, CONOCO - GREENWOOD UNIT No. 6 (11,927')

GAS GRAVITY = 0.694 - REPORTED ON SCOUT TICKET FOR GULF - LITTLEFIELD "EM" FED. Com. No. 1

BHP = 4840 psi - from SCOUT TICKET DATED 11-27-57, DST 11,420'-53', 50# FSIP - Amoco GREENWOOD UNIT No. 2

\* LOG DECODED VALUE FROM MODERN FDC-CNL, DUAL LL ON GULF'S - NORTH SOUTHWEST DEEP WEL UNIT #1 660 FEET 2180' FEL SEC. 29, T-18-S, R-31-E. 8-4-77.

INITIAL RESERVOIR CONDITIONS:

$$\bar{p}_i = (4740 + 4840 \text{ psi})/2$$

$$\bar{p}_i = 4790 \text{ psi}$$

$$\bar{T}_{HT} = (143^\circ\text{F} + 150^\circ\text{F})/2$$

$$\bar{T}_{HT} = 146.5^\circ\text{F} + 460^\circ = 606.5^\circ\text{R}$$

$$T_c = 383^\circ\text{R}$$

$$\text{NGPSA DATA BOOK, p. 16-10 NINTH ED, 1972; REV. 1974}$$

$$p_c = 667 \text{ psi}$$

1910

$$T_{Ri} = \frac{606.5^\circ\text{R}}{383^\circ\text{R}} = 1.56$$

$$p_{Ri} = \frac{4790 \text{ psi}}{667 \text{ psi}} = 7.18$$

$$z_i = 0.943$$

NGPSA DATA BOOK, p. 16-8

$$B_{gi} = 35.35 \frac{\bar{p}_i}{z_i T} \text{ SCF/cf} \quad \text{CRAC - HAWKINS, p. 24}$$

$$B_{gi} = 35.35 \frac{4790}{(0.943)(606.5)}$$

$$B_{gi} = 294.5 \text{ SCF/cf}$$

ABANDONMENT CONDITIONS

$$\bar{p}_f = 500 \text{ psi (AVERAGE PRESSURE OVER DRAINAGE AREA, ASSUMED.)}$$

$$p_{Rf} = \frac{500 \text{ psi}}{667 \text{ psi}} = 0.75$$

$$z_f = 0.935 \quad \text{NGPSA DATA BOOK, p. 16-8}$$

$$B_{gf} = 35.35 \frac{\bar{p}_f}{z_f T}$$

$$B_{gf} = 35.35 \frac{500}{(0.935)(606.5)}$$

$$B_{gf} = 31.2 \text{ SCF/cf}$$

VOLUMETRIC RESERVES:

1. Most Likely Case: 160 ACRES

$$\begin{aligned}
 G &= 43.56 \times h \times A \times \phi \times (1 - S_w) \times (B_{gi} - B_{gf}) \text{ , MCF } \text{CRAFT+HARRIS p. 26} \\
 &= 43.56 \times [(31 \times 160 \times .12 \times .565) + (10 \times 160 \times .0925 \times .64)] \times (294.5 - 31.2) \\
 &= 43.56 \times [(336.3 + 84.6)] \times 263.3
 \end{aligned}$$

$$G = 4,827.4 \text{ MMCF}$$

2. Most Likely Case: 320 ACRES

$$G = 9,654.9 \text{ MMCF}$$

3. Most Likely Case: 80 ACRES

$$G = 2,413.7 \text{ MMCF}$$

4. Pessimistic Case: 160 ACRES

$$\begin{aligned}
 G &= 43.56 \times [(31 \times 160 \times .10 \times .5) + (10 \times 160 \times .07 \times .55)] \times (294.5 - 31.2) \\
 &= 43.56 \times [(248 + 61.6)] \times 263.3
 \end{aligned}$$

$$G = 3,550.9 \text{ MMCF}$$

5. Pessimistic Case: 320 ACRES

$$G = 7,101.8 \text{ MMCF}$$

6. Pessimistic Case: 80 ACRES

$$G = 1,775.5 \text{ MMCF}$$

7. OPTIMISTIC CASE : 160 ACRES

$$G = 43.56 \times [(31 \times 160 \times .15 \times .63) + (10 \times 160 \times .09 \times .75)] \times 263.3$$

$$= 43.56 \times (468.7 + 108) \times 263.3$$

$$G = 6,614.6 \text{ MMCF}$$

8. OPTIMISTIC CASE : 320 ACRES

$$G = 13,229.2 \text{ MMCF}$$

9. OPTIMISTIC CASE : 80 ACRES

$$G = 3,307.3 \text{ MMCF}$$

POTENTIAL GAS RESERVES, MMCF

<u>ACREAGE</u>	<u>PESSIMISTIC</u> <u>CASE</u>	<u>MOST LIKELY</u> <u>CASE</u>	<u>OPTIMISTIC</u> <u>CASE</u>
80	1,775.5	2,413.7	3,307.3
160	3,550.9	4,827.4	6,614.6
320	7,101.8	9,654.9	13,229.2

# Gulf Energy and Minerals Company - U.S.

SOUTHWEST DIVISION

J. L. FARR  
VICE PRESIDENT  
C. E. FARR  
CONTROLLER  
R. E. GILSON  
GENERAL MANAGER - PRODUCTION  
J. A. HARRIS  
GENERAL MANAGER - EXPLORATION

January 3, 1978

P. O. Drawer 7880  
Midland, TX 79702

New Mexico Oil Conservation Commission  
P. O. Box 2688  
Santa Fe, New Mexico 87501

Attention: Joe D. Ramey

Re: Case No. 8898 - Application of  
Texas Oil & Gas Company, Special  
Pool Rules or Spacing Exception,  
Shugart Pennsylvanian Gas Pool,  
Eddy County, New Mexico

Gentlemen:

Gulf Oil Corporation is not an operator in the Shugart Pennsylvanian Gas Pool and is not presently in a position to make a recommendation as to whether special rules for this field should be adopted to provide for 320 acre proration units rather than 160 acre proration units.

Gulf is the operator of the North Shugart Deep Working Interest Unit which includes Section 28, T-18-S, R-31-E, Eddy County, New Mexico. This unit is situated immediately north of Section 33 where Texas Oil & Gas proposes to drill its Keohane Federal Com. No. 1. Gulf is currently developing our newly discovered North Shugart - Atoka Gas Pool and the North Shugart - Morrow Gas Pool in this area. The discovery well for these pools is our Littlefield "EM" Federal Com No. 1 in Section 20, T-18-S, R-31-E. Gulf has also drilled two other Pennsylvanian wells in this area. Our nearest completed well to the Texas Oil & Gas Keohane Federal Com. No. 1 location is our No. 1 North Shugart Deep Working Interest Unit approximately 1 - 3/4 miles distant. In keeping with Statewide Rule 104 C II(a), 320 acre proration units have been assigned to our three Pennsylvanian completions. Based upon our experience with Pennsylvanian completions, we believe it likely that if the Keohane Federal Com. No. 1 is drilled on a 320 acre proration unit, it will adequately drain the Pennsylvanian. We believe that 160 acre proration units are not necessary and would in fact constitute economic waste.

In keeping with the current practice of assigning 320 acre proration units to Pennsylvanian completions in Eddy County and to prevent the drilling of unnecessary wells, we support Texas Oil & Gas in recommending that the Commission



A DIVISION OF GULF OIL CORPORATION

N. M. O. C. C.

Attn: Joe D. Ramey

- 2 -

January 3, 1978

assign a special 320 acre proration unit to their Keohane Federal Com. No. 1. At such time as reservoir performance data is obtained on this well, it might be necessary to review the acreage assigned to each well in the immediate area.

Very truly yours,

*R. E. Galvin*

R. E. Galvin *RG*

CPK/JGS:bg

320107

BEFORE THE OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION )  
OF TEXAS OIL AND GAS COMPANY FOR )  
SPECIAL POOL RULES OR SPACING EX- )  
CEPTIONS, SHUGART-PENNSYLVANIAN )  
GAS POOL, EDDY COUNTY, NEW MEXICO. ) No. 6114

ENTRY OF APPEARANCE

The undersigned hereby enter their appearance  
herein for Amoco Production Company, with Guy Buell and  
Richard Merrill of Houston, Texas.

ATWOOD, MALONE, MANN & COOTER, P.A.

By   
Post Office Drawer 700  
Roswell, New Mexico 88201

Attorneys for Amoco Production  
Company



Case 6114

LAW OFFICES

LOSEE & CARSON, P.A.

300 AMERICAN HOME BUILDING

P. O. DRAWER 239

ARTESIA, NEW MEXICO 88210

A. J. LOSEE  
JOEL M. CARSON  
CHAD DICKERSON

AREA CODE 508  
748-3508

3 27 1977

20 December 1977

Mr. Joe D. Ramey, Director  
New Mexico Oil Conservation Commission  
P. O. Box 2088  
Santa Fe, New Mexico 87501

Dear Mr. Ramey:

Enclosed for filing, please find three copies of an Application of Texas Oil & Gas Corporation for special pool rules or, in the alternative, for the creation of a non-standard proration unit, Eddy County, New Mexico.

We ask that this case be set for hearing before an examiner and that you furnish us with a docket of said hearing.

Yours truly,

LOSEE & CARSON, P.A.

  
Joel M. Carson

JMC:bjm  
Enclosures

cc w/enclosure: Mr. Darrell Smith

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF :  
TEXAS OIL & GAS CORPORATION FOR :  
SPECIAL POOL RULES OR, IN THE ALTERNA- :  
TIVE, FOR THE CREATION OF A NON- :  
STANDARD PRORATION UNIT, EDDY COUNTY, :  
NEW MEXICO :

CASE NO. 6114

APPLICATION

COMES NOW TEXAS OIL & GAS CORPORATION, by its attorneys,  
and applies to the Commission for the promulgation of special  
pool rules for the Shugart-Pennsylvanian Gas Pool, Eddy County,  
New Mexico, or, in the alternative, for the creation of a non-  
standard proration unit, and in support thereof states:

1. Applicant is the owner of the E/2 Section 33,  
Township 18 South, Range 31 East, N.M.P.M., Eddy County, New  
Mexico, where it proposes to drill its Keohane Federal Com.  
No. 1 Well into the Morrow formation.
2. Said well is within one mile of the Shugart-  
Pennsylvanian Gas Pool, Eddy County, New Mexico.
3. Applicant seeks the promulgation of special pool  
rules for the Shugart-Pennsylvanian Gas Pool, Eddy County, New  
Mexico, to provide for a 320-acre spacing, rather than 120-acre  
spacing.
4. In the alternative, applicant seeks the assign-  
ment of a 320-acre gas spacing and proration unit consisting  
of the E/2 of Section 33, Township 18 South, Range 31 East,  
N.M.P.M., Eddy County, New Mexico, for a well to be drilled  
to the Pennsylvanian formation at a standard location thereon.

5. The relief sought by applicant is necessary to prevent waste, conserve hydrocarbons, prevent the drilling of unnecessary wells, and to protect correlative rights.

WHEREFORE, applicant asks that this matter be set before the Commission at such time as may be convenient.

TEXAS OIL & GAS CORPORATION

By: 

Joel M. Carson

LOSEE & CARSON, P.A.

P. O. Drawer 239

Artesia, New Mexico 88210

Attorneys for Applicant

DRAFT

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

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

CASE NO. 6114

Order No. R- 5121

APPLICATION OF TEXAS OIL &  
GAS CORPORATION FOR SPECIAL  
POOL RULES OR A SPACING EX-  
CEPTION, EDDY COUNTY, NEW  
MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 4,  
19 78, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this January day of January, 19 78, the Commission,  
a quorum being present, having considered the testimony, the record,  
and the recommendations of the Examiner, and being fully advised  
in the premises,

FINDS:

(1) That due public notice having been given as required by  
law, the Commission has jurisdiction of this cause and the subject  
matter thereof.

(2) That the applicant herein, Texas Oil &  
Gas Corporation, proposes to drill  
a Pennsylvanian gas test well  
in the NE 1/4 of Section 33, Township  
18 South, Range 31 East, NMPM, Eddy  
County, New Mexico, dedicating thereto  
the E 1/2 of said Section 33.

(3) That said well would be located  
within one mile of the outer  
boundary of the Shugart-Pennsylvanian  
Gas Pool, and would therefore be  
subject to the Commission rules appli-  
cable to said pool.

Pg #1 (CONT.)

(4) That said Shugart-Pennsylvanian Gas Pool was created and designated by the Commission by Order No. R-1179, effective June 1, 1958.

(5) That by Commission Order No. R-2707, dated May 25, 1964, Rule 104 of the Commission Rules and Regulations was amended to provide that all gas pools of Pennsylvanian age or older in Southeast New Mexico which were created and defined June 1, 1964, or later shall have 320-acre spacing and proration units, inasmuch as it was found that in Southeast New Mexico, "...a gas well completed in the Pennsylvanian formation or a deeper formation will efficiently and economically drain and develop a 320-acre tract."

(6) That the applicant in the instant case seeks the promulgation of rules including a provision for 320-acre spacing for the ~~Shugart~~ -Pennsylvanian Gas Pool in Eddy County, New Mexico, inasmuch as that pool was excluded from the provisions of Order No. R-2707, because it was created and defined prior to the cut-off date of June 1, 1964.

(7) That the operator of all wells currently producing from said Shugart-Pennsylvanian Gas Pool appeared and objected to the promulgation of 320-acre spacing rules for said pool, but ~~was~~ waived objection to limiting the application of the present 160-acre spacing rules to wells located within the boundaries of said pool as they now exist.

(8) That such limitation of the application of the pool rules would <sup>preserve</sup> ~~protect~~ the integrity of the current <sup>acreage</sup> dedication pattern for ~~the~~ existing wells in the Shugart-Pennsylvanian Gas Pool, and would also allow the applicant to develop its acreage outside the boundaries of said pool in accordance with the ~~current~~ present rules applicable to <sup>Pennsylvanian</sup> gas wells in Southeast New Mexico.

(9) That limitation of the application of the ~~pool rules to~~ present 160-acre spacing rules to wells located within the boundaries of the Shugart-Pennsylvanian Gas Pool as they now exist will not cause waste nor impair correlative rights, and should be approved.

IT IS THEREFORE ORDERED:

(1) That the 160-acre spacing rules applicable to the Shugart-Pennsylvanian Gas Pool shall be effective only insofar as they apply to the following described lands in Eddy County, New Mexico:

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM

Section 26: S/2

Section 27: E/2

Section 34: NE/4

(2) Jurisdiction

DONE at

~~Examiner Hearing~~ Wednesday November 13, 1974

~~Case~~  
~~Docket No. 31-74~~ .6 114

Texas Oil and Gas

CASE 3362: Application of ~~Continental Oil~~ Company for special pool rules, Lee Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the ~~Bell Lake Morrow Shugart -~~ Gas Pool, Eddy County, New Mexico, to provide for 320-acre spacing rather than 160 acres. In the absence of objection, this pool will be placed on the standard 320-acre spacing for Pennsylvanian gas pools rather than the present 160-acre spacing.

Pennsylvanian

In the alternative applicant seeks the assignment of a 320-acre gas spacing and promotion unit consisting of the E/2 of Section 33, Township 18 South, Range 31 East, Eddy County New Mexico, to a well to be drilled to the Pennsylvanian formation at a standard location thereon.

Phoned in by Joel Carson 12/13/97  
RLS

746-3508