

CASE 6429: ZIA ENERGY, INC. FOR APPRO-
VAL OF INFILL DRILLING, LEA COUNTY, NEW
MEXICO

CASE NO.

6429

APPLICATION,
TRANSCRIPTS,
SMALL EXHIBITS,
ETC.



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

JERRY APODACA
GOVERNOR

NICK FRANKLIN
SECRETARY

March 6, 1979

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SANTA FE, NEW MEXICO 87501
(505) 827-2434

Federal Energy Regulatory
Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

Re: Finding pursuant to
Section 271.305, NGPA
regulations

Gentlemen:

Attached is a copy of an order entered by the New Mexico Oil Conservation Division containing a finding that the drilling of the subject well is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by any existing well.

Well Name and Location: Elliott State Well No. 2 in Unit B of
Section 34, Township 20 South, Range 36 East

Operator: Zia Energy, Inc.

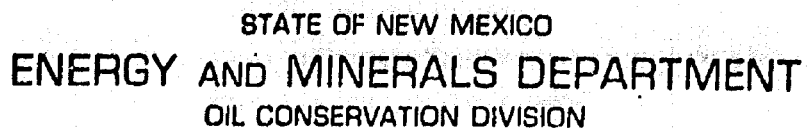
List of Participants: Zia Energy, Inc.

The matter ~~(was)~~ (was not) opposed.

The information contained in this notice includes all of the information required by Sections 271.305 and 274.104.

EXAMINER

Attachments: application and exhibits



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Other

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 6429
Order No. R-5938

APPLICATION OF ZIA ENERGY, INC.,
FOR APPROVAL OF INFILL DRILLING,
LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on January 31, 1979, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 28th day of February, 1979, the Division Director, 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 Division has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Zia Energy, Inc. seeks a finding that the drilling of its Elliott State Well No. 2 to be located in Unit B of Section 34, Township 20 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.
- (3) That the applicant further seeks approval of a waiver of existing well-spacing requirements.
- (4) That the standard spacing unit in the Eumont Gas Pool is 640 acres.
- (5) That Zia Energy, Inc. is the operator of an 80-acre tract consisting of the N/2 NE/4 of said Section 34 in said Eumont Gas Pool.

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Case No. 6429
Order No. R-5938

(6) That applicant's 80-acre tract is communitized with the S/2 NE/4 of said Section 34 forming an approved 160-acre non-standard proration unit for said pool.

(7) That said 160-acre non-standard proration unit is dedicated to the Warrior Inc. State "WEG" Well No. 1 located in Unit H of said Section 34.

(8) That production from said State "WEG" Well No. 1 declined from an average monthly rate of 10,506 MCF in 1956 to 970 MCF in 1973.

(9) That during 1974 said State "WEG" Well No. 1 was extensively worked over, being cleaned out, having additional zones perforated, and being acid fraced.

(10) That said workover was unsuccessful and in fact production declined to an average rate of 125 MCF per month or a figure equal to about 13 percent of its preworkover rate.

(11) That the evidence presented demonstrated that said State "WEG" Well No. 1 is no longer effectively and efficiently draining said dedicated 160-acre non-standard proration unit.

(12) That the evidence presented further demonstrated that the drilling and completion of applicant's said Elliott State Well No. 2 should result in the production of an additional 350,000 MCF of gas from applicant's acreage which would not otherwise be recovered from the proration unit.

(13) That such additional recovery from the non-standard proration unit will result in such unit being more efficiently and economically drained.

(14) That said Elliott State Well No. 2 is to be drilled as an "infill" well on the existing 160-acre non-standard proration unit.

(15) That in order to permit the drainage of a portion of the reservoir covered by said 160-acre non-standard proration unit which cannot be effectively and efficiently drained by the existing well thereon, the subject application for infill drilling should be approved as an exception to the standard well spacing requirements for said Eumont Gas Pool.

IT IS THEREFORE ORDERED:

(1) That the applicant, Zia Energy, Inc., is hereby authorized to drill its Elliott State Well No. 2 to be located in Unit B of

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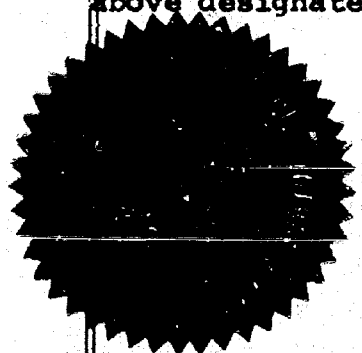
Case No. 6429

Order No. R-5938

Section 34, Township 20 South, Range 36 East, as an infill well on an existing 160-acre non-standard proration unit being the NE/4 of said Section 34, Eumont Gas Pool, Lea County, New Mexico. The authorization for infill drilling granted by this order is an exception to applicable well spacing requirements and is necessary to permit the drainage of a portion of the reservoir covered by the existing 160-acre non-standard proration unit which cannot efficiently and economically be drained by any existing well thereon.

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

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



STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

Joe D. Ramey
JOE D. RAMEY
Director

S E A L

td/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
State Land Office Building
Santa Fe, New Mexico
31 January 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Zia Energy, Inc.
for approval of infill drilling,
Lea County, New Mexico.

CASE
6429

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

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FARRIS NELSON

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1 MR. STAMETS: We'll call next Case 6429.

2 MS. TESCHENDORF: Case 6429. Application of
3 Zia Energy, Inc. for approval of infill drilling, Lea County,
4 New Mexico.

5 MR. STAMETS: Call for appearances.

6 MR. KELLAHIN: Tom Kellahin of Kellahin and
7 Kellahin, Santa Fe, New Mexico, appearing on behalf of the
8 Applicant, and I have one witness.

9 (Witness sworn.)

10
11 FARRIS NELSON

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

14
15 DIRECT EXAMINATION

16 BY MR. KELLAHIN:

17 Q Would you please your name and occupation?

18 A I'm Farris Nelson. I am employed by Zia
19 Energy as a petroleum engineer.

20 Q Mr. Nelson, have you previously testified be-
21 fore the Oil Conservation Division and had your qualifications
22 as a petroleum engineer accepted and made a matter of record?

23 A Yes, I have.

24 Q Have you made a study of and prepared some
25 exhibits with regards to this particular application?

1 A Yes, I have.

2 MR. KELLAHIN: We tender Mr. Nelson as an
3 expert witness.

4 MR. STAMETS: The witness is qualified.

5 Q (Mr. Kellahin continuing.) Mr. Nelson, would
6 you please refer to what I have marked as Zia Energy Exhibit
7 A and identify that exhibit?

8 A Yes. Exhibit A is a plat of the area of the
9 proposed Elliott State No. 2. This plat proposes to show
10 the State lease 11298 boundaries, which is the northeast
11 quarter section of Section 34, Township 20 South, Range 36
12 East, Lea County, New Mexico.

13 This quarter section is divided into two 80-
14 acre tracts consisting of the north half, operated by Zia
15 Energy Incorporated, and the south half, operated by Warrior
16 Incorporated.

17 This lease was originally owned and operated
18 by, the north half, Frank Elliott Oil Company, the south
19 half by Amerada Oil Company.

20 Included in this plat are several Eumont gas
21 wells, showing their initial potentials and their cumulative
22 production figures.

23 Q With regards to this particular proration
24 unit there is an existing Eumont gas well on that proration
25 unit.

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1 A Yes, that's correct.

2 Q And that is the Elliott State No. 1.

3 A No.

4 Q What is the name of the well?

5 A That is the Warrior State WEG No. 1. This
6 well is owned and operated by Warrior, Incorporated.

7 Q What is the current status of that well?

8 A That well is currently being produced. There
9 is a later exhibit to be submitted concerning the history on
10 this well.

11 Q The proposed Elliott State No. 2 Well will be
12 the second well on this proration unit that's producing from
13 the Eumont gas zone.

14 A Yes that's correct. There is one additional
15 plugged and abandoned well, which is the Elliott State No. 1
16 in unit letter A, but this well is plugged and abandoned.

17 Q And that was an oil well.

18 A Yes, that's correct.

19 Q Okay. What are you seeking to accomplish by
20 this application, Mr. Nelson?

21 A Zia Energy is seeking a finding from the Oil
22 Commission that their Elliott State No. 2, to be located in
23 unit letter B, Section 34, Township 20 South, Range 36 East,
24 Eumont Gas Pool, Lea County, New Mexico, is a necessary --
25 is necessary to effectively and efficiently drain that por-

1 tion of the proration unit which cannot be so drained by
2 the existing well. We further seek approval of a waiver of
3 existing well-spacing requirements.

4 Q Okay. Would you please refer to what is
5 marked as Exhibit B and identify that?

6 A Exhibit B is a structure map of the area of
7 the proposed Elliott State No. 2 with contours on the top of
8 the Queen formation.

9 You will note that from these contours that
10 there are gas wells both to the east and south and west,
11 which means that Eumont gas wells have produced in all
12 directions surrounding the Elliott State lease.

13 Q Would you identify Exhibit C?

14 A Exhibit C is a tabulation for production,
15 annual rates of production, from 1965 through 1977, as well
16 as annual 72-hour shut-in pressures for six Eumont gas wells
17 in the vicinity of the Elliott State Well.

18 You'll be able to see from this that most of
19 these wells have produced in excess of what the cumulative
20 production is from the Warrior State "WG" No. 1.

21 Q All right, sir, would you identify Exhibit D?

22 A Exhibit D is an annual production tabulation
23 for the State WEG No. 1 from the drilling of the well through
24 1977. This shows their annual gas production and their 72-
25 hour shut-in pressures on an annual basis.

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1 The thing that I want to call your attention
2 to in this exhibit is there are several years during this
3 span of time when the bottom hole pressures actually are
4 greater than they were in preceding years. This is an indi-
5 cation that we're dealing with a relatively low permeable
6 formation and there's only one thing that would probably
7 explain this anomaly in bottom hole pressures. We could
8 have a variation in the 72-hour shut-in pressure; if the well
9 were left shut-in for more than 72 hours, the bottom hole
10 pressure could be expected to increase, which would give you
11 a higher bottom hole pressure than preceding years.

12 Q What conclusions, then, do you draw from
13 this exhibit?

14 A We're drawing the conclusion from this ex-
15 hibit that we are dealing with a low permeable formation and
16 that due to that low permeability the one well, the State
17 WEG No. 1, will not adequately drain the entire quarter
18 section.

19 Q Please refer to Exhibit E and identify it.

20 A Exhibit E is just a decline curve for the
21 State WEG No. 1. You will note that in the early years of
22 its production, either from the tabulation or from the de-
23 cline curve, that the production decline was very rapid in
24 the first four years of its producing history.

25 Q All right, sir. Would you identify Exhibit F?

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1 A Exhibit F1 is a well data sheet for Southland
2 Royalty Eumont gas well. It's their State E-33 Well No. 2.
3 The following exhibits, F1 through F8, are a line of cross
4 section, which will be presented later, and these data sheets
5 will show the producing history of gas wells along the cross
6 section.

7 Q In summary, Mr. Nelson, how does the Warrior
8 No. 1 Well compare to the other Eumont gas wells in this
9 area?

10 A Actually the production on the Warrior No. 1
11 Well is about the same as some to the south, which would be
12 the Warrior "CO" Federal, the Gulf White No. 5. These
13 wells have all had from 7 to 800,000 cumulative production.

14 Wells to the east, I should point out, have
15 had considerably higher cumulative recoveries and we be-
16 lieve that this is an indication that as you move to the
17 west the formation becomes tighter and less permeable.

18 Q Would you identify Exhibit G for us?

19 A Yes. Exhibit G -- Tom, may we go back to
20 Exhibit F3, please?

21 Q Sure.

22 A Exhibit F3 is the Warrior State WEG No. 1
23 and this well was subjected to a rather extensive workover
24 in 1974. Information concerning this workover is included
25 in that well data sheet and at that point in time, in 1974,

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1 additional zones were perforated and the formation was treated
2 to a fracture treatment of 148,000 gallons of jelled brine
3 with a 1-1/2 pounds of sand per gallon.

4 Referring either to the production tabulation
5 or to the decline curve, you'll see that this workover was
6 a complete failure, that actually the production since that
7 time has been less than it was prior to the workover.

8 We feel like that this is also an indication
9 that the low bottom hole pressure that you're dealing with
10 in the Eumont formation at this point in time was just com-
11 pletely overwhelmed by the volume of water pumped into it
12 at that time, and we'll offer a proposed technique later.

13 Q All right, sir. Please refer to what we have
14 marked as Exhibit I. It's found in the pocket part in the
15 back of your pamphlet.

16 A Exhibit I is a cross section from west to
17 east spanning seven wells from the Southland Royalty State
18 E-33 No. 2, including a couple of wells that were not ac-
19 tually Eumont gas wells, but were produced as Eumont oil
20 wells. That would be the Charm Oil SPX No. 2, the Gulf Oil
21 Bell No. 1, and I believe the rest of these -- no, Bates (sic)
22 which is now Tenneco Federal No. 3. These were oil wells
23 in the Eumont. The remaining wells here were produced as
24 Eumont gas wells.

25 We propose to show by this that as you move

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1 from the east in Section 26, west or slightly southwest,
2 that the formation is rapidly falling off to the west but
3 that the proposed Elliott State No. 2 well is still well
4 within the structural limits that we can expect to produce
5 gas.

6 Q Would you refer to Exhibit J and identify it?

7 A Exhibit J is a section of an electric log
8 from the Zia Energy Elliott Federal No. 1. This well was
9 recompleted by Zia Energy in February of 1978, completing
10 in the Yates-Seven Rivers, top of the Queen section, as we
11 propose in the Elliott State No. 2.

12 I'd like to have you refer back to Exhibit
13 F7 in connection with this. This Elliott Federal No. 1 had
14 been shut in from 1961 until February of 1978. We cleaned
15 out and added additional perforations to this well and re-
16 completed in the upper part of the Yates and Seven Rivers
17 formation.

18 The well has produced since that time a cumu-
19 lative of 114,000 Mcf of gas. It's producing at an average
20 of approximately 600 Mcf a day.

21 This Exhibit J has a porosity line drawn
22 on it to indicate the zones, the porous zones that are being
23 produced in this Elliott Federal No. 1, and if we may go
24 into the Exhibit K, which is an electric log of the Elliott
25 State No. 1 Well, this is an offset to the east for the pro-

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1 posed location.

2 MR. STAMETS: Before you do that, I'd like to
3 orient myself on the map, Exhibit B.

4 The Zia Elliott Well No. 1, which was just
5 worked over, is -- or not just worked over, it was worked
6 over -- lies to the northeast in Section 26, is that correct?

7 A. Yes, that is correct.

8 MR. STAMETS: Is that shown on Exhibit B?

9 A. Yes, I believe it is, Mr. Examiner.

10 MR. STAMETS: I see No. 2 -- okay, I see it,
11 here it is.

12 All right, now is that well now a Eumont gas
13 well?

14 A. Yes, it is. The Elliott Federal No. 1 is
15 now a gas well.

16 I believe you're correct that it does not show --
17 yes, it does. It appears in Section 26 on Exhibit B.

18 MR. STAMETS: Okay, and then you have identi-
19 fied that also on Exhibit A as a Eumont gas well with pro-
20 duction. Okay.

21 A. Yes.

22 By comparison of Exhibit J and K, we purport
23 that there are zones existing in the proposed Elliott State
24 No. 2 40-acre tract that we can reasonably expect to produce
25 gas reserves from.

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1 Q (Mr. Kellahin continuing.) Mr. Nelson, have
2 you made any calculations as to what can reasonably be ex-
3 pected to recover from the Elliott State No. 2 Well?

4 A Yes. Using the reservoir information that we
5 have, we have calculated that the 80-acres composed of the
6 north half of the northeast quarter of Section 34 can reason-
7 ably be expected to produce a million Mcf of gas. We have
8 estimated that 350,000 -- I stated that wrong.

9 There is at this present time a million Mcf
10 of gas in the reservoir and we can reasonably expect to
11 recover 350,000 Mcf of this.

12 Q In your opinion would that be Eumont gas that
13 cannot effectively and efficiently be produced from the
14 Warrior State No. 1 Well?

15 A Yes, very definitely. The current producing
16 rate of the Warrior State WEG No. 1 is approximately 125 Mcf
17 per month. This well will certainly not produce any signi-
18 ficant reserves in the future, and due to the extensive
19 workover that was performed in 1974, we feel that it would
20 be unadvisable to contemplate any additional workover on
21 the State WEG No. 1.

22 Q In your opinion, Mr. Nelson, if the Elliott
23 State No. 2 Well is not drilled and completed in the Eumont
24 gas zone, will there be Eumont gas reserves left unrecovered?

25 A We feel like that there'll be 350,000 Mcf of

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1 recoverable reserves left in the Eumont, that the operator
2 will not have an opportunity to produce and that consumers
3 will not have an opportunity to utilize.

4 Q In your opinion, Mr. Nelson, will the Elliott
5 State No. 2 Well be necessary to effectively and efficiently
6 drain the proration unit, that portion of the reservoir
7 covered by the proration unit, which cannot more effectively
8 and efficiently be drained by the existing well?

9 A Yes, this is our conclusion.

10 Q Were Exhibits A through K prepared by you or
11 compiled under your direction and supervision?

12 A Yes, they were.

13 Q And in your opinion, Mr. Nelson, will approval
14 of this application prevent waste, protect correlative rights,
15 and be in the best interest of conservation?

16 A Yes. it will.

17 MR. KELLAHIN: We move the introduction of
18 Exhibits A through K.

19 MR. STAMETS: These exhibits will be admitted.

20
21 CROSS EXAMINATION

22 BY MR. STAMETS:

23 Q Mr. Nelson, if I understand this correctly,
24 you currently have a 160-acre proration unit, consisting of
25 the northeast quarter of Section 34, in the Eumont gas pool?

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- 1 A. Yes, that's right.
- 2 Q And that is dedicated to the Warrior WEG Well
- 3 No. 1.
- 4 A. Yes.
- 5 Q All right. Now, what acreage will be dedi-
- 6 cated to the well which you propose to drill and complete
- 7 in the northeast quarter of the section?
- 8 A. We propose to dedicate only the north half
- 9 of the northeast quarter section.
- 10 Q Okay, and Warrior, then, will continue to
- 11 operate the well in the south half?
- 12 A. Yes, that is correct.
- 13 Q Now, the 350,000 Mcf which you expect to re-
- 14 cover is from the 80-acre proration unit?
- 15 A. Yes, that's right.
- 16 Q So there may be some more down there that
- 17 Warrior is not going to get with their well?
- 18 A. That's possible.
- 19 Q But that's Warrior's problem?
- 20 A. That's Warrior's problem.
- 21 Q Okay.
- 22 A. We might refer to Exhibits G and H, which
- 23 you have there, but we didn't discuss them. That's simply
- 24 the gas pooling agreement as it was executed between Elliott
- 25 Oil Company and Amerada.

1 Q Now, Exhibit E has some rather startling --
2 a rather startling thing on it. In mid-1973 -- well, you
3 have a nice decline curve starting back about 1960 running
4 through the middle of '73 and then it dropped like a rock
5 to -- I guess that's not a zero line but what is that, 100
6 what?

7 A At 1975?

8 Q Right.

9 A That would represent 125 Mcf per day -- excuse
10 me, per month.

11 Q Production did not decline in this straight
12 line fashion, did it?

13 A Well, the decline occurred following the
14 workover in 1974.

15 Q Was that decline between the middle of --
16 perhaps I'm looking at this thing wrong. What have you
17 plotted here. the production for the year?

18 A We have plotted the average monthly production
19 per year.

20 Q And that's been plotted at --

21 A We took the twelve months --

22 Q -- the center point of each year.

23 A Right, that's correct.

24 Q Okay.

25 A So that your entire 1973 production was a

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unit and that they also waive applicable well spacing requirements.

MR. KELLAHIN: I have nothing further.

MR. STAMETS: Any other questions of the witness? He may be excused.

Oh, before he gets off, let me make sure we got everything.

RE CROSS EXAMINATION

BY MR. STAMETS:

Q This is a standard location for an 80-acre gas spacing unit in the Eumont pool?

A Yes, it is.

Q This is an application for infill drilling. What you're going to wind up with, though, is actually not an infill well. Why was the application for infill drilling?

A As it presently stands, this will be a second well within an existing proration unit. That's as it stands today. It will only become the first well in a proration unit at some later date after the well has been completed and the reasoning for this is set forth in that Exhibit G, if you care to check that. That's Exhibit G, page two, paragraph number four.

Once our well is drilled then the present gas proration unit is terminated.

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1 single point in the midpoint of the year, and your '74, and
2 so on.

3 Q All right. Okay, that's much better. I
4 thought this was monthly production.

5 MR. STAMETS: Any other questions of this
6 witness?

7 MR. KELLAHIN: Yes, I have another question,
8 Mr. Examiner...

9
10 REDIRECT EXAMINATION

11 BY MR. KELLAHIN:

12 Q You indicated in your opening remarks, Mr.
13 Nelson, that there was also a need for a waiver of existing
14 well spacing requirements.

15 Would you summarize for the Examiner what
16 those requirements are and why it's necessary for you to
17 obtain a waiver?

18 A This application is the first step in a series
19 of steps leading to a price determination under the new
20 Federal Energy Regulation Commission Natural Gas Act of 1978.
21 One of the requirements under Section 103, sub-paragraph 275
22 you caught me. I don't remember that last right off the top
23 of my head, but it is one of the requirements by this regu-
24 lation that the Commission grant a finding that the well is
25 necessary to efficiently and effectively drain the proration

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1 the witness? He may be excused.

2 Anything further in this case?

3 We'll take the case under advisement.

4 (Hearing concluded.)

5
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- 1 Q At what point?
- 2 A Upon the completion of a gas well above 4300
- 3 feet in the north half of the northeast quarter of Section
- 4 34.
- 5 Q And what determines the completion in this
- 6 case?
- 7 A That would be the completion as a gas well
- 8 above 4300 feet.
- 9 Q Is there any definition of what a completion
- 10 means? Is that when you install the wellhead or when you
- 11 test the well?
- 12 A I would assume that that definition would be
- 13 at the point in time when you can test the well and you can
- 14 determine by test that you have a commercial well producing
- 15 in the Eumont gas above 4300 feet.
- 16 Q Okay. Let's make sure I've got everything.
- 17 We're talking -- the well you're talking about drilling is
- 18 to be the Elliott State No. 2 and what's the location of
- 19 that, 660 north, 1980 east?
- 20 A No, it would be 1980 from the east and 660
- 21 from the north.
- 22 That's what you said, isn't it?
- 23 Q That's right. It depends on where you start.
- 24 A Right.
- 25 MR. STAMETS: Okay. Any other questions of

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, a Court Reporter, DO HEREBY
CERTIFY that the foregoing and attached Transcript of
Hearing before the Oil Conservation Division was reported
by me; that said transcript is a full, true, and correct
record of the hearing, prepared by me to the best of my
ability, skill, and knowledge, from my notes taken at the
time of the hearing.

Sally W. Boyd CSR

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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. 6428
heard by me on 5-31 1979.

Richard H. Stent, Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
State Land Office Building
Santa Fe, New Mexico
31 January 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Zia Energy, Inc.
for approval of infill drilling,
Lea County, New Mexico.

CASE
6429

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division:

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Legal Counsel for the Division
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Santa Fe, New Mexico 87501

For the Applicant:

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MR. STAMETS: We'll call next Case 6429.

MS. TESCHENDORF: Case 6429. Application of Zia Energy, Inc. for approval of infill drilling, Lea County, New Mexico.

MR. STAMETS: Call for appearances.

MR. KELLAHIN: Tom Kellahin of Kellahin and Kellahin, Santa Fe, New Mexico, appearing on behalf of the Applicant, and I have one witness.

(Witness sworn.)

FARRIS NELSON

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you please your name and occupation?

A I'm Farris Nelson. I am employed by Zia Energy as a petroleum engineer.

Q Mr. Nelson, have you previously testified before the Oil Conservation Division and had your qualifications as a petroleum engineer accepted and made a matter of record?

A Yes, I have.

Q Have you made a study of and prepared some exhibits with regards to this particular application?

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A. Yes, I have.

MR. KELLAHIN: We tender Mr. Nelson as an expert witness.

MR. STAMETS: The witness is qualified.

Q (Mr. Kellahin continuing.) Mr. Nelson, would you please refer to what I have marked as Zia Energy Exhibit A and identify that exhibit?

A. Yes. Exhibit A is a plat of the area of the proposed Elliott State No. 2. This plat proposes to show the State lease 11298 boundaries, which is the northeast quarter section of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico.

This quarter section is divided into two 80-acre tracts consisting of the north half, operated by Zia Energy Incorporated, and the south half, operated by Warrior Incorporated.

This lease was originally owned and operated by, the north half, Frank Elliott Oil Company, the south half by Amerada Oil Company.

Included in this plat are several Eumont gas wells, showing their initial potentials and their cumulative production figures.

Q With regards to this particular proration unit there is an existing Eumont gas well on that proration unit.

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- 1 A Yes, that's correct.
- 2 Q And that is the Elliott State No. 1.
- 3 A No.
- 4 Q What is the name of the well?
- 5 A That is the Warrior State WEG No. 1. This
- 6 well is owned and operated by Warrior, Incorporated.
- 7 Q What is the current status of that well?
- 8 A That well is currently being produced. There
- 9 is a later exhibit to be submitted concerning the history on
- 10 this well.
- 11 Q The proposed Elliott State No. 2 Well will be
- 12 the second well on this proration unit that's producing from
- 13 the Eumont gas zone.
- 14 A Yes, that's correct. There is one additional
- 15 plugged and abandoned well, which is the Elliott State No. 1
- 16 in unit letter A, but this well is plugged and abandoned.
- 17 Q And that was an oil well.
- 18 A Yes, that's correct.
- 19 Q Okay. What are you seeking to accomplish by
- 20 this application, Mr. Nelson?
- 21 A Zia Energy is seeking a finding from the Oil
- 22 Commission that their Elliott State No. 2, to be located in
- 23 unit letter B, Section 34, Township 20 South, Range 36 East,
- 24 Eumont Gas Pool, Lea County, New Mexico, is a necessary --
- 25 is necessary to effectively and efficiently drain that por-

1 tion of the proration unit which cannot be so drained by
2 the existing well. We further seek approval of a waiver of
3 existing well-spacing requirements.

4 Q Okay. Would you please refer to what is
5 marked as Exhibit B and identify that?

6 A Exhibit B is a structure map of the area of
7 the proposed Elliott State No. 2 with contours on the top of
8 the Queen formation.

9 You will note that from these contours that
10 there are gas wells both to the east and south and west,
11 which means that Eumont gas wells have produced in all
12 directions surrounding the Elliott State lease.

13 Q Would you identify Exhibit C?

14 A Exhibit C is a tabulation for production,
15 annual rates of production, from 1965 through 1977, as well
16 as annual 72-hour shut-in pressures for six Eumont gas wells
17 in the vicinity of the Elliott State Well.

18 You'll be able to see from this that most of
19 these wells have produced in excess of what the cumulative
20 production is from the Warrior State "WG" No. 1.

21 Q All right, sir, would you identify Exhibit D?

22 A Exhibit D is an annual production tabulation
23 for the State WEG No. 1 from the drilling of the well through
24 1977. This shows their annual gas production and their 72-
25 hour shut-in pressures on an annual basis.

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1 The thing that I want to call your attention
2 to in this exhibit is there are several years during this
3 span of time when the bottom hole pressures actually are
4 greater than they were in preceding years. This is an indi-
5 cation that we're dealing with a relatively low permeable
6 formation and there's only one thing that would probably
7 explain this anomaly in bottom hole pressures. We could
8 have a variation in the 72-hour shut-in pressure; if the well
9 were left shut-in for more than 72 hours, the bottom hole
10 pressure could be expected to increase, which would give you
11 a higher bottom hole pressure than preceding years.

12 Q What conclusions, then, do you draw from
13 this exhibit?

14 A We're drawing the conclusion from this ex-
15 hibit that we are dealing with a low permeable formation and
16 that due to that low permeability the one well, the State
17 WEG No. 1, will not adequately drain the entire quarter
18 section.

19 Q Please refer to Exhibit E and identify it.

20 A Exhibit E is just a decline curve for the
21 State WEG No. 1. You will note that in the early years of
22 its production, either from the tabulation or from the de-
23 cline curve, that the production decline was very rapid in
24 the first four years of its producing history.

25 Q All right, sir. Would you identify Exhibit F?

1 A Exhibit F1 is a well data sheet for Southland
2 Royalty Eumont gas well. It's their State E-33 Well No. 2.
3 The following exhibits, F1 through F8, are a line of cross
4 section, which will be presented later, and these data sheets
5 will show the producing history of gas wells along the cross
6 section.

7 Q In summary, Mr. Nelson, how does the Warrior
8 No. 1 Well compare to the other Eumont gas wells in this
9 area?

10 A Actually the production on the Warrior No. 1
11 Well is about the same as some to the south, which would be
12 the Warrior "CO" Federal, the Gulf White No. 5. These
13 wells have all had from 7 to 800,000 cumulative production.

14 Wells to the east, I should point out, have
15 had considerably higher cumulative recoveries and we be-
16 lieve that this is an indication that as you move to the
17 west the formation becomes tighter and less permeable.

18 Q Would you identify Exhibit G for us?

19 A Yes. Exhibit G -- Tom, may we go back to
20 Exhibit F3, please?

21 Q Sure.

22 A Exhibit F3 is the Warrior State WEG No. 1
23 and this well was subjected to a rather extensive workover
24 in 1974. Information concerning this workover is included
25 in that well data sheet and at that point in time, in 1974,

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1 additional zones were perforated and the formation was treated
2 to a fracture treatment of 148,000 gallons of jelled brine
3 with a 1-1/2 pounds of sand per gallon.

4 Referring either to the production tabulation
5 or to the decline curve, you'll see that this workover was
6 a complete failure, that actually the production since that
7 time has been less than it was prior to the workover.

8 We feel like that this is also an indication
9 that the low bottom hole pressure that you're dealing with
10 in the Eumont formation at this point in time was just com-
11 pletely overwhelmed by the volume of water pumped into it
12 at that time, and we'll offer a proposed technique later.

13 Q All right, sir. Please refer to what we have
14 marked as Exhibit I. It's found in the pocket part in the
15 back of your pamphlet.

16 A Exhibit I is a cross section from west to
17 east spanning seven wells from the Southland Royalty State
18 E-33 No. 2, including a couple of wells that were not ac-
19 tually Eumont gas wells, but were produced as Eumont oil
20 wells. That would be the Charm Oil SPX No. 2, the Gulf Oil
21 Bell No. 1, and I believe the rest of these -- no, Bates (sic)
22 which is now Tenneco Federal No. 3. These were oil wells
23 in the Eumont. The remaining wells here were produced as
24 Eumont gas wells.

25 We propose to show by this that as you move

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1 from the east in Section 26, west or slightly southwest,
2 that the formation is rapidly falling off to the west but
3 that the proposed Elliott State No. 2 well is still well
4 within the structural limits that we can expect to produce
5 gas.

6 Q Would you refer to Exhibit J and identify it?

7 A Exhibit J is a section of an electric log
8 from the Zia Energy Elliott Federal No. 1. This well was
9 recompleted by Zia Energy in February of 1978, completing
10 in the Yates-Seven Rivers, top of the Queen section, as we
11 propose in the Elliott State No. 2.

12 I'd like to have you refer back to Exhibit
13 F7 in connection with this. This Elliott Federal No. 1 had
14 been shut in from 1961 until February of 1978. We cleaned
15 out and added additional perforations to this well and re-
16 completed in the upper part of the Yates and Seven Rivers
17 formation.

18 The well has produced since that time a cumu-
19 lative of 114,000 Mcf of gas. It's producing at an average
20 of approximately 600 Mcf a day.

21 This Exhibit J has a porosity line drawn
22 on it to indicate the zones, the porous zones that are being
23 produced in this Elliott Federal No. 1, and if we may go
24 into the Exhibit K, which is an electric log of the Elliott
25 State No. 1 Well, this is an offset to the east for the pro-

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1 posed location.

2 MR. STAMETS: Before you do that, I'd like to
3 orient myself on the map, Exhibit B.

4 The Zia Elliott Well No. 1, which was just
5 worked over, is -- or not just worked over, it was worked
6 over -- lies to the northeast in Section 26, is that correct?

7 A. Yes, that is correct.

8 MR. STAMETS: Is that shown on Exhibit B?

9 A. Yes, I believe it is, Mr. Examiner.

10 MR. STAMETS: I see No. 2 -- okay, I see it,
11 here it is.

12 All right, now is that well now a Eumont gas
13 well?

14 A. Yes, it is. The Elliott Federal No. 1 is
15 now a gas well.

16 I believe you're correct that it does not show --
17 yes, it does. It appears in Section 26 on Exhibit B.

18 MR. STAMETS: Okay, and then you have identi-
19 fied that also on Exhibit A as a Eumont gas well with pro-
20 duction. Okay.

21 A. Yes.

22 By comparison of Exhibit J and K, we purport
23 that there are zones existing in the proposed Elliott State
24 No. 2 40-acre tract that we can reasonably expect to produce
25 gas reserves from.

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1 Q (Mr. Kellahin continuing.) Mr. Nelson, have
2 you made any calculations as to what can reasonably be ex-
3 pected to recover from the Elliott State No. 2 Well?

4 A Yes. Using the reservoir information that we
5 have, we have calculated that the 80-acres composed of the
6 north half of the northeast quarter of Section 34 can reason-
7 ably be expected to produce a million Mcf of gas. We have
8 estimated that 350,000 -- I stated that wrong.

9 There is at this present time a million Mcf
10 of gas in the reservoir and we can reasonably expect to
11 recover 350,000 Mcf of this.

12 Q In your opinion would that be Eumont gas that
13 cannot effectively and efficiently be produced from the
14 Warrior State No. 1 Well?

15 A Yes, very definitely. The current producing
16 rate of the Warrior State WEG No. 1 is approximately 125 Mcf
17 per month. This well will certainly not produce any signi-
18 ficant reserves in the future, and due to the extensive
19 workover that was performed in 1974, we feel that it would
20 be unadvisable to contemplate any additional workover on
21 the State WEG No. 1.

22 Q In your opinion, Mr. Nelson, if the Elliott
23 State No. 2 Well is not drilled and completed in the Eumont
24 gas zone, will there be Eumont gas reserves left unrecovered?

25 A We feel like that there'll be 350,000 Mcf of

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1 recoverable reserves left in the Eumont, that the operator
2 will not have an opportunity to produce and that consumers
3 will not have an opportunity to utilize.

4 Q In your opinion, Mr. Nelson, will the Elliott
5 State No. 2 Well be necessary to effectively and efficiently
6 drain the proration unit, that portion of the reservoir
7 covered by the proration unit, which cannot more effectively
8 and efficiently be drained by the existing well?

9 A Yes, this is our conclusion.

10 Q Were Exhibits A through K prepared by you or
11 compiled under your direction and supervision?

12 A Yes, they were.

13 Q And in your opinion, Mr. Nelson, will approval
14 of this application prevent waste, protect correlative rights,
15 and be in the best interest of conservation?

16 A Yes, it will.

17 MR. KELLAHIN: We move the introduction of
18 Exhibits A through K.

19 MR. STAMETS: These exhibits will be admitted.

20
21 CROSS EXAMINATION

22 BY MR. STAMETS:

23 Q Mr. Nelson, if I understand this correctly,
24 you currently have a 160-acre proration unit, consisting of
25 the northeast quarter of Section 34, in the Eumont gas pool?

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- 1 A Yes, that's right.
- 2 Q And that is dedicated to the Warrior WEG Well
- 3 No. 1.
- 4 A Yes.
- 5 Q All right. Now, what acreage will be dedi-
- 6 cated to the well which you propose to drill and complete
- 7 in the northeast quarter of the section?
- 8 A We propose to dedicate only the north half
- 9 of the northeast quarter section.
- 10 Q Okay, and Warrior, then, will continue to
- 11 operate the well in the south half?
- 12 A Yes, that is correct.
- 13 Q Now, the 350,000 Mcf which you expect to re-
- 14 cover is from the 80-acre proration unit?
- 15 A Yes, that's right.
- 16 Q So there may be some more down there that
- 17 Warrior is not going to get with their well?
- 18 A That's possible.
- 19 Q But that's Warrior's problem?
- 20 A That's Warrior's problem.
- 21 Q Okay.
- 22 A We might refer to Exhibits G and H, which
- 23 you have there, but we didn't discuss them. That's simply
- 24 the gas pooling agreement as it was executed between Elliott
- 25 Oil Company and Amerada.

1 Q Now, Exhibit E has some rather startling --
2 a rather startling thing on it. In mid-1973 -- well, you
3 have a nice decline curve starting back about 1960 running
4 through the middle of '73 and then it dropped like a rock
5 to -- I guess that's not a zero line but what is that, 100
6 what?

7 A At 1975?

8 Q Right.

9 A That would represent 125 Mcf per day -- excuse
10 me, per month.

11 Q Production did not decline in this straight
12 line fashion, did it?

13 A Well, the decline occurred following the
14 workover in 1974.

15 Q Was that decline between the middle of --
16 perhaps I'm looking at this thing wrong. What have you
17 plotted here, the production for the year?

18 A We have plotted the average monthly production
19 per year.

20 Q And that's been plotted at --

21 A We took the twelve months --

22 Q -- the center point of each year.

23 A Right, that's correct.

24 Q Okay.

25 A So that your entire 1973 production was a

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1 single point in the midpoint of the year, and your '74, and
2 so on.

3 Q All right. Okay, that's much better. I
4 thought this was monthly production.

5 MR. STAMETS: Any other questions of this
6 witness?

7 MR. KELLAHIN: Yes, I have another question,
8 Mr. Examiner.

9
10 REDIRECT EXAMINATION

11 BY MR. KELLAHIN:

12 Q You indicated in your opening remarks, Mr.
13 Nelson, that there was also a need for a waiver of existing
14 well spacing requirements.

15 Would you summarize for the Examiner what
16 those requirements are and why it's necessary for you to
17 obtain a waiver?

18 A This application is the first step in a series
19 of steps leading to a price determination under the new
20 Federal Energy Regulation Commission Natural Gas Act of 1978.
21 One of the requirements under Section 103, sub-paragraph 275.
22 you caught me, I don't remember that last right off the top
23 of my head, but it is one of the requirements by this regu-
24 lation that the Commission grant a finding that the well is
25 necessary to efficiently and effectively drain the proration

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1 unit and that they also waive applicable well spacing re-
2 quirements.

3 MR. KELLAHIN: I have nothing further.

4 MR. STAMETS: Any other questions of the
5 witness? He may be excused.

6 Oh, before he gets off, let me make sure we
7 got everything.

8
9 RECROSS EXAMINATION

10 BY MR. STAMETS:

11 Q This is a standard location for an 80-acre
12 gas spacing unit in the Eumont pool?

13 A Yes, it is.

14 Q This is an application for infill drilling.
15 What you're going to wind up with, though, is actually not
16 an infill well. Why was the application for infill drilling?

17 A As it presently stands, this will be a second
18 well within an existing proration unit. That's as it stands
19 today. It will only become the first well in a proration
20 unit at some later date after the well has been completed
21 and the reasoning for this is set forth in that Exhibit G,
22 if you care to check that. That's Exhibit G, page two,
23 paragraph number four.

24 Once our well is drilled then the present gas
25 proration unit is terminated.

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1 Q At what point?

2 A Upon the completion of a gas well above 4300
3 feet in the north half of the northeast quarter of Section
4 34.

5 Q And what determines the completion in this
6 case?

7 A That would be the completion as a gas well
8 above 4300 feet.

9 Q Is there any definition of what a completion
10 means? Is that when you install the wellhead or when you
11 test the well?

12 A I would assume that that definition would be
13 at the point in time when you can test the well and you can
14 determine by test that you have a commercial well producing
15 in the Eumont gas above 4300 feet.

16 Q Okay. Let's make sure I've got everything.
17 We're talking -- the well you're talking about drilling is
18 to be the Elliott State No. 2 and what's the location of
19 that, 660 north, 1980 east?

20 A No, it would be 1980 from the east and 660
21 from the north.

22 That's what you said, isn't it?

23 Q That's right. It depends on where you start.

24 A Right.

25 MR. STAMETS: Okay. Any other questions of

1 the witness? He may be excused.

2 Anything further in this case?

3 We'll take the case under advisement.

4 (Hearing concluded.)

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REPORTER'S CERTIFICATE

I, SALLY W. BOYD, a Court Reporter, DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability, skill, and knowledge, from my notes taken at the time of the hearing.

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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. 6429
heard by me on 1-31, 1979.

Richard L. Stunt, Examiner
Oil Conservation Division

ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

CASE 6429

Application of Zia Energy, Inc., for approval of Infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a finding that the drilling of its Elliott State Well No. 2 to be located in Unit B of Section 34, Township 20 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well, and further seeks approval of a waiver of existing well-spacing requirements.

BEFORE THE LEA COUNTY
CIL AND DIVISION
ZIA
CASE NO. 6429
Submitted by _____
Hearing Date 31 Jan 79

ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

January 30, 1979

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87501

Re: Case No. 6429

Gentlemen:

You are asked to consider evidence that will be presented to prove that the proposed infill drilled well, Elliott State No. 2, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by any existing well.

This proration unit consists of the NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico. It is State of New Mexico lease No. B-11298.

Two wells have been drilled on this proration unit. One well, the Elliott State No. 1, in unit letter A, is plugged and abandoned. A well data sheet is included which gives this well history. It produced a cumulative of 26,531 barrels of oil and 114,478 MCF of gas before being plugged. The second well on this proration unit is the Warrior, Inc. State "WEG" No. 1, unit letter H. It was drilled and completed as a Eumont gas well. A well data sheet gives the history for this well. The N/2 NE/4 and the S/2 NE/4 of Section 34 was pooled together and dedicated to this Eumont gas well. A copy of the Gas Pooling Agreement is included for information. This well has produced a cumulative of 691,325 MCF of gas. The initial decline in productivity from this well was very sharp, as you will note from the tabulation of production for this well. This sharp decline and electric log information both indicate a tight formation. In 1974 an extensive workover was a complete failure. Actually, production was less after the workover than before. This workover failure makes it imprudent to attempt any further recompletion. This proration unit is left without an adequate well to produce the remaining reserves.

Exhibits will be presented to show the probability of remaining reserves in this proration unit. It will also be shown that offsetting wells are continuing to produce and have produced cumulative oil and gas in excess of the production from this proration unit.

An exhibit showing an east-west cross-section is presented. This cross-section crosses four leases that have had producing Eumont gas wells. A well data sheet is included for each of the four wells on these leases. This cross-section shows the structural relationship between the four leases. It will be noted that two Eumont gas wells are west (down dip) of the proposed location.

A structure map is presented of the area. Information represented here confirms and enlarges on the information included on the cross-section. It presents in more detail the structural relationship between the Elliott State No. 2 and wells surrounding it.

An exhibit consisting of a map of the area is prepared to show initial potentials and cumulative production from Eumont gas wells. This exhibit indicates the probability that Elliott State No. 2 will produce a cumulative of approximately 500 MCF of gas.

A tabulation of six Eumont gas wells is presented to show recent annual production rates and annual 72 hour shut-in well head pressures. From this tabulation it will be noted that the Phillips New #2, Zia Energy Elliott Fed. #2 and Exxon Fopeano #1 all have cumulative production figures much higher than the wells to the west. This is an indication that the permeability and probably the porosity is tighter as you move to the west in this area.

Two additional exhibits were prepared from data from the production history of Warrior, Inc. State "WEG" No. 1. An annual production and annual calculation of bottom hole pressure tabulation is presented. Then a production decline curve is presented. Two things will be noted from these exhibits. First, the annual production declined very rapidly from the first full year of production in 1956. Secondly, an erratic BHP is noted. In 1959, 1963, 1965, 1968 and 1971 you will note that the BHP indicated a higher value than previous years. This pressure variation can be explained by shut-in times greater than 72 hours. The indication here is a tight formation and the rapid production decline substantiates this conclusion.

Several well data sheets are presented for wells referred to on the cross-section, structure map, map of the Elliott State No. 2 area or one of the tabulations.

Two electric log sections are presented for the Zia Energy, Inc. Elliott Federal No. 1 and the Elliott State No. 1. An 8% porosity line has been drawn on each log. Refer to the well data sheet for Elliott Federal No. 1 where you will note a recompletion in February 1978 in the zones from 3554' to 3656'. In the 8 months that this well produced in 1978, it produced 113,462 MCF.

These exhibits have been presented in an effort to prove that the Elliott State No. 2 has stringers in the Yates, Seven Rivers and Queen formations with adequate porosity to produce gas in commercial quantities. Electric logs present prove this. The exhibits are intended to show that these stringers will be tight, as indicated by production tabulations and shut-in pressure data. Once these two premises are accepted, then it is reasonable to assume that this gas can be produced from Elliott State No. 2 following adequate stimulation from a fracture treatment utilizing the recently developed carbon dioxide fracture treatment. This type of treatment has proven highly successful in tight, low pressure reservoirs in the Yates, Seven Rivers, Queen. Old wells have also responded very favorably to this new technique.

Using the reservoir data that is available, we have calculated that the Elliott State No. 1 can reasonably be expected to produce a cumulative in excess of 350,000 MCF of gas. This is substantiated by production from offsetting wells. Without the drilling of this infill well, these reserves will be left unrecovered. The operator will be denied an opportunity to produce recoverable reserves and consumers will be denied needed gas.

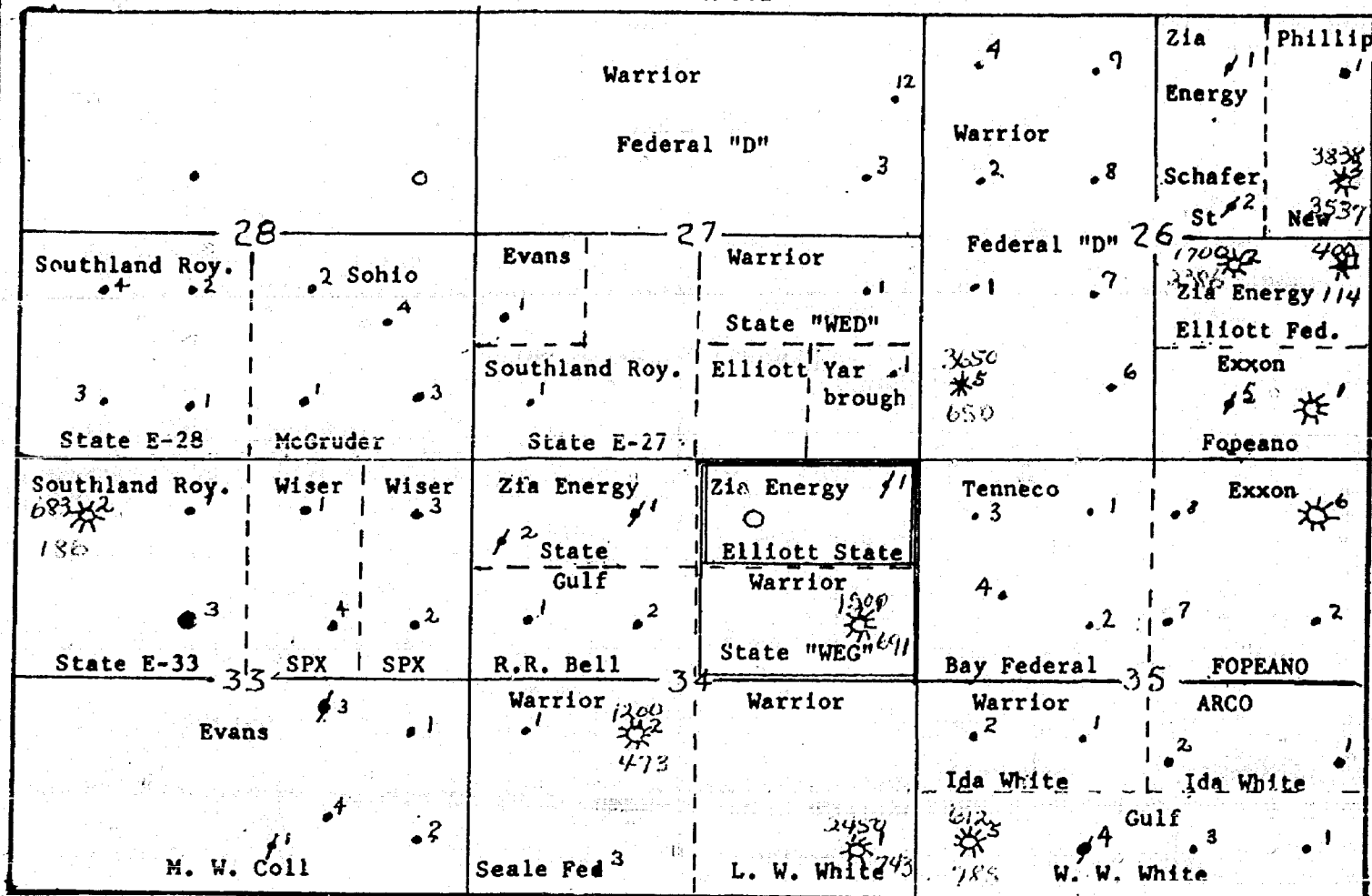
Respectfully,

ZIA ENERGY, INC.

Farris Nelson

Farris Nelson

T-20S R-36E

**ZIA ENERGY, INC.**

HOBBS, NEW MEXICO 88240

ELLIOTT STATE AREA

EUMONT FIELD - T20S, R36E

Lea County, New Mexico

- State Lease No. 11298
- Zia Energy Elliott State
- Proposed Elliott State No. 2
- Eumont Oil Well
- ☀ Eumont Gas Well
- 100 Initial Potential - MCF
- ☀ Cumulative Production - MMCF

BEFORE EXAMINER STAMETS
OIL COMMISSION DIVISION

Zia Energy No. A

CUMULATIVE 6429

Submitted by

Hearing Date

TABULATION 72 Hour Shut-In Pressure & Annual Production

Year	Aztec St. E-33 #2D 33-20-36		Amerada St. WEG #1H 34-20-36		Gulf White #5M 35-20-36		Exxon Fopcano #1A 35-20-36		Zia Energy Elliott Fed. #2J 26-20-36		Phillips New #2H 26-20-36	
	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press
1965	6,163	365	32,690	227	56,210	402	92,599	624	120,761	530	51,594	671
1966	6,352	189	10,390	185	39,857	333	58,864	566	62,604	486	37,792	636
1967	6,024	162	14,903	138	22,889	215	81,075	545	65,660	450	43,043	617
1968	5,111	168	14,000	173	19,891	257	122,161	488	122,096	430	55,441	613
1969	5,499	NA	14,294	146	13,370	174	123,785	449	118,590	440	72,055	553
1970	SI		12,608	165	4,877	185	129,511	435	143,549	383	67,849	550
1971	SI		13,380	215	3,976	NA	121,716	388	121,938	322	81,080	469
1972	SI		11,502	117	SI		172,953	375	154,185	288	64,349	436
1973	SI		11,647	103	SI		184,042	330	122,585	271	125,927	390
1974	SI		3,122	NA	SI		155,175	306	100,121	250	82,596	362
1975	SI		904	NA	SI		131,861	259	79,091	229	87,856	345
1976	SI		419	NA	SI		122,211	273	45,503	233	119,802	291
1977	SI		2,157	NA	SI		105,278	240	8,304	238	89,447	253
1/1/78 Cum	185,760		691,325		784,755		2,955,321		2,386,396		3,536,904	

EXHIBIT "C"

21A
6429
C
FACED

EXHIBIT "D"

ANNUAL PRODUCTION

Warrior, Inc.
 State "WEC" No. 1-H
 Sec. 34, T20S, R36E,
 Lea County, New Mexico

<u>Year</u>	<u>Volume</u>	<u>72-hour Shut-In Press.</u>	<u>Calculated BHP-psia</u>
1955	85,123		
1956	126,078	686	851
1957	82,561	418	491
1958	65,880	365	426
1959	53,237	437	517
1960	39,139	350	407
1961	38,308	220	249
1962	29,001	230	260
1963	14,285	287	330
1964	25,150	178	199
1965	32,690	227	257
1966	10,390	185	208
1967	14,903	138	154
1968	14,000	173	194
1969	14,294	146	164
1970	12,608	165	184
1971	13,380	215	243
1972	11,502	117	130
1973	11,647	103	114
1974	3,122		
1975	904		
1976	419		
1977	2,157		

Cumulative Gas Production - 691,325 MCF

BEFORE EXAMINER STAMETS
 OIL COMMISSION DIVISION

21A EXHIBIT NO. D

6429

Subscribed by _____

Hearing Date _____

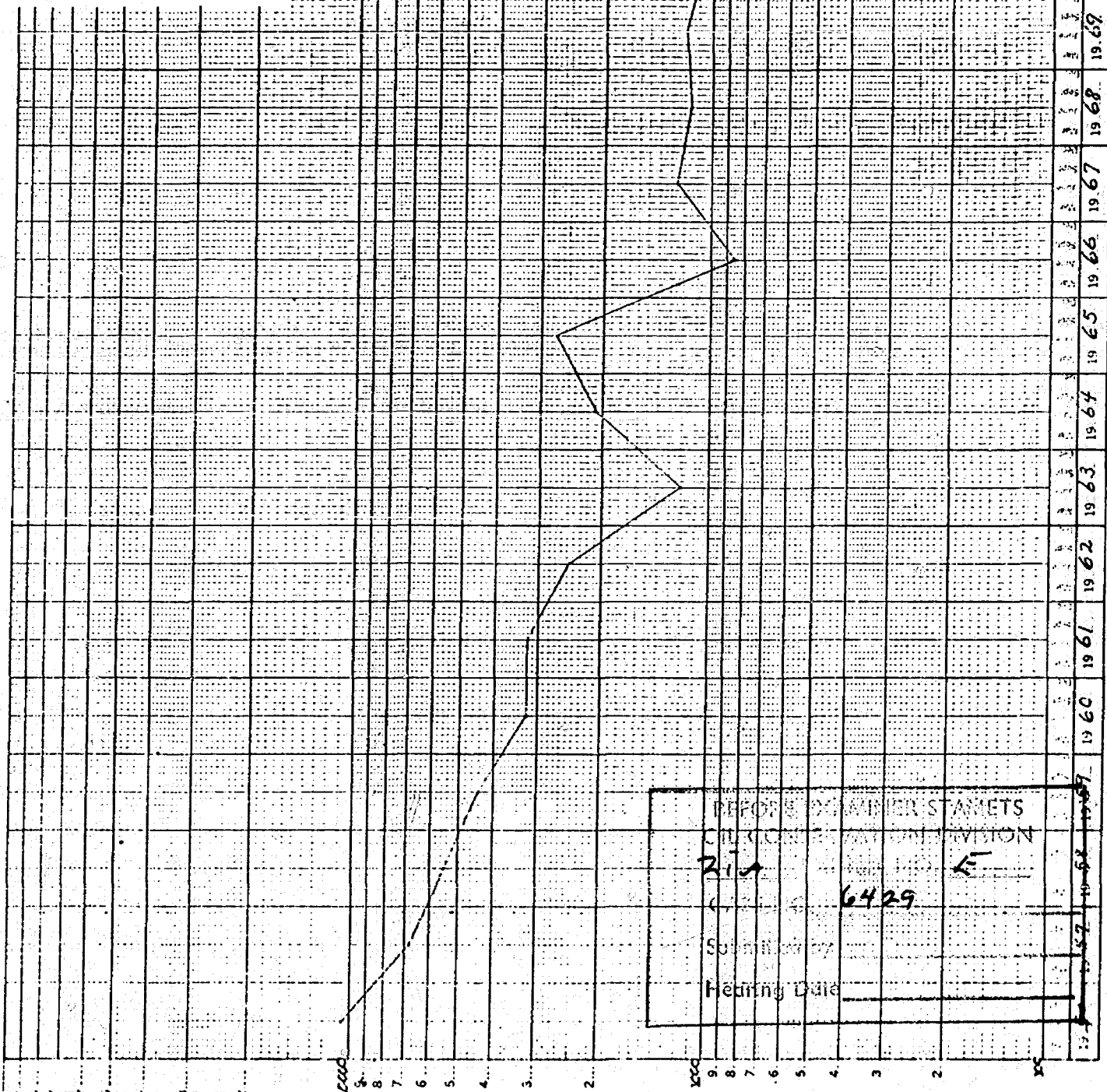
ZIA ENERGY, INC.
HOBBBS, NEW MEXICO 88240

PRODUCTION DECLINE CURVE

WARRIOR STATE "WEG" No. 1

SE/4-NE/4 34-208-36E

EXHIBIT "E"



WELL DATA SHEET

Company: Southland Royalty
 Lease: State E-33 Well No. 2
 Field: Eumont
 Unit Letter D Sec. 33, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 4/18/55 Total Depth 3915' Elevation 3602'

Intermediate Casing: Size 8 5/8" Depth 323' Cement 280 sx

Production Casing: Size 5 1/2" Depth 3915' Cement 500 sx

Perforation: 3878'-3888' Open Hole: _____

Formation Tops: TA 1812' TS 1972' BS 3344' TY 3654'

T7R 3878' TQu _____ TGb _____

Stimulation: Fracture treat using 10,000 gallons of oil and 1# SPG.

Initial Potential: BOPD 50 BWPD _____ MCF/D _____

Cumulative Production to 1/1/78: BO 33,460 MCF 185,759

Remarks: 9/10/58 plugged back to 3825'. Perforated 3778'-3816'.

Fracture treated using 15,000 gallons of refined oil and

15,000# sand. Production after recompletion 0 BO, 0 BW

and 683 MCF. Well shut-in in 1971 and has not produced since
that date.

FROM STATE ENGINEERS CIVIL ENGINEERING DIVISION 21A 6429 Submitted by _____ Hearing Date _____

WELL DATA SHEET

Company: Warrior, Inc.
 Lease: Seale Federal Well No. 2
 Field: Eumont
 Unit Letter K Sec. 34, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 9/29/55 Total Depth 3900' Elevation 3586'

Intermediate Casing: Size 8 5/8" Depth 253' Cement 200 sx

Production Casing: Size 5 1/2" Depth 3899' Cement 1550 sx

Perforation: 3749'-3776' Open Hole: _____

Formation Tops: TA 1640' TS _____ BS 3212' TY 3428'

T7R 3780' TQu _____ TGb _____

Stimulation: Fracture treat using 10,000 gallons with 1# SPG

Initial Potential: BOPD 0 BWPD 0 MCF/D 1200

Cumulative Production to 1/1/78: BO 2576 MCF 481,995

Remarks: _____

REGIONAL MANAGER 21A 6429 F-2 Reviewed by Reviewing Date

WELL DATA SHEET

Company: Warrior, Inc.
 Lease: State "WEG" Well No. 1
 Field: Eumont
 Unit Letter H Sec. 34, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 2/24/54 Total Depth 4300' Elevation 3581'

Intermediate Casing: Size 9 5/8" Depth 307' Cement 300 sx

Production Casing: Size 7" Depth 4300' Cement 800 sx

Perforation: 3150'-3600' Open Hole: _____

Formation Tops: TA 1551' TS 1660' BS 2970' TY 3142'

T7R 3520' TQu NA TGb 4280'

Stimulation: Fracture treated with 10,500 gallons of oil and 9300# sand

Initial Potential: BOPD 0 BHPD 0 MCF/D 522

Cumulative Production to 1/1/78: BO _____ MCF 691,325

Remarks: 7/26/74 recomplete. Clean out to 4285' and perforate
3520'-4240'. Stimulate with 7000 gallons of acid and
frac with 148,000 gallons of gelled water with 1 1/2# SPG.
Recompletion a complete failure, production approximately
1 BOPD with 5 MCF/day of gas.

OWNER STAMPS	
DIVISION	
21A	F-3
6429	
DATE	
TIME	

WELL DATA SHEET

Company: Zia Energy, Inc.
Lease: Elliott State Well No. 1
Field: Eumont
Unit Letter A Sec. 34, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 11/3/55 Total Depth 4009' Elevation 3575'

Intermediate Casing: Size 8 5/8" Depth 321' Cement 275 sx

Production Casing: Size 5 1/2" Depth 4007' Cement 850 sx

Perforation: 3950'-3988' Open Hole: _____

Formation Tops: TA NA TS NA BS 2958' TY 3115'

T7R 3485' TQu 3918' TGb _____

Stimulation: Fracture treated using 20,000 gallons of Petro-frac with 1# SPG.

Initial Potential: BOPD 78 BWPD 78 MCF/D TSTM

Cumulative Production to 1/1/78: BO 26,531 MCF 114,478

Remarks: Well was plugged and abandoned 7/3/71.

Zia F-4
6429

WELL DATA SHEET

Company: Tenneco
 Lease: Bay Federal Well No. 3
 Field: Eumont
 Unit Letter D Sec. 34, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 12/30/54 Total Depth 4070' Elevation 3565'

Intermediate Casing: Size 8 5/8" Depth 351' Cement 225 sx

Production Casing: Size 5 1/2" Depth 4070' Cement 400 sx

Perforation: 3855'-3969' Open Hole: _____

Formation Tops: TA 1510' TS 1615' BS 2875' TY 3055'

T7R 3125' TQu 3860' TGb _____

Stimulation: none reported

Initial Potential: BOPD 257 BHPD 0 MCF/D 91

Cumulative Production to 1/1/78: BO 109,373 MCF NA

Remarks: _____

BEFORE EXAMINATION
 OIL COMPANY REGISTRATION

211 F-5

6429

SELLER'S SIGNATURE

BUYER'S SIGNATURE

WELL DATA SHEET

Company: Yarbrough Oil Company
Lease: Elliott State Well No. 1
Field: Eumont
Unit Letter P Sec. 27, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 8/1/55 Total Depth 4080' Elevation 3589'

Intermediate Casing: Size 8 5/8" Depth 319' Cement 250 sx

Production Casing: Size 5 1/2" Depth 4080' Cement 800 sx

Perforation: 3964'-4005' Open Hole: _____

Formation Tops: TA 1533' TS 1650' BS 2942' TY 3100'

T7R 3360' TQu 3935' TGb _____

Stimulation: Fracture treat using 10,000 gallons of oil and 1# SPG

Initial Potential: BOPD 140 BWPD 0 MCF/D _____

Cumulative Production to 1/1/78: BO 69,191 MCF NA

Remarks: _____

BEFORE EXAMINER SIGNATURES	
OIL COMPANY REGISTRATION	
21A	F-6
6429	
Submitted by _____	
Received by _____	

21a	F-7
6429	
Submitted by	
Hearing Date	

WELL DATA SHEET

Company: Zia Energy, Inc.
 Lease: Ellfott Federal Well No. 1
 Field: Eumont
 Unit Letter I Sec. 26, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 2/21/35 Total Depth 3780' Elevation 3558'

Intermediate Casing: Size 8 5/8" Depth 1250' Cement 400 sx

Production Casing: Size 7" Depth 3702' Cement 150 sx

Perforation: _____ Open Hole: 3702'-3780'

Formation Tops: TA 1215' TS 1350' BS 2640' TY 2800'

T7R 3160' TQu 3544' TGb _____

Stimulation: Originally treated using 6000 gallons 15% HCL

Initial Potential: BOPD 588 BWPD 0 MCF/D 588

Cumulative Production to 1/1/78: BO 131,226 MCF NA

Remarks: Well deepened in August 1940 to 3809'. Shut-in from 1961 to February 1978. In February 1978, the well was cleaned out to 3809' and the open hole section, 3702' to 3809', was fracture treated using 36,000 gallons of gelled 9# brine and 45,000# of sand. Treatment at 20 BPM and 3000 psi max pressure through 3" tubing below a packer set at 3680'. ISDP 2000 psi. 15 minute SI pressure 1350'. Pulled tubing and packer, perforated from 3554' to 3656' with 23 0.5" holes. Reran tubing, bridge plug and packer. Set BP at 3674' and packer at 3423'. Broke down perforations with 1000 gallons of 15% HCL and 36 ball sealers at 5 BPM and a max. pressure of 3300 psi. ISDP vac. Fracture treated using 30,000 gallons of gelled 9# brine and 42,500# sand. Treatment

(OVER)

114 mcf/gas
rec since
workover

at 20 BPM and 2500 psi. ISDP 1450 psi. Pulled 3" tubing and packer. Reran 2 3/8" tubing and set at 3600'. Ran sucker rods and pump. Put to pumping to recover load water. Test 3/8/78 . 3 BOPD and 1 BWPD with 400 MCF of gas. Production since workover 195 BO and 0 BW with 113,462 MCF of gas.

WELL DATA SHEET

Company: Phillips Petroleum Company
 Lease: New "G" Well No. 2
 Field: Eumont
 Unit Letter H Sec. 26, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 4/3/38 Total Depth 3810' Elevation 3552'

Intermediate Casing: Size 9 5/8" Depth 1236' Cement 250 sx

Production Casing: Size 7" Depth 3701' Cement 400 sx

Perforation: _____ Open Hole: 3701'-3810'

Formation Tops: TA _____ TS _____ BS _____ TY _____

T7R _____ TQu _____ TGb _____

Stimulation: Initial treatment 1000 gallons of acid.

Initial Potential: BOPD 604 BWPD 0 MCF/D 400

Cumulative Production to 1/1/78: BO _____ MCF 3,536,904

Remarks: Recompleted as a Eumont gas well 1/8/47. Set bridge plug
in 7" casing. Perforated with 4 JSPF from 3540' to 3670'.
Treated using 250 gallons of acid. Initial potential
3838 MCF/day.

BEFORE EXAMINER SIGNATURES	
OIL CONSERVATION DIVISION	
21A	EXHIBIT NO. <u>F-8</u>
CALL NO. <u>6429</u>	
Submitted by _____	
Filing Date _____	

EXHIBIT G

GAS POOLING AGREEMENT

117-1536
This Agreement made and entered into this 21st day of September 1956, by and between AMERADA PETROLEUM CORPORATION and ELLIOTT, INC., hereinafter called "AMERADA" and "ELLIOTT," respectively,

WITNESSETH: That

WHEREAS, Amerada is the record owner of the following State of New Mexico oil and gas lease:

Lease No. B-11298, dated June 10, 1944, from the State of New Mexico, as Lessor, to E. M. Elliott, as Lessee, covering, among other lands, the S/2 NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico; and

WHEREAS, Elliott is the record owner of the following State of New Mexico oil and gas lease:

Lease No. B-11298, dated June 10, 1944, from the State of New Mexico, as Lessor, to E. M. Elliott, as Lessee, covering, among other lands, the N/2 NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico; and,

WHEREAS, it is the desire of Amerada and Elliott that this agreement cover the NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico, as to the gas rights down to a depth of 4300 feet below the surface, said area being hereinafter referred to as the "Pooled Proration Unit;" and,

WHEREAS, in order to comply with existing rules and regulations governing gas well spacing and gas proration units, and to acquire a gas allowable for the above-described pooled proration unit, it is the desire of the parties hereto to pool all leasehold and royalty interests in order to form one tract or unit; and

WHEREAS, Amerada desires to operate the pooled proration unit as an entirety for the purpose of developing and producing dry gas and associated liquid hydrocarbons in accordance with the terms and provisions of this agreement:

NOW, THEREFORE, in consideration of the premises and the mutual advantages offered by this agreement, it is mutually covenanted and agreed by and between the parties hereto that the pooled proration unit shall be developed and operated by Amerada, its successors or assigns, for the production therefrom of dry gas and associated liquid hydrocarbons as an entirety, with the understanding and agreement that the dry gas and associated liquid hydrocarbons produced therefrom shall be allocated among the leaseholds comprising said pooled proration unit in the proportion that the acreage interest of each leasehold bears to the entire acreage interest committed to this agreement. The royalties payable on the dry gas and associated liquid hydrocarbons so allocated to the individual leases comprising the pooled proration unit and the rentals provided for in said leases shall be determined and paid on the basis prescribed in each of the individual leases. Payment of rentals under the terms of the leases subject to this agreement shall not be affected by this agreement except as provided for under the terms and provisions of said leases or as may herein be otherwise provided. Except as herein modified and changed, the oil and gas leases subject to this agreement shall remain in full force and effect as originally made and issued. There shall be no obligation on Amerada, or its successors or assigns, to offset any gas well or wells on separate component tracts into which such pooled proration unit is now or may hereafter be divided; nor shall Amerada, its successors or assigns be required to separately measure said dry gas or associated liquid hydrocarbons by reason of the diverse ownership of such production in and under said tract, but the lessee shall not be released from the obligation to protect said pooled tract from drainage by any gas well or wells which may be drilled offsetting the said tract.

It is further agreed that the commencement, completion, continued operation or production of a well or wells for dry gas and associated liquid hydrocarbons on the pooled proration unit shall be construed and considered as the commencement, completion, continued operation or production from each and all of the lands within and comprising said pooled proration unit, and operations or production pursuant to this agreement shall be deemed to be operations or production as to each lease committed hereto.

It is the intention of the parties hereto that this agreement shall include and affect only dry gas and associated liquid hydrocarbons produced through a gas well or gas wells as defined by the New Mexico Oil Conservation Commission located on the pooled proration unit and shall not include or affect in any manner whatsoever any of the production of hydrocarbons from any oil well located on the pooled tracts or any of the production of hydrocarbons from other than the 4300 feet from the surface as above defined.

It is further agreed that all production of dry gas and associated liquid hydrocarbons and disposal thereof shall be in conformity with allocations made or fixed by any duly authorized person or regulatory body under applicable Federal or State statute. The provisions of this agreement shall be subject to all applicable Federal and State laws or executive orders, rules and regulations which affect the performance of any of the provisions of this agreement, and no party hereto shall suffer a forfeiture or be liable in damages for failure to comply with any of the provisions of this agreement if such compliance is prevented by, or if such failure results from compliance with any such law, order, rule or regulation.

This agreement shall be effective as of the date upon which the unit allowable established by the New Mexico Oil Conservation Commission first becomes effective and shall remain in force and effect for a period of one (1) year and so long thereafter as dry gas, with or without associated liquid hydrocarbons, is produced from any part of said pooled proration unit in paying quantities; provided that this agreement shall terminate in the event of and at such time that (a) Elliott shall complete a gas well above a depth of 4300 feet from the surface in the N/2 of the area hereby pooled, or (b) Amerada shall abandon the gas well that it has drilled and completed in the S/2 of the area hereby pooled.

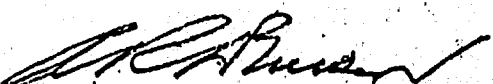
This agreement shall be binding upon the parties hereto and shall extend to and be binding upon their respective heirs, executors, administrators, successors and assigns.

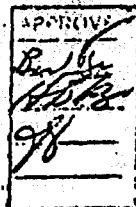
IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year herein first above written.

ATTEST:

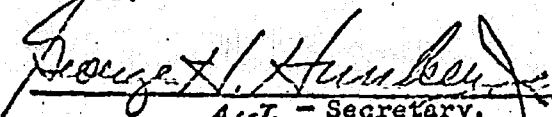

Assistant Secretary

AMERADA PETROLEUM CORPORATION

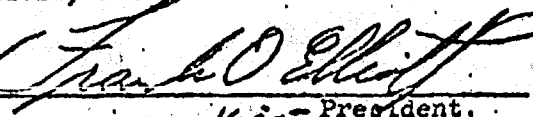
By 
Vice President.



ATTEST:


Asst. - Secretary.

ELLIOTT, INC.

By 
Vice - President.

STATE OF OKLAHOMA)
COUNTY OF TULSA) SS

On this 21st day of September, 1956, before me appeared A. R. DENISON, to me personally known, who being by me duly sworn, did say that he is the Vice President of AMERADA PETROLEUM CORPORATION, and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said A. R. DENISON, acknowledged said instrument to be the free act and deed of said corporation.

Given under my hand and seal this 21st day of September, 1956.

My commission expires:

October 25, 1957

J. B. Dettl
Notary Public

STATE OF NEW MEXICO)
COUNTY OF CHAVES) SS

On this 1st day of October, 1956, before me appeared Frank O. Elliott, to me personally known, who being by me duly sworn, did say that he is the Vice President of ELLIOTT, INC., and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said Frank O. Elliott, acknowledged said instrument to be the free act and deed of said corporation.

Given under my hand and seal this 1st day of October, 1956.

My commission expires:

December 20, 1959

Nina Crane
Notary Public

CERTIFICATE OF APPROVAL

BY COMMISSIONER OF PUBLIC LANDS, STATE OF NEW MEXICO
Amerada's State WE "G" No. 1 Communitization

There having been presented to the undersigned Commissioner of Public Lands of the State of New Mexico for examination, the attached Agreement for the development and operation of acreage which is described within the attached Agreement, dated Sept. 21, 1956, which has been executed or is to be executed by parties owning and holding oil and gas leases and royalty interests in and under the property described, and upon examination of said Agreement, the Commissioner finds:

- (a) That such agreement will tend to promote the conservation of oil and gas and the better utilization of reservoir energy in said area.
- (b) That under the proposed agreement the State of New Mexico will receive its fair share of the recoverable oil or gas in place under its lands in the area.
- (c) That each beneficiary Institution of the State of New Mexico will receive its fair and equitable share of the recoverable oil and gas under its lands within the area.
- (d) That such agreement is in other respects for the best interests of the state, with respect to state lands.

NOW, THEREFORE, by virtue of the authority conferred upon me under Sections 7-11-39, 7-11-40, 7-11-41, 7-11-47, 7-11-48, New Mexico Statutes Annotated 1953 Compilation, I, the undersigned, Commissioner of Public Lands of the State of New Mexico, for the purpose of more properly conserving the oil and gas resources of the State, do hereby consent to and approve the said Agreement, and any leases embracing lands of the State of New Mexico within the area shall be and the same are hereby amended to conform with the terms thereof, and shall remain in full force and effect according to the terms and conditions of said Agreement. This approval is subject to all of the provisions of the aforesaid statutes, and shall specifically cover Amerada's State WE "G" No. 1 Well in the Eumont Gas Pool as set forth by New Mexico Oil Conservation Commission Administrative Order NSP-86.

IN WITNESS WHEREOF, this Certificate of Approval is executed, with seal affixed, this 8 day of October 1956.

E. Walker
Commissioner of Public Lands
of the State of New Mexico

RECORDS SECTION	DATE
21A	5
6429	
Meeting Date	

ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

CASE 6429

Application of Zia Energy, Inc., for approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a finding that the drilling of its Elliott State Well No. 2 to be located in Unit B of Section 34, Township 20 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well, and further seeks approval of a waiver of existing well-spacing requirements.

ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

January 30, 1979

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87501

Re: Case No. 6429

Gentlemen:

You are asked to consider evidence that will be presented to prove that the proposed infill drilled well, Elliott State No. 2, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by any existing well.

This proration unit consists of the NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico. It is State of New Mexico lease No. B-11298.

Two wells have been drilled on this proration unit. One well, the Elliott State No. 1, in unit letter A, is plugged and abandoned. A well data sheet is included which gives this well history. It produced a cumulative of 26,531 barrels of oil and 114,478 MCF of gas before being plugged. The second well on this proration unit is the Warrior, Inc. State "WEG" No. 1, unit letter H. It was drilled and completed as a Eumont gas well. A well data sheet gives the history for this well. The N/2 NE/4 and the S/2 NE/4 of Section 34 was pooled together and dedicated to this Eumont gas well. A copy of the Gas Pooling Agreement is included for information. This well has produced a cumulative of 691,325 MCF of gas. The initial decline in productivity from this well was very sharp, as you will note from the tabulation of production for this well. This sharp decline and electric log information both indicate a tight formation. In 1974 an extensive workover was a complete failure. Actually, production was less after the workover than before. This workover failure makes it imprudent to attempt any further recompletion. This proration unit is left without an adequate well to produce the remaining reserves.

Exhibits will be presented to show the probability of remaining reserves in this proration unit. It will also be shown that offsetting wells are continuing to produce and have produced cumulative oil and gas in excess of the production from this proration unit.

January 30, 1979

An exhibit showing an east-west cross-section is presented. This cross-section crosses four leases that have had producing Eumont gas wells. A well data sheet is included for each of the four wells on these leases. This cross-section shows the structural relationship between the four leases. It will be noted that two Eumont gas wells are west (down dip) of the proposed location.

A structure map is presented of the area. Information represented here confirms and enlarges on the information included on the cross-section. It presents in more detail the structural relationship between the Elliott State No. 2 and wells surrounding it.

An exhibit consisting of a map of the area is prepared to show initial potentials and cumulative production from Eumont gas wells. This exhibit indicates the probability that Elliott State No. 2 will produce a cumulative of approximately 500 MCF of gas.

A tabulation of six Eumont gas wells is presented to show recent annual production rates and annual 72 hour shut-in well head pressures. From this tabulation it will be noted that the Phillips New #2, Zia Energy Elliott Fed. #2 and Exxon Fopeano #1 all have cumulative production figures much higher than the wells to the west. This is an indication that the permeability and probably the porosity is tighter as you move to the west in this area.

Two additional exhibits were prepared from data from the production history of Warrior, Inc. State "WEG" No. 1. An annual production and annual calculation of bottom hole pressure tabulation is presented. Then a production decline curve is presented. Two things will be noted from these exhibits. First, the annual production declined very rapidly from the first full year of production in 1956. Secondly, an erratic BHP is noted. In 1959, 1963, 1965, 1968 and 1971 you will note that the BHP indicated a higher value than previous years. This pressure variation can be explained by shut-in times greater than 72 hours. The indication here is a tight formation and the rapid production decline substantiates this conclusion.

Several well data sheets are presented for wells referred to on the cross-section, structure map, map of the Elliott State No. 2 area or one of the tabulations.

Two electric log sections are presented for the Zia Energy, Inc. Elliott Federal No. 1 and the Elliott State No. 1. An 8% porosity line has been drawn on each log. Refer to the well data sheet for Elliott Federal No. 1 where you will note a recompletion in February 1978 in the zones from 3554' to 3656'. In the 8 months that this well produced in 1978, it produced 113,462 MCF.

January 30, 1979

These exhibits have been presented in an effort to prove that the Elliott State No. 2 has stringers in the Yates, Seven Rivers and Queen formations with adequate porosity to produce gas in commercial quantities. Electric logs present prove this. The exhibits are intended to show that these stringers will be tight, as indicated by production tabulations and shut-in pressure data. Once these two premises are accepted, then it is reasonable to assume that this gas can be produced from Elliott State No. 2 following adequate stimulation from a fracture treatment utilizing the recently developed carbon dioxide fracture treatment. This type of treatment has proven highly successful in tight, low pressure reservoirs in the Yates, Seven Rivers, Queen. Old wells have also responded very favorably to this new technique.

Using the reservoir data that is available, we have calculated that the Elliott State No. 1 can reasonably be expected to produce a cumulative in excess of 350,000 MCF of gas. This is substantiated by production from offsetting wells. Without the drilling of this infill well, these reserves will be left unrecovered. The operator will be denied an opportunity to produce recoverable reserves and consumers will be denied needed gas.

Respectfully,

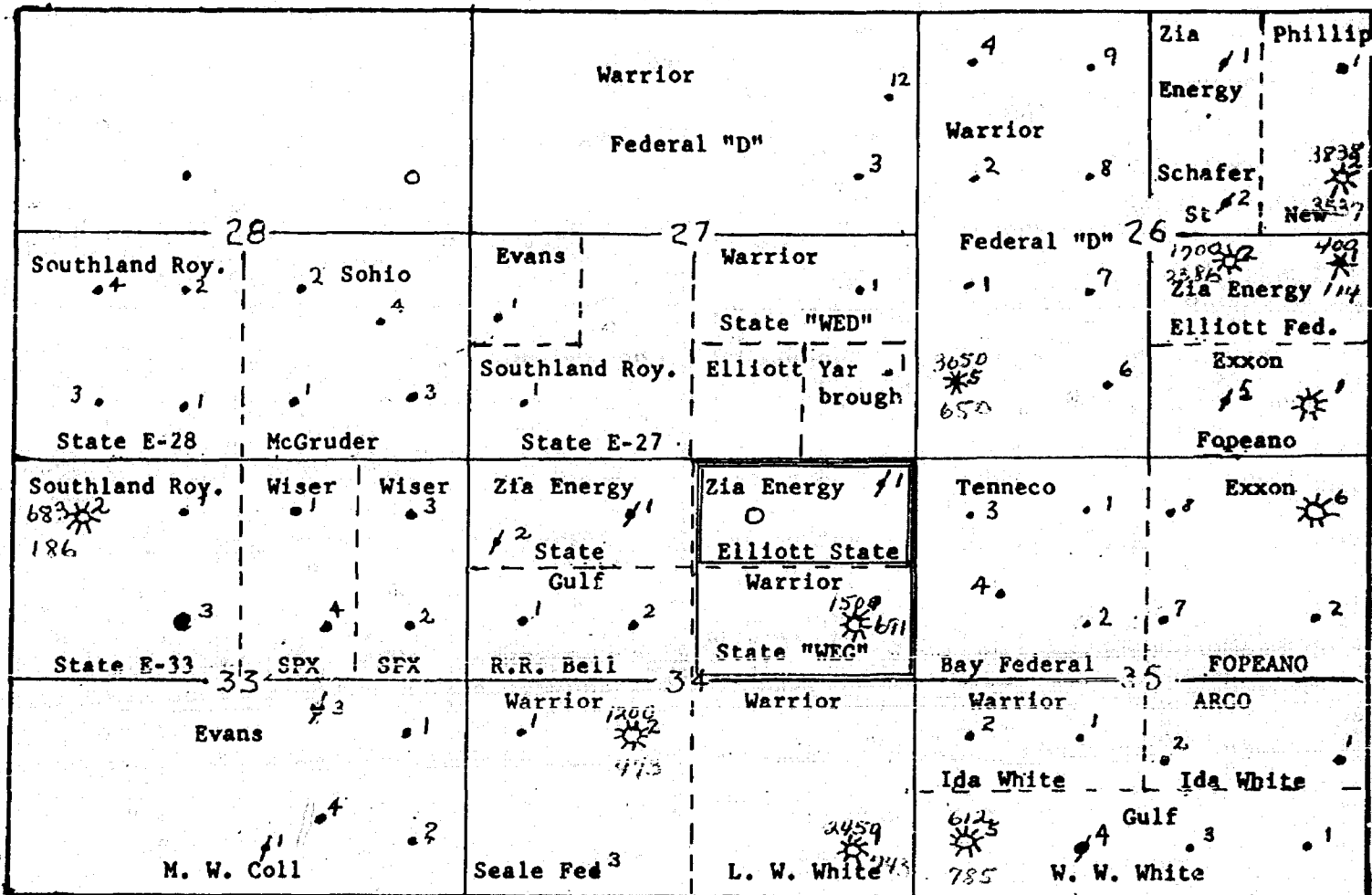
ZIA ENERGY, INC.

Farris Nelson

Farris Nelson

EXHIBIT "A"

T-20S R-36E



ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

ELLIOTT STATE AREA

EUMONT FIELD - T20S, R36E

Lea County, New Mexico

- State Lease No. 11298
- Zia Energy Elliott State
- Proposed Elliott State No. 2
- Eumont Oil Well
- ☀ Eumont Gas Well
- 100 Initial Potential - MCF
- ☀ 100 Cumulative Production - MMCF

TABULATION
72 Hour Shut-In Pressure & Annual Production

Year	Aztec St. E-33 #2D 33-20-36		Amerada St. WEG #1H 34-20-36		Gulf White #5M 35-20-36		Exxon Fopeano #1A 35-20-36		Zia Energy Elliott Fed. #2J 26-20-36		Phillips New #2H 26-20-36	
	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press
1965	6,163	365	32,690	227	56,210	402	92,599	624	120,761	530	51,594	671
1966	6,352	189	10,390	185	39,857	333	58,864	566	62,604	486	37,792	636
1967	6,024	162	14,903	138	22,889	215	81,075	545	65,660	450	43,043	617
1968	5,111	168	14,000	173	19,891	257	122,161	488	122,096	430	55,441	613
1969	5,499	NA	14,294	146	13,370	174	123,785	449	118,590	440	72,055	553
1970	SI		12,608	165	4,877	185	129,511	435	143,549	383	67,849	550
1971	SI		13,380	215	3,976	NA	121,716	388	121,938	322	81,080	469
1972	SI		11,502	117			172,953	375	154,185	288	64,349	436
1973	SI		11,647	103	SI		184,042	330	122,585	271	125,927	390
1974	SI		3,122	NA	SI		155,175	306	100,121	250	82,596	362
1975	SI		904	NA	SI		131,861	259	79,091	229	87,856	345
1976	SI		419	NA	SI		122,211	273	45,503	233	119,802	291
1977	SI		2,157	NA	SI		105,278	240	8,304	238	89,447	253
1/1/78 Cum	185,760		691,325		784,755		2,955,321		2,386,396		3,536,904	

EXHIBIT "C"

EXHIBIT "D"

ANNUAL PRODUCTION

Warrior, Inc.
 State "WEG" No. 1-H
 Sec. 34, T20S, R36E,
 Lea County, New Mexico

<u>Year</u>	<u>Volume</u>	<u>72-hour Shut-In Press.</u>	<u>Calculated BHP-psia</u>
1955	85,123		
1956	126,078	686	851
1957	82,561	418	491
1958	65,880	365	426
1959	53,237	437	517
1960	39,139	350	407
1961	38,308	220	249
1962	29,001	230	260
1963	14,285	287	330
1964	25,150	178	199
1965	32,690	227	257
1966	10,390	185	208
1967	14,903	138	154
1968	14,000	173	194
1969	14,294	146	164
1970	12,608	165	184
1971	13,380	215	243
1972	11,502	117	130
1973	11,647	103	114
1974	3,122		
1975	904		
1976	419		
1977	2,157		

Cumulative Gas Production - 691,325 MCF

ZIA ENERGY, INC.

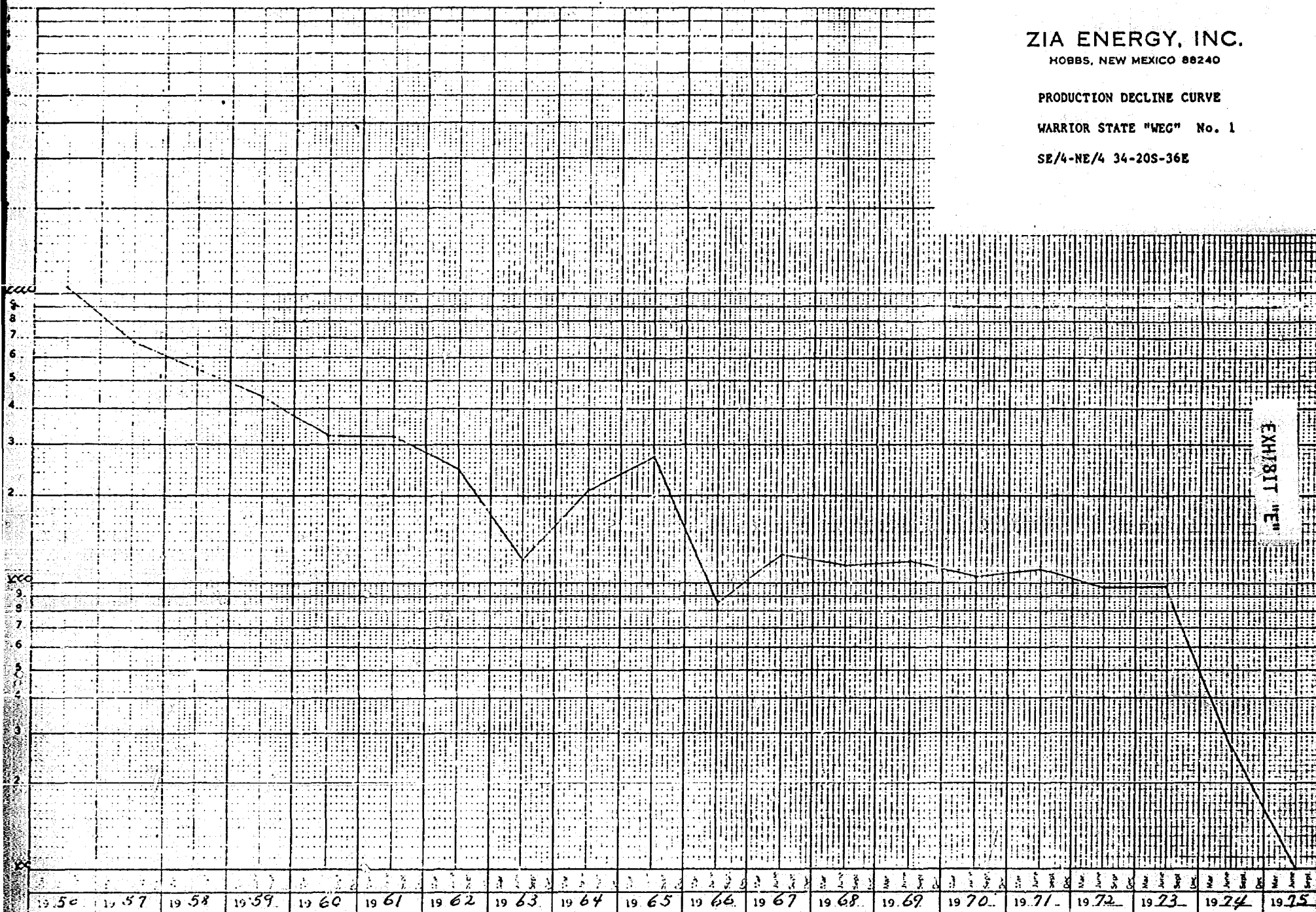
HOBBS, NEW MEXICO 88240

PRODUCTION DECLINE CURVE

WARRIOR STATE "WEC" No. 1

SE/4-NE/4 34-20S-36E

EXHIBIT "E"



WELL DATA SHEET

Company: Southland Royalty
Lease: State E-33 Well No. 2
Field: Eumont
Unit Letter D Sec. 33, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 4/18/55 Total Depth 3915' Elevation 3602'

Intermediate Casing: Size 8 5/8" Depth 323' Cement 280' sx

Production Casing: Size 5 1/2" Depth 3915' Cement 500 sx

Perforation: 3878'-3888' Open Hole: _____

Formation Tops: TA 1812' TS 1972' BS 3344' TY 3654'

T7R 3878' TQu _____ TGb _____

Stimulation: Fracture treat using 10,000 gallons of oil and 1# SPG.

Initial Potential: BOPD 50 BWPD _____ MCF/D _____

Cumulative Production to 1/1/78: BO 33,460 MCF 185,759

Remarks: 9/10/58 plugged back to 3825'. Perforated 3778'-3816'.

Fracture treated using 15,000 gallons of refined oil and

15,000# sand. Production after recompletion 0 BO, 0 BW

and 683 MCF. Well shut-in in 1971 and has not produced since
that date.

WELL DATA SHEET

Company: Warrior, Inc.
Lease: Seale Federal Well No. 2
Field: Eumont
Unit Letter K Sec. 34, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 9/29/55 Total Depth 3900' Elevation 3586'

Intermediate Casing: Size 8 5/8" Depth 253' Cement 200 sx

Production Casing: Size 5 1/2" Depth 3899' Cement 1550 sx

Perforation: 3749'-3776' Open Hole: _____

Formation Tops: TA 1640' TS _____ BS 3212' TY 3428'

T7R 3780' TQu _____ TGb _____

Stimulation: Fracture treat using 10,000 gallons with 1# SPG

Initial Potential: BOPD 0 BWPD 0 MCF/D 1200

Cumulative Production to 1/1/78: BO 2576 MCF 481,995

Remarks: _____

WELL DATA SHEET

Company: Warrior, Inc.
 Lease: State "WEG" Well No. 1
 Field: Eumont
 Unit Letter H Sec. 34, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 2/24/54 Total Depth 4300' Elevation 3581'

Intermediate Casing: Size 9 5/8" Depth 307' Cement 300 sx

Production Casing: Size 7" Depth 4300' Cement 800 sx

Perforation: 3150'-3600' Open Hole: _____

Formation Tops: TA 1551' TS 1660' BS 2970' TY 3142'

T7R 3520' TQu NA TGb 4280'

Stimulation: Fracture treated with 10,500 gallons of oil and 9300# sand

Initial Potential: BOPD 0 BHPD 0 MCF/D 522

Cumulative Production to 1/1/78: BO _____ MCF 691,325

Remarks: 7/26/74 recomplete. Clean out to 4285' and perforate
3520'-4240'. Stimulate with 7000 gallons of acid and
frac with 148,000 gallons of gelled water with 1 1/2# SPG.
Recompletion a complete failure, production approximately
1 BOPD with 5 MCF/day of gas.

WELL DATA SHEET

Company: Zia Energy, Inc.
Lease: Elliott State Well No. 1
Field: Eumont
Unit Letter A Sec. 34, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 11/3/55 Total Depth 4009' Elevation 3575'

Intermediate Casing: Size 8 5/8" Depth 321' Cement 275 sx

Production Casing: Size 5 1/2" Depth 4007' Cement 850 sx

Perforation: 3950'-3988' Open Hole: _____

Formation Tops: TA NA TS NA BS 2958' TY 3115'

T7R 3485' TQu 3918' TGb _____

Stimulation: Fracture treated using 20,000 gallons of Petro-frac with 1# SPG.

Initial Potential: BOPD 78 BWPD 78 MCF/D TSTM

Cumulative Production to 1/1/78: BO 26,531 MCF 114,478

Remarks: Well was plugged and abandoned 7/3/71.

WELL DATA SHEET

Company: Tenneco
Lease: Bay Federal Well No. 3
Field: Eumont
Unit Letter D Sec. 34, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 12/30/54 Total Depth 4070' Elevation 3565'

Intermediate Casing: Size 8 5/8" Depth 351' Cement 225 sx

Production Casing: Size 5 1/2" Depth 4070' Cement 400 sx

Perforation: 3855'-3969' Open Hole: _____

Formation Tops: TA 1510' TS 1615' BS 2875' TY 3055'

T7R 3125' TQu 3860' TGb _____

Stimulation: none reported

Initial Potential: BOPD 257 BWPD 0 MCF/D 91

Cumulative Production to 1/1/78: BO 109,373 MCF NA

Remarks: _____

WELL DATA SHEET

Company: Yarbrough Oil Company
Lease: Elliott State Well No. 1
Field: Eumont
Unit Letter P Sec. 27, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 8/1/55 Total Depth 4080' Elevation 3589'

Intermediate Casing: Size 8 5/8" Depth 319' Cement 250 sx

Production Casing: Size 5 1/2" Depth 4080' Cement 800 sx

Perforation: 3964'-4005' Open Hole: _____

Formation Tops: TA 1533' TS 1650' BS 2942' TY 3100'

T7R 3360' TQu 3935' TGb _____

Stimulation: Fracture treat using 10,000 gallons of oil and 1# SPG

Initial Potential: BOPD 140 BWPD 0 MCF/D _____

Cumulative Production to 1/1/78: BO 69,191 MCF NA

Remarks: _____

WELL DATA SHEET

Company: Zia Energy, Inc.
 Lease: Elliott Federal Well No. 1
 Field: Eumont
 Unit Letter I Sec. 26, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 2/21/35 Total Depth 3780' Elevation 3558'

Intermediate Casing: Size 8 5/8" Depth 1250' Cement 400 sx

Production Casing: Size 7" Depth 3702' Cement 150 sx

Perforation: _____ Open Hole: 3702'-3780'

Formation Tops: TA 1215' TS 1350' BS 2640' TY 2800'

T7R 3160' TQu 3544' TGb _____

Stimulation: Originally treated using 6000 gallons 15% HCL

Initial Potential: BOPD 588 BWPD 0 MCF/D 588

Cumulative Production to 1/1/78 : BO 131,226 MCF NA

Remarks: Well deepened in August 1940 to 3800'. Shut-in from 1961 to February 1978. In February 1978, the well was cleaned out to 3809' and the open hole section, 3702' to 3809', was fracture treated using 36,000 gallons of gelled 9# brine and 45,000# of sand. Treatment at 20 BPM and 3000 psi max pressure through 3" tubing below a packer set at 3680'. ISDP 2000 psi. 15 minute SI pressure 1350'. Pulled tubing and packer, perforated from 3554' to 3656' with 23 0.5" holes. Reran tubing, bridge plug and packer. Set BP at 3674' and packer at 3423'. Broke down perforations with 1000 gallons of 15% HCL and 36 ball sealers at 5 BPM and a max. pressure of 3300 psi. ISDP vac. Fracture treated using 30,000' gallons of gelled 9# brine and 42,500# sand. Treatment

(OVER)

at 20 BPM and 2500 psi. ISDP 1450 psi. Pulled 3" tubing and
packer. Reran 2 3/8" tubing and set at 3600'. Ran sucker rods
and pump. Put to pumping to recover load water. Test 3/8/78 .
3 BOPD and 1 BWPD with 400 MCF of gas. Production since workover
195 BO and 0 BW with 113,462 MCF of gas. .

WELL DATA SHEET

Company: Phillips Petroleum Company
Lease: New "G" Well No. 2
Field: Eumont
Unit Letter H Sec. 26, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 4/3/38 Total Depth 3810' Elevation 3552'

Intermediate Casing: Size 9 5/8" Depth 1236' Cement 250 sx

Production Casing: Size 7" Depth 3701' Cement 400 sx

Perforation: _____ Open Hole: 3701'-3810'

Formation Tops: TA _____ TS _____ BS _____ TY _____

T7R _____ TQu _____ TGb _____

Stimulation: Initial treatment 1000 gallons of acid.

Initial Potential: BOPD 604 BWPD 0 MCF/D 400

Cumulative Production to 1/1/78 : BO _____ MCF 3,536,904

Remarks: Recompleted as a Eumont gas well 1/8/47. Set bridge plug
in 7" casing. Perforated with 4 JSPF from 3540' to 3670'.
Treated using 250 gallons of acid. Initial potential
3838 MCF/day.

EXHIBIT G

GAS POOLING AGREEMENT

117-1826
This Agreement made and entered into this 21st day of September 1956, by and between AMERADA PETROLEUM CORPORATION and ELLIOTT, INC., hereinafter called "AMERADA" and "ELLIOTT," respectively,

WITNESSETH: That

WHEREAS, Amerada is the record owner of the following State of New Mexico oil and gas lease:

Lease No. B-11298, dated June 10, 1944, from the State of New Mexico, as Lessor, to E. M. Elliott, as Lessee, covering, among other lands, the S/2 NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico; and

WHEREAS, Elliott is the record owner of the following State of New Mexico oil and gas lease:

Lease No. B-11298, dated June 10, 1944, from the State of New Mexico, as Lessor, to E. M. Elliott, as Lessee, covering, among other lands, the N/2 NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico; and,

WHEREAS, it is the desire of Amerada and Elliott that this agreement cover the NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico, as to the gas rights down to a depth of 4300 feet below the surface, said area being hereinafter referred to as the "Pooled Proration Unit;" and,

WHEREAS, in order to comply with existing rules and regulations governing gas well spacing and gas proration units, and to acquire a gas allowable for the above-described pooled proration unit, it is the desire of the parties hereto to pool all leasehold and royalty interests in order to form one tract or unit; and

WHEREAS, Amerada desires to operate the pooled proration unit as an entirety for the purpose of developing and producing dry gas and associated liquid hydrocarbons in accordance with the terms and provisions of this agreement:

NOW, THEREFORE, in consideration of the premises and the mutual advantages offered by this agreement, it is mutually covenanted and agreed by and between the parties hereto that the pooled proration unit shall be developed and operated by Amerada, its successors or assigns, for the production therefrom of dry gas and associated liquid hydrocarbons as an entirety, with the understanding and agreement that the dry gas and associated liquid hydrocarbons produced therefrom shall be allocated among the leaseholds comprising said pooled proration unit in the proportion that the acreage interest of each leasehold bears to the entire acreage interest committed to this agreement. The royalties payable on the dry gas and associated liquid hydrocarbons so allocated to the individual leases comprising the pooled proration unit and the rentals provided for in said leases shall be determined and paid on the basis prescribed in each of the individual leases. Payment of rentals under the terms of the leases subject to this agreement shall not be affected by this agreement except as provided for under the terms and provisions of said leases or as may herein be otherwise provided. Except as herein modified and changed, the oil and gas leases subject to this agreement shall remain in full force and effect as originally made and issued. There shall be no obligation on Amerada, or its successors or assigns, to offset any gas well or wells on separate component tracts into which such pooled proration unit is now or may hereafter be divided; nor shall Amerada, its successors or assigns be required to separately measure said dry gas or associated liquid hydrocarbons by reason of the diverse ownership of such production in and under said tract, but the lessee shall not be released from the obligation to protect said pooled tract from drainage by any gas well or wells which may be drilled offsetting the said tract.

It is further agreed that the commencement, completion, continued operation or production of a well or wells for dry gas and associated liquid hydrocarbons on the pooled proration unit shall be construed and considered as the commencement, completion, continued operation or production from each and all of the lands within and comprising said pooled proration unit, and operations or production pursuant to this agreement shall be deemed to be operations or production as to each lease committed hereto.

It is the intention of the parties hereto that this agreement shall include and affect only dry gas and associated liquid hydrocarbons produced through a gas well or gas wells as defined by the New Mexico Oil Conservation Commission located on the pooled proration unit and shall not include or affect in any manner whatsoever any of the production of hydrocarbons from any oil well located on the pooled tracts or any of the production of hydrocarbons from other than the 4300 feet from the surface as above defined.

It is further agreed that all production of dry gas and associated liquid hydrocarbons and disposal thereof shall be in conformity with allocations made or fixed by any duly authorized person or regulatory body under applicable Federal or State statute. The provisions of this agreement shall be subject to all applicable Federal and State laws or executive orders, rules and regulations which affect the performance of any of the provisions of this agreement, and no party hereto shall suffer a forfeiture or be liable in damages for failure to comply with any of the provisions of this agreement if such compliance is prevented by, or if such failure results from compliance with any such law, order, rule or regulation.

This agreement shall be effective as of the date upon which the unit allowable established by the New Mexico Oil Conservation Commission first becomes effective and shall remain in force and effect for a period of one (1) year and so long thereafter as dry gas, with or without associated liquid hydrocarbons, is produced from any part of said pooled proration unit in paying quantities; provided that this agreement shall terminate in the event of and at such time that (a) Elliott shall complete a gas well above a depth of 4300 feet from the surface in the N/2 of the area hereby pooled, or (b) Amerada shall abandon the gas well that it has drilled and completed in the S/2 of the area hereby pooled.

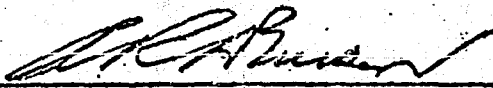
This agreement shall be binding upon the parties hereto and shall extend to and be binding upon their respective heirs, executors, administrators, successors and assigns.

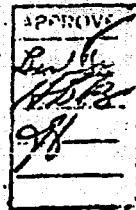
IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year herein first above written.

ATTEST:

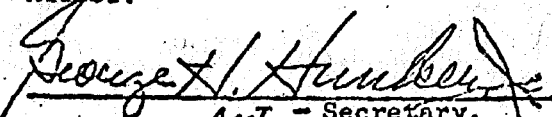

Assistant Secretary

AMERADA PETROLEUM CORPORATION

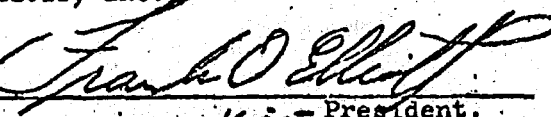
By 
Vice President.



ATTEST:


Asst. - Secretary.

ELLIOTT, INC.

By 
Vice - President.

STATE OF OKLAHOMA)
COUNTY OF TULSA) SS

On this 21st day of September, 1956, before me appeared A. R. DENISON, to me personally known, who being by me duly sworn, did say that he is the Vice President of AMERADA PETROLEUM CORPORATION, and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said A. R. DENISON, acknowledged said instrument to be the free act and deed of said corporation.

Given under my hand and seal this 21st day of September, 1956.

My commission expires:

October 25, 1956

J. L. Dettler Wilson
Notary Public

STATE OF NEW MEXICO)
COUNTY OF CHAVES) SS

On this 1st day of October, 1956, before me appeared Frank O. Elliott, to me personally known, who being by me duly sworn, did say that he is the Vice President of ELLIOTT, INC., and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said Frank O. Elliott acknowledged said instrument to be the free act and deed of said corporation.

Given under my hand and seal this 1st day of October, 1956.

My commission expires:

December 20, 1959

Nina Crane
Notary Public

CERTIFICATE OF APPROVAL

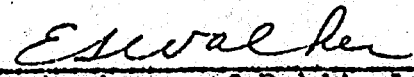
BY COMMISSIONER OF PUBLIC LANDS, STATE OF NEW MEXICO
Amerada's State WE "G" No. 1 Communitization

There having been presented to the undersigned Commissioner of Public Lands of the State of New Mexico for examination, the attached Agreement for the development and operation of acreage which is described within the attached Agreement, dated Sept. 21, 1956, which has been executed or is to be executed by parties owning and holding oil and gas leases and royalty interests in and under the property described, and upon examination of said Agreement, the Commissioner finds:

- (a) That such agreement will tend to promote the conservation of oil and gas and the better utilization of reservoir energy in said area.
- (b) That under the proposed agreement the State of New Mexico will receive its fair share of the recoverable oil or gas in place under its lands in the area.
- (c) That each beneficiary Institution of the State of New Mexico will receive its fair and equitable share of the recoverable oil and gas under its lands within the area.
- (d) That such agreement is in other respects for the best interests of the state, with respect to state lands.

NOW, THEREFORE, by virtue of the authority conferred upon me under Sections 7-11-39, 7-11-40, 7-11-41, 7-11-47, 7-11-48, New Mexico Statutes Annotated 1953 Compilation, I, the undersigned, Commissioner of Public Lands of the State of New Mexico, for the purpose of more properly conserving the oil and gas resources of the State, do hereby consent to and approve the said Agreement, and any leases embracing lands of the State of New Mexico within the area shall be and the same are hereby amended to conform with the terms thereof, and shall remain in full force and effect according to the terms and conditions of said Agreement. This approval is subject to all of the provisions of the aforesaid statutes, and shall specifically cover Amerada's State W E "G" No. 1 Well in the Eumont Gas Pool as set forth by New Mexico Oil Conservation Commission Administrative Order NSP-86.

IN WITNESS WHEREOF, this Certificate of Approval is executed, with seal affixed, this 8 day of October 1956.


Commissioner of Public Lands
of the State of New Mexico

ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

CASE 6429

Application of Zia Energy, Inc., for approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a finding that the drilling of its Elliott State Well No. 2 to be located in Unit B of Section 34, Township 20 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well, and further seeks approval of a waiver of existing well-spacing requirements.

ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

January 30, 1979

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87501

Re: Case No. 6429

Gentlemen:

You are asked to consider evidence that will be presented to prove that the proposed infill drilled well, Elliott State No. 2, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by any existing well.

This proration unit consists of the NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico. It is State of New Mexico lease No. B-11298.

Two wells have been drilled on this proration unit. One well, the Elliott State No. 1, in unit letter A, is plugged and abandoned. A well data sheet is included which gives this well history. It produced a cumulative of 26,531 barrels of oil and 114,478 MCF of gas before being plugged. The second well on this proration unit is the Warrior, Inc. State "WEG" No. 1, unit letter H. It was drilled and completed as a Eumont gas well. A well data sheet gives the history for this well. The N/2 NE/4 and the S/2 NE/4 of Section 34 was pooled together and dedicated to this Eumont gas well. A copy of the Gas Pooling Agreement is included for information. This well has produced a cumulative of 691,325 MCF of gas. The initial decline in productivity from this well was very sharp, as you will note from the tabulation of production for this well. This sharp decline and electric log information both indicate a tight formation. In 1974 an extensive workover was a complete failure. Actually, production was less after the workover than before. This workover failure makes it imprudent to attempt any further recompletion. This proration unit is left without an adequate well to produce the remaining reserves.

Exhibits will be presented to show the probability of remaining reserves in this proration unit. It will also be shown that offsetting wells are continuing to produce and have produced cumulative oil and gas in excess of the production from this proration unit.

An exhibit showing an east-west cross-section is presented. This cross-section crosses four leases that have had producing Eumont gas wells. A well data sheet is included for each of the four wells on these leases. This cross-section shows the structural relationship between the four leases. It will be noted that two Eumont gas wells are west (down dip) of the proposed location.

A structure map is presented of the area. Information represented here confirms and enlarges on the information included on the cross-section. It presents in more detail the structural relationship between the Elliott State No. 2 and wells surrounding it.

An exhibit consisting of a map of the area is prepared to show initial potentials and cumulative production from Eumont gas wells. This exhibit indicates the probability that Elliott State No. 2 will produce a cumulative of approximately 500 MCF of gas.

A tabulation of six Eumont gas wells is presented to show recent annual production rates and annual 72 hour shut in well head pressures. From this tabulation it will be noted that the Phillips New #2, Zia Energy Elliott Fed. #2 and Exxon Fopeano #1 all have cumulative production figures much higher than the wells to the west. This is an indication that the permeability and probably the porosity is tighter as you move to the west in this area.

Two additional exhibits were prepared from data from the production history of Warrior, Inc. State "WEG" No. 1. An annual production and annual calculation of bottom hole pressure tabulation is presented. Then a production decline curve is presented. Two things will be noted from these exhibits. First, the annual production declined very rapidly from the first full year of production in 1956. Secondly, an erratic BHP is noted. In 1959, 1963, 1965, 1968 and 1971 you will note that the BHP indicated a higher value than previous years. This pressure variation can be explained by shut-in times greater than 72 hours. The indication here is a tight formation and the rapid production decline substantiates this conclusion.

Several well data sheets are presented for wells referred to on the cross-section, structure map, map of the Elliott State No. 2 area or one of the tabulations.

Two electric log sections are presented for the Zia Energy, Inc. Elliott Federal No. 1 and the Elliott State No. 1. An 8% porosity line has been drawn on each log. Refer to the well data sheet for Elliott Federal No. 1 where you will note a recompletion in February 1978 in the zones from 3554' to 3656'. In the 8 months that this well produced in 1978, it produced 113,462 MCF.

Oil Conservation Division
Page 3
January 30, 1979

These exhibits have been presented in an effort to prove that the Elliott State No. 2 has stringers in the Yates, Seven Rivers and Queen formations with adequate porosity to produce gas in commercial quantities. Electric logs present prove this. The exhibits are intended to show that these stringers will be tight, as indicated by production tabulations and shut-in pressure data. Once these two premises are accepted, then it is reasonable to assume that this gas can be produced from Elliott State No. 2 following adequate stimulation from a fracture treatment utilizing the recently developed carbon dioxide fracture treatment. This type of treatment has proven highly successful in tight, low pressure reservoirs in the Yates, Seven Rivers, Queen. Old wells have also responded very favorably to this new technique.

Using the reservoir data that is available, we have calculated that the Elliott State No. 1 can reasonably be expected to produce a cumulative in excess of 350,000 MCF of gas. This is substantiated by production from offsetting wells. Without the drilling of this infill well, these reserves will be left unrecovered. The operator will be denied an opportunity to produce recoverable reserves and consumers will be denied needed gas.

Respectfully,

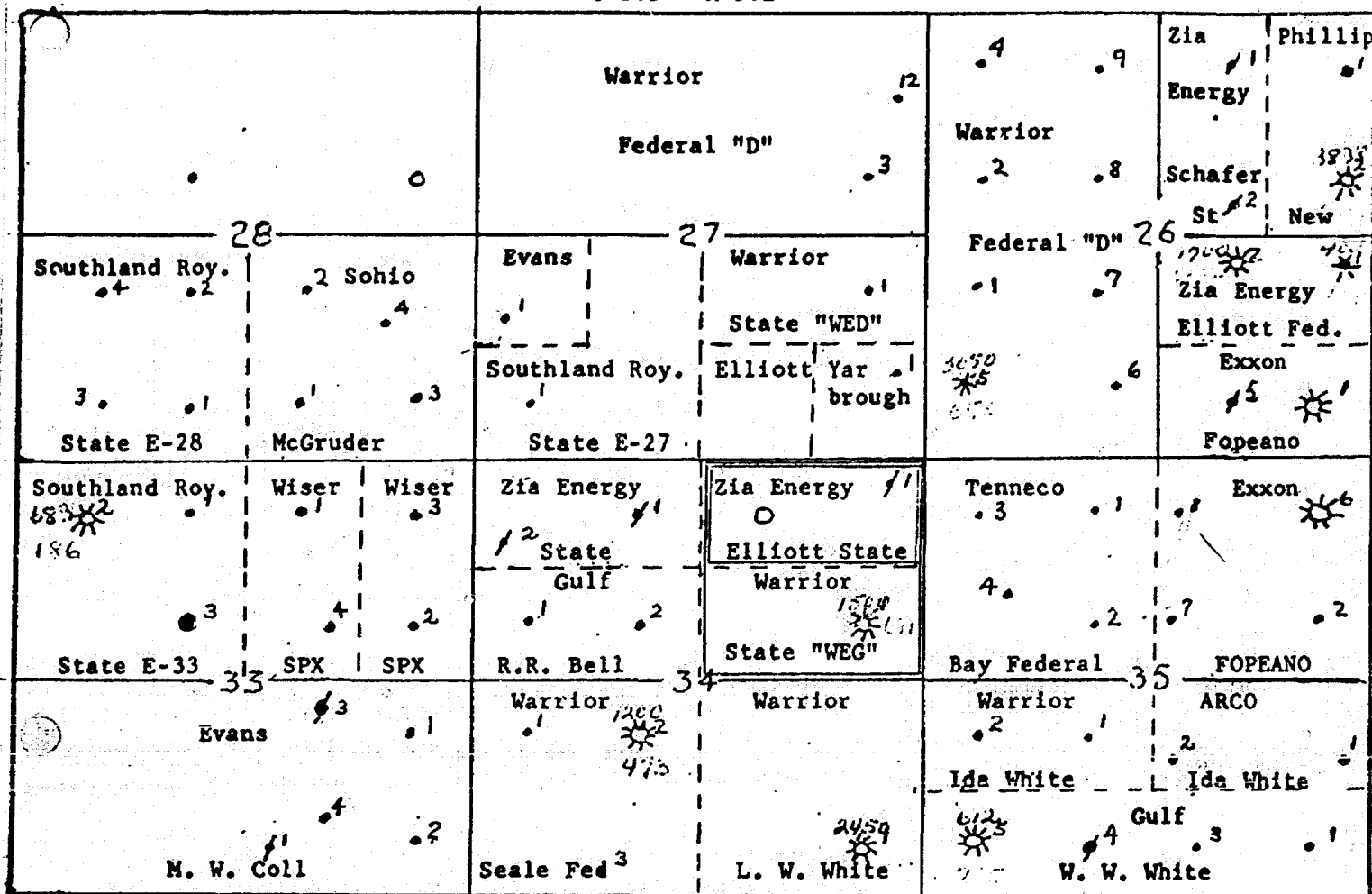
ZIA ENERGY, INC.

Farris Nelson

Farris Nelson

EXHIBIT "A"

T-20S R-36E



ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

ELLIOTT STATE AREA

EUMONT FIELD - T20S, R36E

Lea County, New Mexico

- State Lease No. 11298
- Zia Energy Elliott State
- Proposed Elliott State No. 2
- Eumont Oil Well
- ☀ Eumont Gas Well
- 100 Initial Potential - MCF
- ☀ 100 Cumulative Production - MMCF

[illegible]

T - 20 South

ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

ELLIOTT STATE AREA

EUMONT FIELD T20S, R36E

Contours on top of Queen

TABULATION
72 Hour Shut-In Pressure & Annual Production

	Aztec St. E-33 #2D 33-20-36		Amerada St. WEG #1H 34-20-36		Gulf White #5M 35-20-36		Exxon Fopeano #1A 35-20-36		Zia Energy Elliott Fed. #2J 26-20-36		Phillips New #2H 26-20-36	
Year	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press
1965	6,163	365	32,690	227	56,210	402	92,599	624	120,761	530	51,594	671
1966	6,352	189	10,390	185	39,857	333	58,864	566	62,604	486	37,792	636
1967	6,024	162	14,903	138	22,889	215	81,075	545	65,660	450	43,043	617
1968	5,111	168	14,000	173	19,891	257	122,161	488	122,096	430	55,441	613
1969	5,499	NA	14,294	146	13,370	174	123,785	449	118,590	440	72,055	553
1970	SI		12,608	165	4,877	185	129,511	435	143,549	383	67,849	550
1971	SI		13,380	215	3,976	NA	121,716	388	121,938	322	81,080	469
1972	SI		11,502	117	SI		172,953	375	154,185	288	64,349	436
1973	SI		11,647	103	SI		184,042	330	122,585	271	125,927	390
1974	SI		3,122	NA	SI		155,175	306	100,121	250	82,596	362
1975	SI		904	NA	SI		131,861	259	79,091	229	87,856	345
1976	SI		419	NA	SI		122,211	273	45,503	233	119,802	291
1977	SI		2,157	NA	SI		105,278	240	8,304	238	89,447	253
1/1/78 Cum	185,760		691,325		784,755		2,955,321		2,366,336		3,536,904	

EXHIBIT "C"

ANNUAL PRODUCTION

Warrior, Inc.
 State "WEG" No. 1-H
 Sec. 34, T20S, R36E,
 Lea County, New Mexico

<u>Year</u>	<u>Volume</u>	<u>72-hour Shut-In Press.</u>	<u>Calculated BHP-psia</u>
1955	85,123		
1956	126,078	686	851
1957	82,561	418	491
1958	65,880	365	426
1959	53,237	437	517
1960	39,139	350	407
1961	38,308	220	249
1962	29,001	230	260
1963	14,285	287	330
1964	25,150	178	199
1965	32,690	227	257
1966	10,390	185	208
1967	14,903	138	154
1968	14,000	173	194
1969	14,294	146	164
1970	12,608	165	184
1971	13,380	215	243
1972	11,502	117	130
1973	11,647	103	114
1974	3,122		
1975	904		
1976	419		
1977	2,157		

Cumulative Gas Production - 691,325 MCF

ZIA ENERGY, INC.

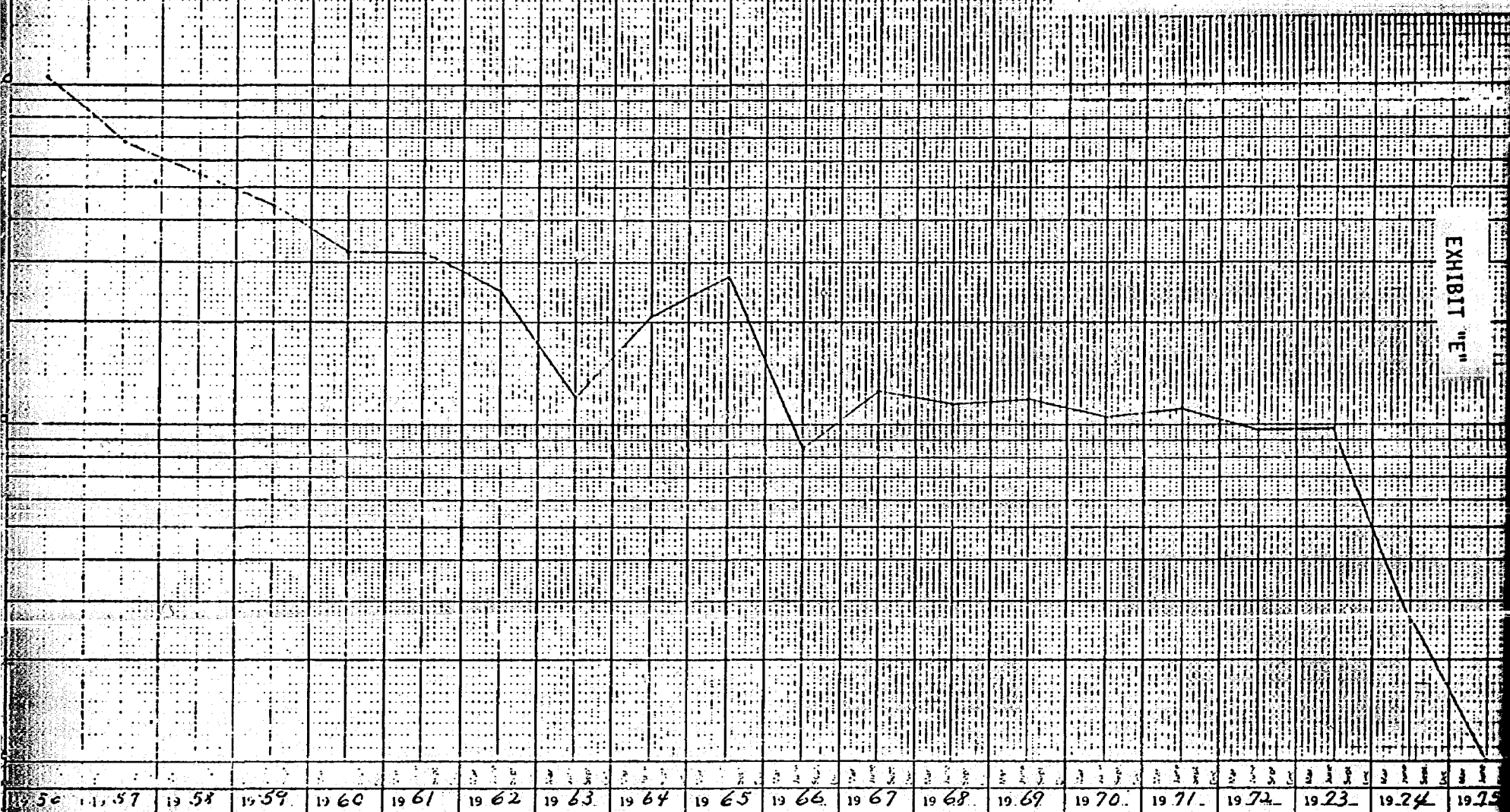
HOBBS, NEW MEXICO 80240

PRODUCTION DECLINE CURVE

WARRIOR STATE "WEG" No. 1

SE/4-NE/4 34-20S-36E

EXHIBIT "E"



WELL DATA SHEET

Company: Southland Royalty
 Lease: State E-33 Well No. 2
 Field: Eumont
 Unit Letter D Sec. 33, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 4/18/55 Total Depth 3915' Elevation 3602'

Intermediate Casing: Size 8 5/8" Depth 323' Cement 280 sx

Production Casing: Size 5 1/2" Depth 3915' Cement 500 sx

Perforation: 3878'-3888' Open Hole: _____

Formation Tops: TA 1812' TS 1972' BS 3344' TY 3654'

T7R 3878' TQu _____ TGb _____

Stimulation: Fracture treat using 10,000 gallons of oil and 1# SPG.

Initial Potential: BOPD 50 BHPD _____ MCF/D _____

Cumulative Production to 1/1/78: BO 33,460 MCF 185,759

Remarks: 9/10/58 plugged back to 3825'. Perforated 3778'-3816'.
Fracture treated using 15,000 gallons of refined oil and
15,000# sand. Production after recompletion 0 BO, 0 BW
and 683 MCF. Well shut-in in 1971 and has not produced since
that date.

WELL DATA SHEET

Company: Warrior, Inc.
Lease: Seale Federal Well No. 2
Field: Eumont
Unit Letter K Sec. 34, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 9/29/55 Total Depth 3900' Elevation 3586'

Intermediate Casing: Size 8 5/8" Depth 253' Cement 200 sx

Production Casing: Size 5 1/2" Depth 3899' Cement 1550 sx

Perforation: 3749'-3776' Open Hole: _____

Formation Tops: TA 1640' TS _____ BS 3212' TY 3428'

T7R 3780' TQu _____ TGb _____

Stimulation: Fracture treat using 10,000 gallons with 1# SPG

Initial Potential: BOPD 0 BHPD 0 MCF/D 1200

Cumulative Production to 1/1/78: BO 2576 MCF 481,995

Remarks: _____

WELL DATA SHEET

Company: Warrior, Inc.
 Lease: State "WEG" Well No. 1
 Field: Eumont
 Unit Letter H Sec. 34, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 2/24/54 Total Depth 4300' Elevation 3581'

Intermediate Casing: Size 9 5/8" Depth 307' Cement 300 sx

Production Casing: Size 7" Depth 4300' Cement 800 sx

Perforation: 3150'-3600' Open Hole:

Formation Tops: TA 1551' TS 1660' BS 2970' TY 3142'

T7R 3520' TQu NA TGb 4280'

Stimulation: Fracture treated with 10,500 gallons of oil and 9300# sand

Initial Potential: BOPD 0 BHPD 0 MCF/D 522

Cumulative Production to 1/1/78: BO MCF 691,325

Remarks: 7/26/74 recomplete. Clean out to 4285' and perforate
3520'-4240'. Stimulate with 7000 gallons of acid and
frac with 148,000 gallons of gelled water with 1 1/2# SPG.
Recompletion a complete failure, production approximately
1 BOPD with 5 MCF/day of gas.

WELL DATA SHEET

Company: Zia Energy, Inc.
Lease: Elliott State Well No. 1
Field: Eumont
Unit Letter A Sec. 34, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 11/3/55 Total Depth 4009' Elevation 3575'

Intermediate Casing: Size 8 5/8" Depth 321' Cement 275 sx

Production Casing: Size 5 1/2" Depth 4007' Cement 850 sx

Perforation: 3950'-3988' Open Hole: _____

Formation Tops: TA NA TS NA BS 2958' TY 3115'

T7R 3485' TQu 3918' TGb _____

Stimulation: Fracture treated using 20,000 gallons of Petro-frac with 1# SPG.

Initial Potential: BOPD 78 BWPD 78 MCF/D TSTM

Cumulative Production to 1/1/78: BO 26,531 MCF 114,478

Remarks: Well was plugged and abandoned 7/3/71.

WELL DATA SHEET

Company: Tenneco
Lease: Bay Federal Well No. 3
Field: Eumont
Unit Letter D Sec. 34, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 12/30/54 Total Depth 4070' Elevation 3565'

Intermediate Casing: Size 8 5/8" Depth 351' Cement 225 sx

Production Casing: Size 5 1/2" Depth 4070' Cement 400 sx

Perforation: 3855'-3969' Open Hole: _____

Formation Tops: TA 1510' TS 1615' BS 2875' TY 3055'

T7R 3125' TQu 3860' TGb _____

Stimulation: none reported

Initial Potential: BOPD 257 BHPD 0 MCF/D 91

Cumulative Production to 1/1/78: BO 109,373 MCF NA

Remarks: _____

WELL DATA SHEET

Company: Yarbrough Oil Company
Lease: Elliott State Well No. 1
Field: Eumont
Unit Letter P Sec. 27, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 8/1/55 Total Depth 4080' Elevation 3589'

Intermediate Casing: Size 8 5/8" Depth 319' Cement 250 sx

Production Casing: Size 5 1/2" Depth 4080' Cement 800 sx

Perforation: 3964'-4005' Open Hole: _____

Formation Tops: TA 1533' TS 1650' BS 2942' TY 3100'

T7R 3360' TQu 3935' TGb _____

Stimulation: Fracture treat using 10,000 gallons of oil and 1# SPG

Initial Potential: BOPD 140 BHPD 0 MCF/D _____

Cumulative Production to 1/1/78: BO 69,191 MCF NA

Remarks: _____

at 20 BPM and 2500 psi. ISDP 1450 psi. Pulled 3" tubing and packer. Reran 2 3/8" tubing and set at 3600'. Ran sucker rods and pump. Put to pumping to recover load water. Test 3/8/78 . 3 BOPD and 1 BWPD with 400 MCF of gas. Production since workover 195 BO and 0 BW with 113,462 MCF of gas.

WELL DATA SHEET

Company: Zia Energy, Inc.
 Lease: Elliott Federal Well No. 1
 Field: Eumont
 Unit Letter I Sec. 26, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 2/21/35 Total Depth 3780' Elevation 3558'

Intermediate Casing: Size 8 5/8" Depth 1250' Cement 400 sx

Production Casing: Size 7" Depth 3702' Cement 150 sx

Perforation: _____ Open Hole: 3702'-3780'

Formation Tops: TA 1215' TS 1350' BS 2640' TY 2800'

T7R 3160' TQu 3544' T6b _____

Stimulation: Originally treated using 6000 gallons 15% HCL

Initial Potential: BOPD 588 BHPD 0 MCF/D 588

Cumulative Production to 1/1/78 : BO 131,226 MCF NA

Remarks: Well deepened in August 1940 to 3809'. Shut-in from 1961 to February 1978. In February 1978, the well was cleaned out to 3809' and the open hole section, 3702' to 3809', was fracture treated using 36,000 gallons of gelled 9# brine and 45,000# of sand. Treatment at 20 BPM and 3000 psi max pressure through 3" tubing below a packer set at 3680'. ISDP 2000 psi. 15 minute SI pressure 1350'. Pulled tubing and packer, perforated from 3554' to 3656' with 23 0.5" holes. Reran tubing, bridge plug and packer. Set BP at 3674' and packer at 3423'. Broke down perforations with 1000 gallons of 15% HCL and 36 ball sealers at 5 BPM and a max. pressure of 3300 psi. ISDP vac. Fracture treated using 30,000 gallons of gelled 9# brine and 42,500# sand. Treatment

(OVER)

WELL DATA SHEET

Company: Phillips Petroleum Company
 Lease: New "G" Well No. 2
 Field: Eumont
 Unit Letter H Sec. 26, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 4/3/38 Total Depth 3810' Elevation 3552'

Intermediate Casing: Size 9 5/8" Depth 1236' Cement 250 sx

Production Casing: Size 7" Depth 3701' Cement 400 sx

Perforation: _____ Open Hole: 3701'-3810'

Formation Tops: TA _____ TS _____ BS _____ TY _____

T7R _____ TQu _____ TGb _____

Stimulation: Initial treatment 1000 gallons of acid.

Initial Potential: BOPD 604 BWPD 0 MCF/D 400

Cumulative Production to 1/1/78: BO _____ MCF 3,536,904

Remarks: Recompleted as a Eumont gas well 1/8/47. Set bridge plug
in 7" casing. Perforated with 4 JSPF from 3540' to 3670'.
Treated using 250 gallons of acid. Initial potential
3838 MCF/day.

EXHIBIT G

GAS POOLING AGREEMENT

This Agreement made and entered into this 21st day of September 1956, by and between AMERADA PETROLEUM CORPORATION and ELLIOTT, INC., hereinafter called "AMERADA" and "ELLIOTT," respectively,

WITNESSETH: That

WHEREAS, Amerada is the record owner of the following State of New Mexico oil and gas lease:

Lease No. B-11298, dated June 10, 1944, from the State of New Mexico, as Lessor, to E. M. Elliott, as Lessee, covering, among other lands, the S/2 NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico; and

WHEREAS, Elliott is the record owner of the following State of New Mexico oil and gas lease:

Lease No. B-11298, dated June 10, 1944, from the State of New Mexico, as Lessor, to E. M. Elliott, as Lessee, covering, among other lands, the N/2 NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico; and,

WHEREAS, it is the desire of Amerada and Elliott that this agreement cover the NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico, as to the gas rights down to a depth of 4300 feet below the surface, said area being hereinafter referred to as the "Pooled Proration Unit;" and,

WHEREAS, in order to comply with existing rules and regulations governing gas well spacing and gas proration units, and to acquire a gas allowable for the above-described pooled proration unit, it is the desire of the parties hereto to pool all leasehold and royalty interests in order to form one tract or unit; and

WHEREAS, Amerada desires to operate the pooled proration unit as an entirety for the purpose of developing and producing dry gas and associated liquid hydrocarbons in accordance with the terms and provisions of this agreement:

NOW, THEREFORE, in consideration of the premises and the mutual advantages offered by this agreement, it is mutually covenanted and agreed by and between the parties hereto that the pooled proration unit shall be developed and operated by Amerada, its successors or assigns, for the production therefrom of dry gas and associated liquid hydrocarbons as an entirety, with the understanding and agreement that the dry gas and associated liquid hydrocarbons produced therefrom shall be allocated among the leaseholds comprising said pooled proration unit in the proportion that the acreage interest of each leasehold bears to the entire acreage interest committed to this agreement. The royalties payable on the dry gas and associated liquid hydrocarbons so allocated to the individual leases comprising the pooled proration unit and the rentals provided for in said leases shall be determined and paid on the basis prescribed in each of the individual leases. Payment of rentals under the terms of the leases subject to this agreement shall not be affected by this agreement except as provided for under the terms and provisions of said leases or as may herein be otherwise provided. Except as herein modified and changed, the oil and gas leases subject to this agreement shall remain in full force and effect as originally made and issued. There shall be no obligation on Amerada, or its successors or assigns, to offset any gas well or wells on separate component tracts into which such pooled proration unit is now or may hereafter be divided; nor shall Amerada, its successors or assigns be required to separately measure said dry gas or associated liquid hydrocarbons by reason of the diverse ownership of such production in and under said tract, but the lessee shall not be released from the obligation to protect said pooled tract from drainage by any gas well or wells which may be drilled offsetting the said tract.

It is further agreed that the commencement, completion, continued operation or production of a well or wells for dry gas and associated liquid hydrocarbons on the pooled proration unit shall be construed and considered as the commencement, completion, continued operation or production from each and all of the lands within and comprising said pooled proration unit, and operations or production pursuant to this agreement shall be deemed to be operations or production as to each lease committed hereto.

It is the intention of the parties hereto that this agreement shall include and affect only dry gas and associated liquid hydrocarbons produced through a gas well or gas wells as defined by the New Mexico Oil Conservation Commission located on the pooled proration unit and shall not include or affect in any manner whatsoever any of the production of hydrocarbons from any oil well located on the pooled tracts or any of the production of hydrocarbons from other than the 4300 feet from the surface as above defined.

It is further agreed that all production of dry gas and associated liquid hydrocarbons and disposal thereof shall be in conformity with allocations made or fixed by any duly authorized person or regulatory body under applicable Federal or State statute. The provisions of this agreement shall be subject to all applicable Federal and State laws or executive orders, rules and regulations which affect the performance of any of the provisions of this agreement, and no party hereto shall suffer a forfeiture or be liable in damages for failure to comply with any of the provisions of this agreement if such compliance is prevented by, or if such failure results from compliance with any such law, order, rule or regulation.

This agreement shall be effective as of the date upon which the unit allowable established by the New Mexico Oil Conservation Commission first becomes effective and shall remain in force and effect for a period of one (1) year and so long thereafter as dry gas, with or without associated liquid hydrocarbons, is produced from any part of said pooled proration unit in paying quantities; provided that this agreement shall terminate in the event of and at such time that (a) Elliott shall complete a gas well above a depth of 4300 feet from the surface in the N/2 of the area hereby pooled, or (b) Amerada shall abandon the gas well that it has drilled and completed in the S/2 of the area hereby pooled.

This agreement shall be binding upon the parties hereto and shall extend to and be binding upon their respective heirs, executors, administrators, successors and assigns.

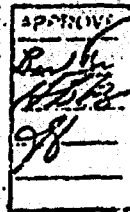
IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year herein first above written.

ATTEST:

[Signature]
Assistant Secretary

AMERADA PETROLEUM CORPORATION

By [Signature]
Vice President.



ATTEST:

[Signature]
Asst. - Secretary.

ELLIOTT, INC.

By [Signature]
Vice President.

STATE OF OKLAHOMA)
COUNTY OF TULSA) SS

On this 21st day of September, 1956, before me appeared
A. R. DENISON, to me personally known, who being by me duly
sworn, did say that he is the Vice President of AMERADA PETROLEUM CORPORATION,
and that the seal affixed to said instrument is the corporate seal of said
corporation and that said instrument was signed and sealed in behalf of said
corporation by authority of its Board of Directors, and said A. R. DENISON
acknowledged said instrument to be the free act and deed of
said corporation.

Given under my hand and seal this 21st day of September,
1956.

J. Rudette Kilborn
Notary Public

My commission expires:

October 25, 1956

STATE OF NEW MEXICO)
COUNTY OF CHAVES) SS

On this 1st day of October, 1956, before me appeared
Frank O. Elliott, to me personally known, who being by me duly
sworn, did say that he is the Vice President of ELLIOTT, INC., and that the
seal affixed to said instrument is the corporate seal of said corporation and
that said instrument was signed and sealed in behalf of said corporation by
authority of its Board of Directors, and said Frank O. Elliott
acknowledged said instrument to be the free act and deed of said corporation.

Given under my hand and seal this 1st day of October,
1956.

Nina Crane
Notary Public

My commission expires:

December 20, 1959

CERTIFICATE OF APPROVAL

BY COMMISSIONER OF PUBLIC LANDS, STATE OF NEW MEXICO
Amerada's State WE "G" No. 1 Communitization

There having been presented to the undersigned Commissioner of Public Lands of the State of New Mexico for examination, the attached Agreement for the development and operation of acreage which is described within the attached Agreement, dated Sept. 21, 1956, which has been executed or is to be executed by parties owning and holding oil and gas leases and royalty interests in and under the property described, and upon examination of said Agreement, the Commissioner finds:

- (a) That such agreement will tend to promote the conservation of oil and gas and the better utilization of reservoir energy in said area.
- (b) That under the proposed agreement the State of New Mexico will receive its fair share of the recoverable oil or gas in place under its lands in the area.
- (c) That each beneficiary Institution of the State of New Mexico will receive its fair and equitable share of the recoverable oil and gas under its lands within the area.
- (d) That such agreement is in other respects for the best interests of the state, with respect to state lands.

NOW, THEREFORE, by virtue of the authority conferred upon me under Sections 7-11-39, 7-11-40, 7-11-41, 7-11-47, 7-11-48, New Mexico Statutes Annotated 1953 Compilation, I, the undersigned, Commissioner of Public Lands of the State of New Mexico, for the purpose of more properly conserving the oil and gas resources of the State, do hereby consent to and approve the said Agreement, and any leases embracing lands of the State of New Mexico within the area shall be and the same are hereby amended to conform with the terms thereof, and shall remain in full force and effect according to the terms and conditions of said Agreement. This approval is subject to all of the provisions of the aforesaid statutes, and shall specifically cover Amerada's State WE "G" No. 1 Well in the Eumont Gas Pool as set forth by New Mexico Oil Conservation Commission Administrative Order NSP-86.

IN WITNESS WHEREOF, this Certificate of Approval is executed, with seal affixed, this 8 day of October 1956.

Esuval Pen

Commissioner of Public Lands
of the State of New Mexico

ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

CASE 6429

Application of Zia Energy, Inc., for approval of Infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a finding that the drilling of its Elliott State Well No. 2 to be located in Unit B of Section 34, Township 20 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well, and further seeks approval of a waiver of existing well-spacing requirements.

ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

January 30, 1979

State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87501

Re: Case No. 6429

Gentlemen:

You are asked to consider evidence that will be presented to prove that the proposed infill drilled well, Elliott State No. 2, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by any existing well.

This proration unit consists of the NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico. It is State of New Mexico lease No. B-11298.

Two wells have been drilled on this proration unit. One well, the Elliott State No. 1, in unit letter A, is plugged and abandoned. A well data sheet is included which gives this well history. It produced a cumulative of 26,531 barrels of oil and 114,478 MCF of gas before being plugged. The second well on this proration unit is the Warrior, Inc. State "WEG" No. 1, unit letter H. It was drilled and completed as a Eumont gas well. A well data sheet gives the history for this well. The N/2 NE/4 and the S/2 NE/4 of Section 34 was pooled together and dedicated to this Eumont gas well. A copy of the Gas Pooling Agreement is included for information. This well has produced a cumulative of 691,325 MCF of gas. The initial decline in productivity from this well was very sharp, as you will note from the tabulation of production for this well. This sharp decline and electric log information both indicate a tight formation. In 1974 an extensive workover was a complete failure. Actually, production was less after the workover than before. This workover failure makes it imprudent to attempt any further recompletion. This proration unit is left without an adequate well to produce the remaining reserves.

Exhibits will be presented to show the probability of remaining reserves in this proration unit. It will also be shown that offsetting wells are continuing to produce and have produced cumulative oil and gas in excess of the production from this proration unit.

January 30, 1979

An exhibit showing an east-west cross-section is presented. This cross-section crosses four leases that have had producing Eumont gas wells. A well data sheet is included for each of the four wells on these leases. This cross-section shows the structural relationship between the four leases. It will be noted that two Eumont gas wells are west (down dip) of the proposed location.

A structure map is presented of the area. Information represented here confirms and enlarges on the information included on the cross-section. It presents in more detail the structural relationship between the Elliott State No. 2 and wells surrounding it.

An exhibit consisting of a map of the area is prepared to show initial potentials and cumulative production from Eumont gas wells. This exhibit indicates the probability that Elliott State No. 2 will produce a cumulative of approximately 500 MCF of gas.

A tabulation of six Eumont gas wells is presented to show recent annual production rates and annual 72 hour shut-in well head pressures. From this tabulation it will be noted that the Phillips New #2, Zia Energy Elliott Fed. #2 and Exxon Fopeano #1 all have cumulative production figures much higher than the wells to the west. This is an indication that the permeability and probably the porosity is tighter as you move to the west in this area.

Two additional exhibits were prepared from data from the production history of Warrior, Inc. State "WEG" No. 1. An annual production and annual calculation of bottom hole pressure tabulation is presented. Then a production decline curve is presented. Two things will be noted from these exhibits. First, the annual production declined very rapidly from the first full year of production in 1956. Secondly, an erratic BHP is noted. In 1959, 1963, 1965, 1968 and 1971 you will note that the BHP indicated a higher value than previous years. This pressure variation can be explained by shut-in times greater than 72 hours. The indication here is a tight formation and the rapid production decline substantiates this conclusion.

Several well data sheets are presented for wells referred to on the cross-section, structure map, map of the Elliott State No. 2 area or one of the tabulations.

Two electric log sections are presented for the Zia Energy, Inc. Elliott Federal No. 1 and the Elliott State No. 1. An 8% porosity line has been drawn on each log. Refer to the well data sheet for Elliott Federal No. 1 where you will note a recompletion in February 1978 in the zones from 3554' to 3656'. In the 8 months that this well produced in 1978, it produced 113,462 MCF.

January 30, 1979

These exhibits have been presented in an effort to prove that the Elliott State No. 2 has stringers in the Yates, Seven Rivers and Queen formations with adequate porosity to produce gas in commercial quantities. Electric logs present prove this. The exhibits are intended to show that these stringers will be tight, as indicated by production tabulations and shut-in pressure data. Once these two premises are accepted, then it is reasonable to assume that this gas can be produced from Elliott State No. 2 following adequate stimulation from a fracture treatment utilizing the recently developed carbon dioxide fracture treatment. This type of treatment has proven highly successful in tight, low pressure reservoirs in the Yates, Seven Rivers, Queen. Old wells have also responded very favorably to this new technique.

Using the reservoir data that is available, we have calculated that the Elliott State No. 1 can reasonably be expected to produce a cumulative in excess of 350,000 MCF of gas. This is substantiated by production from offsetting wells. Without the drilling of this Infill well, these reserves will be left unrecovered. The operator will be denied an opportunity to produce recoverable reserves and consumers will be denied needed gas.

Respectfully,

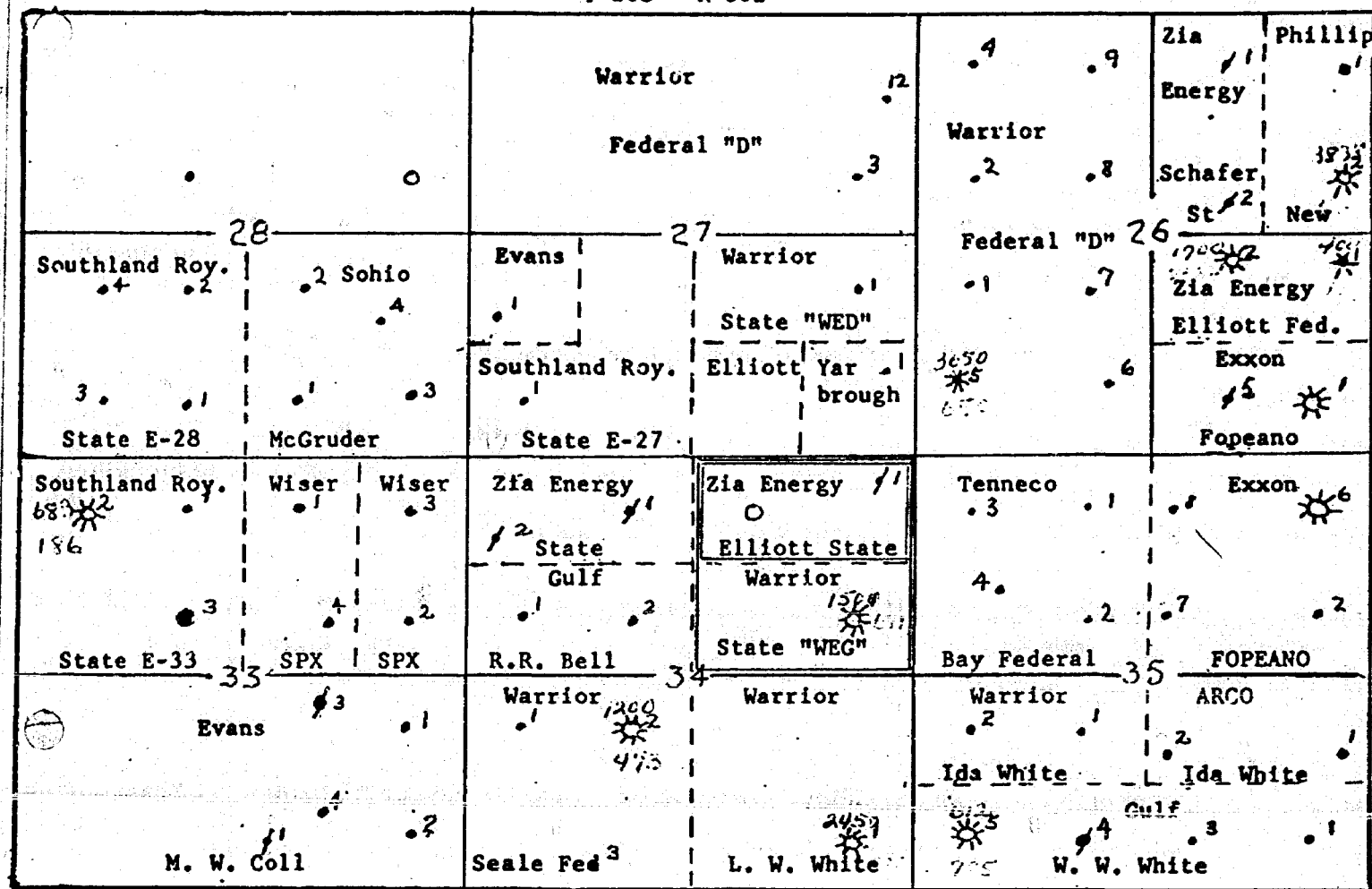
ZIA ENERGY, INC.

Farris Nelson

Farris Nelson

EXHIBIT "A"

T-20S R-36E



ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

ELLIOTT STATE AREA

EUMONT FIELD - T20S, R36E

Lea County, New Mexico

- State Lease No. 11298
- Zia Energy Elliott State
- Proposed Elliott State No. 2
- Eumont Oil Well
- ☼ Eumont Gas Well
- 100 Initial Potential - MCF
- ☼ Cumulative Production - MMCF

TABULATION
72 Hour Shut-In Pressure & Annual Production

	Aztec St. E-33 #2D 33-20-36		Amerada St. WEG #1H 34-20-36		Gulf White #5M 35-20-36		Exxon Fopeano #1A 35-20-36		Zia Energy Elliott Fed. #2J 26-20-36		Phillips New #2H 26-20-36	
Year	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press	Prod. MCF	SI Press
1965	6,163	365	32,690	227	56,210	402	92,599	624	120,761	530	51,594	671
1966	6,352	189	10,390	185	39,857	333	58,864	566	62,604	486	37,792	636
1967	6,024	162	14,903	138	22,889	215	81,075	545	65,660	450	43,043	617
1968	5,111	168	14,000	173	19,891	257	122,161	488	122,096	430	55,441	613
1969	5,499	NA	14,294	146	13,370	174	123,785	449	118,590	440	72,055	553
1970	SI		12,608	165	4,877	185	129,511	435	143,549	383	67,849	550
1971	SI		13,380	215	3,976	NA	121,716	388	121,938	322	81,080	469
1972	SI		11,502	117	SI		172,953	375	154,185	288	64,349	436
1973	SI		11,647	103	SI		184,042	330	122,585	271	125,927	390
1974	SI		3,122	NA	SI		155,175	306	100,121	250	82,596	362
1975	SI		904	NA	SI		131,861	259	79,091	229	87,856	345
1976	SI		419	NA	SI		122,211	273	45,503	233	119,802	291
1977	SI		2,157	NA	SI		105,278	240	8,304	238	89,447	253
1/1/78 Cum	105,760		601,325		784,755		2,955,321		2,386,396		3,536,904	

EXHIBIT "C"

ANNUAL PRODUCTION

Warrior, Inc.
 State "WEC" No. 1-H
 Sec. 34, T20S, R36E,
 Lea County, New Mexico

<u>Year</u>	<u>Volume</u>	<u>72-hour Shut-In Press.</u>	<u>Calculated BHP-psia</u>
1955	85,123		
1956	126,078	686	851
1957	82,561	418	491
1958	65,880	365	426
1959	53,237	437	517
1960	39,139	350	407
1961	38,308	220	249
1962	29,001	230	260
1963	14,285	287	330
1964	25,150	178	199
1965	32,690	227	257
1966	10,390	185	208
1967	14,903	138	154
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1969	14,294	146	164
1970	12,608	165	184
1971	13,380	215	243
1972	11,502	117	130
1973	11,647	103	114
1974	3,122		
1975	904		
1976	419		
1977	2,157		

Cumulative Gas Production - 691,325 MCF

ZIA ENERGY, INC.

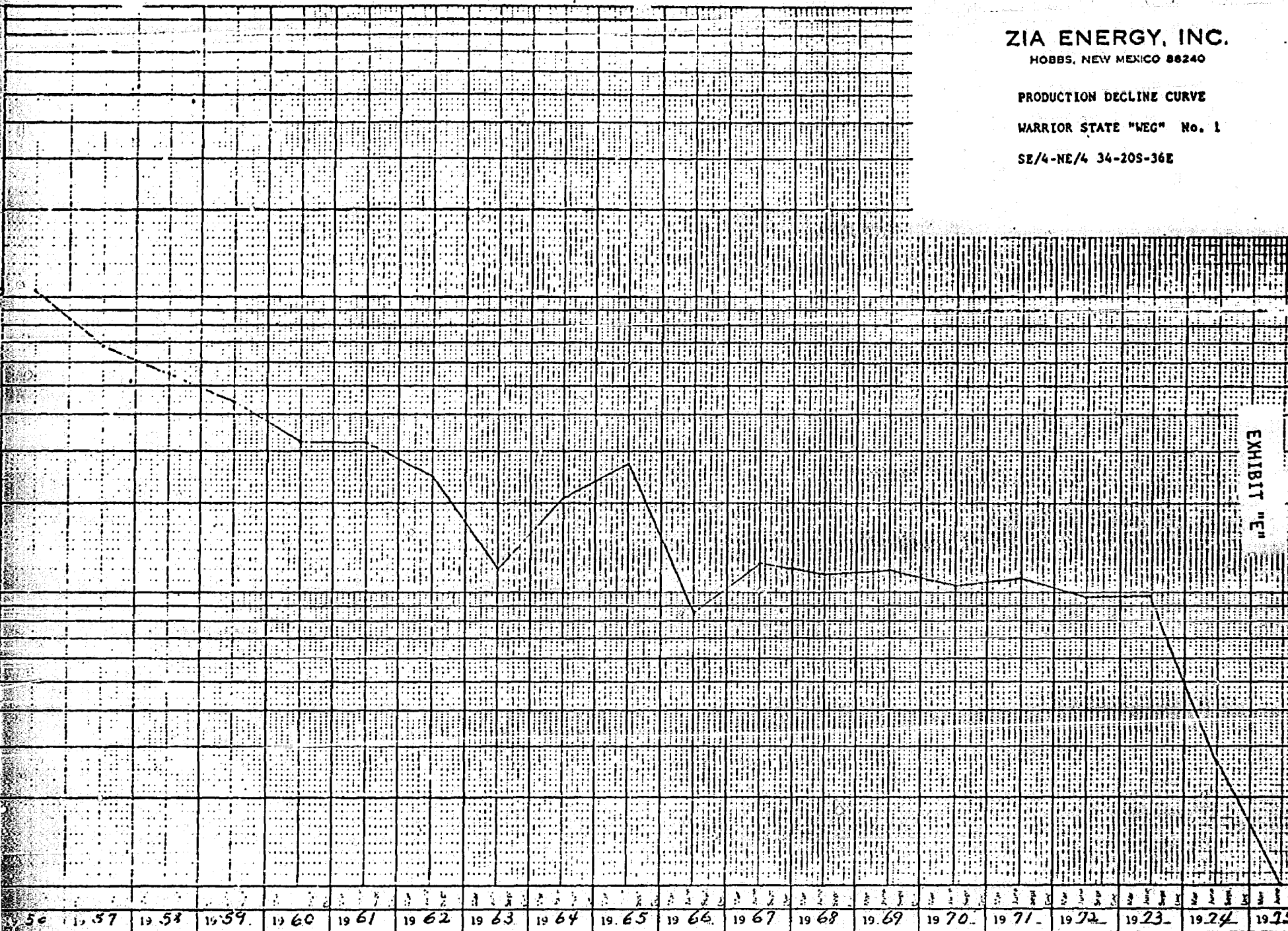
HOBBS, NEW MEXICO 88240

PRODUCTION DECLINE CURVE

WARRIOR STATE "WEG" No. 1

SE/4-NE/4 34-20S-36E

EXHIBIT "E"



WELL DATA SHEET

Company: Southland Royalty
Lease: State E-33 Well No. 2
Field: Eumont
Unit Letter D Sec. 33, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 4/18/55 Total Depth 3915' Elevation 3602'

Intermediate Casing: Size 8 5/8" Depth 323' Cement 280 sx

Production Casing: Size 5 1/2" Depth 3915' Cement 500 sx

Perforation: 3878'-3888' Open Hole: _____

Formation Tops: TA 1812' TS 1972' BS 3344' TY 3654'

T7R 3878' TQu _____ TGb _____

Stimulation: Fracture treat using 10,000 gallons of oil and 1# SPG.

Initial Potential: BOPD 50 BWPD _____ MCF/D _____

Cumulative Production to 1/1/78 : BO 33,460 MCF 185,759

Remarks: 9/10/58 plugged back to 3825'. Perforated 3778'-3816'.

Fracture treated using 15,000 gallons of refined oil and

15,000# sand. Production after recompletion 0 BO, 0 BW

and 683 MCF. Well shut-in in 1971 and has not produced since
that date.

WELL DATA SHEET

Company: Warrior, Inc.
Lease: Seale Federal Well No. 2
Field: Eumont
Unit Letter K Sec. 34, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 9/29/55 Total Depth 3900' Elevation 3586'

Intermediate Casing: Size 8 5/8" Depth 253' Cement 200 sx

Production Casing: Size 5 1/2" Depth 3899' Cement 1550 sx

Perforation: 3749'-3776' Open Hole: _____

Formation Tops: TA 1640' TS _____ BS 3212' TY 3428'

T7R 3780' TQu _____ TGb _____

Stimulation: Fracture treat using 10,000 gallons with 1# SPG

Initial Potential: BOPD 0 BHPD 0 MCF/D 1200

Cumulative Production to 1/1/78 : BO 2576 MCF 481,995

Remarks: _____

WELL DATA SHEET

Company: Warrior, Inc.
 Lease: State "WEG" Well No. 1
 Field: Eumont
 Unit Letter H Sec. 34, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 2/24/54 Total Depth 4300' Elevation 3581'

Intermediate Casing: Size 9 5/8" Depth 307' Cement 300 sx

Production Casing: Size 7" Depth 4300' Cement 800 sx

Perforation: 3150'-3600' Open Hole:

Formation Tops: TA 1551' TS 1660' BS 2970' TY 3142'

T7R 3520' TQu NA TGb 4280'

Stimulation: Fracture treated with 10,500 gallons of oil and 9300# sand

Initial Potential: BOPD 0 BWPD 0 MCF/D 522

Cumulative Production to 1/1/78: BO MCF 691,325

Remarks: 7/26/74 recomplete. Clean out to 4285' and perforate
3520'-4240'. Stimulate with 7000 gallons of acid and
frac with 148,000 gallons of gelled water with 1 1/2# SPG.
Recompletion a complete failure, production approximately
1 BOPD with 5 MCF/day of gas.

WELL DATA SHEET

Company: Zia Energy, Inc.
Lease: Elliott State Well No. 1
Field: Eumont
Unit Letter A Sec. 34, T 20 S , R 36 E

Lea County, New Mexico

Date Completed 11/3/55 Total Depth 4009' Elevation 3575'

Intermediate Casing: Size 8 5/8" Depth 321' Cement 275 sx

Production Casing: Size 5 1/2" Depth 4007' Cement 850 sx

Perforation: 3950'-3988' Open Hole:

Formation Tops: TA NA TS NA BS 2958' TY 3115'

T7R 3485' TQu 3918' T6b

Stimulation: Fracture treated using 20,000 gallons of Petro-frac with 1# SPG.

Initial Potential: BOPD 78 BHPD 78 MCF/D TSTM

Cumulative Production to 1/1/78: BO 26,531 MCF 114,478

Remarks: Well was plugged and abandoned 7/3/71.

WELL DATA SHEET

Company: Tenneco
Lease: Bay Federal Well No. 3
Field: Eumont
Unit Letter D Sec. 34, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 12/30/54 Total Depth 4070' Elevation 3565'

Intermediate Casing: Size 8 5/8" Depth 351' Cement 225 sx

Production Casing: Size 5 1/2" Depth 4070' Cement 400 sx

Perforation: 3855'-3969' Open Hole: _____

Formation Tops: TA 1510' TS 1615' BS 2875' TY 3055'

T7R 3125' TQu 3860' TGb _____

Stimulation: none reported

Initial Potential: BOPD 257 BWPD 0 MCF/D 91

Cumulative Production to 1/1/78: BO 109,373 MCF NA

Remarks: _____

WELL DATA SHEET

Company: Yarbrough Oil Company
Lease: Elliott State Well No. 1
Field: Eumont
Unit Letter P Sec. 27, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 8/1/55 Total Depth 4080' Elevation 3589'

Intermediate Casing: Size 8 5/8" Depth 319' Cement 250 sx

Production Casing: Size 5 1/2" Depth 4080' Cement 800 sx

Perforation: 3964'-4005' Open Hole: _____

Formation Tops: TA 1533' TS 1650' BS 2942' TY 3100'

T7R 3360' TQu 3935' TGb _____

Stimulation: Fracture treat using 10,000 gallons of oil and 1# SPG

Initial Potential: BOPD 140 BHPD 0 MCF/D _____

Cumulative Production to 1/1/78: BO 69,191 MCF NA

Remarks: _____

at 20 BPM and 2500 psi. ISDP 1450 psi. Pulled 3" tubing and packer. Reran 2 3/8" tubing and set at 3600'. Ran sucker rods and pump. Put to pumping to recover load water. Test 3/8/78 .
3 BOPD and 1 BWPD with 400 MCF of gas. Production since workover 195 BO and 0 BW with 113,462 MCF of gas.

WELL DATA SHEET

Company: Zia Energy, Inc.
 Lease: Elliott Federal Well No. 1
 Field: Eumont
 Unit Letter I Sec. 26, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 2/21/35 Total Depth 3780' Elevation 3558'

Intermediate Casing: Size 8 5/8" Depth 1250' Cement 400 sx

Production Casing: Size 7" Depth 3702' Cement 150 sx

Perforation: _____ Open Hole: 3702'-3780'

Formation Tops: TA 1215' TS 1350' BS 2640' TY 2800'

T7R 3160' TQu 3544' TGb _____

Stimulation: Originally treated using 6000 gallons 15% HCL

Initial Potential: BOPD 588 BWPD 0 MCF/D 588

Cumulative Production to 1/1/78: BO 131,226 MCF NA

Remarks: Well deepened in August 1940 to 3809'. Shut-in from 1961 to February 1978. In February 1978, the well was cleaned out to 3809' and the open hole section, 3702' to 3809', was fracture treated using 36,000 gallons of gelled 9# brine and 45,000# of sand. Treatment at 20 BPM and 3000 psi max pressure through 3" tubing below a packer set at 3680'. ISDP 2000 psi. 15 minute SI pressure 1350'. Pulled tubing and packer, perforated from 3554' to 3656' with 23 0.5" holes. Reran tubing, bridge plug and packer. Set BP at 3674' and packer at 3423'. Broke down perforations with 1000 gallons of 15% HCL and 36 ball sealers at 5 BPM and a max. pressure of 3300 psi. ISDP vac. Fracture treated using 30,000 gallons of gelled 9# brine and 42,500# sand. Treatment

(OVER)

WELL DATA SHEET

Company: Phillips Petroleum Company
Lease: New "G" Well No. 2
Field: Eumont
Unit Letter H Sec. 26, T 20 S, R 36 E

Lea County, New Mexico

Date Completed 4/3/38 Total Depth 3810' Elevation 3552'

Intermediate Casing: Size 9 5/8" Depth 1236' Cement 250 sx

Production Casing: Size 7" Depth 3701' Cement 400 sx

Perforation: _____ Open Hole: 3701'-3810'

Formation Tops: TA _____ TS _____ BS _____ TY _____

T7R _____ TQu _____ TCb _____

Stimulation: Initial treatment 1000 gallons of acid.

Initial Potential: BOPD 604 BWPD 0 MCF/D 400

Cumulative Production to 1/1/78: BO _____ MCF 3,536,904

Remarks: Recompleted as a Eumont gas well 1/8/47. Set bridge plug
in 7" casing. Perforated with 4 JSPF from 3540' to 3670'.
Treated using 250 gallons of acid. Initial potential
3838 MCF/day.

EXHIBIT G

GAS POOLING AGREEMENT

11-1536
This Agreement made and entered into this 21st day of September 1956, by and between AMERADA PETROLEUM CORPORATION and ELLIOTT, INC., hereinafter called "AMERADA" and "ELLIOTT," respectively,

WITNESSETH: That

WHEREAS, Amerada is the record owner of the following State of New Mexico oil and gas lease:

Lease No. B-11298, dated June 10, 1944, from the State of New Mexico, as Lessor, to E. M. Elliott, as Lessee, covering, among other lands, the S/2 NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico; and

WHEREAS, Elliott is the record owner of the following State of New Mexico oil and gas lease:

Lease No. B-11298, dated June 10, 1944, from the State of New Mexico, as Lessor, to E. M. Elliott, as Lessee, covering, among other lands, the N/2 NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico; and,

WHEREAS, it is the desire of Amerada and Elliott that this agreement cover the NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico, as to the gas rights down to a depth of 4300 feet below the surface, said area being hereinafter referred to as the "Pooled Proration Unit;" and,

WHEREAS, in order to comply with existing rules and regulations governing gas well spacing and gas proration units, and to acquire a gas allowable for the above-described pooled proration unit, it is the desire of the parties hereto to pool all leasehold and royalty interests in order to form one tract or unit; and

WHEREAS, Amerada desires to operate the pooled proration unit as an entirety for the purpose of developing and producing dry gas and associated liquid hydrocarbons in accordance with the terms and provisions of this agree-

It is further agreed that the commencement, completion, continued operation or production of a well or wells for dry gas and associated liquid hydrocarbons on the pooled proration unit shall be construed and considered as the commencement, completion, continued operation or production from each and all of the lands within and comprising said pooled proration unit, and operations or production pursuant to this agreement shall be deemed to be operations or production as to each lease committed hereto.

It is the intention of the parties hereto that this agreement shall include and affect only dry gas and associated liquid hydrocarbons produced through a gas well or gas wells as defined by the New Mexico Oil Conservation Commission located on the pooled proration unit and shall not include or affect in any manner whatsoever any of the production of hydrocarbons from any oil well located on the pooled tracts or any of the production of hydrocarbons from other than the 4300 feet from the surface as above defined.

It is further agreed that all production of dry gas and associated liquid hydrocarbons and disposal thereof shall be in conformity with allocations made or fixed by any duly authorized person or regulatory body under applicable Federal or State statute. The provisions of this agreement shall be subject to all applicable Federal and State laws or executive orders, rules and regulations which affect the performance of any of the provisions of this agreement, and no party hereto shall suffer a forfeiture or be liable in damages for failure to comply with any of the provisions of this agreement if such compliance is prevented by, or if such failure results from compliance with any such law, order, rule or regulation.

This agreement shall be effective as of the date upon which the unit allowable established by the New Mexico Oil Conservation Commission first becomes effective and shall remain in force and effect for a period of one (1) year and so long thereafter as dry gas, with or without associated liquid hydrocarbons, is produced from any part of said pooled proration unit in paying quantities; provided that this agreement shall terminate in the event of and at such time that (a) Elliott shall complete a gas well above a depth of 4300 feet from the surface in the N/2 of the area hereby pooled, or (b) Amerada shall abandon the gas well that it has drilled and completed in the S/2 of the area hereby pooled.

This agreement shall be binding upon the parties hereto and shall extend to and be binding upon their respective heirs, executors, administrators,

STATE OF OKLAHOMA)
COUNTY OF TULSA) SS

On this 21st day of September, 1956, before me appeared A. R. DENISON, to me personally known, who being by me duly sworn, did say that he is the Vice President of AMERADA PETROLEUM CORPORATION, and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said A. R. DENISON, acknowledged said instrument to be the free act and deed of said corporation.

Given under my hand and seal this 21st day of September, 1956.

My commission expires:

October 25, 1956

J. L. Dettl
Notary Public

STATE OF NEW MEXICO)
COUNTY OF CHAVES) SS

On this 1st day of October, 1956, before me appeared Frank O. Elliott, to me personally known, who being by me duly sworn, did say that he is the Vice President of ELLIOTT, INC., and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said Frank O. Elliott acknowledged said instrument to be the free act and deed of said corporation.

Given under my hand and seal this 1st day of October, 1956.

My commission expires:

December 20, 1959

Nina Crane
Notary Public

CERTIFICATE OF APPROVAL

BY COMMISSIONER OF PUBLIC LANDS, STATE OF NEW MEXICO
Amerada's State WE "G" No. 1 Communitization

There having been presented to the undersigned Commissioner of Public Lands of the State of New Mexico for examination, the attached Agreement for the development and operation of acreage which is described within the attached Agreement, dated Sept. 21, 1956, which has been executed or is to be executed by parties owning and holding oil and gas leases and royalty interests in and under the property described, and upon examination of said Agreement, the Commissioner finds:

- (a) That such agreement will tend to promote the conservation of oil and gas and the better utilization of reservoir energy in said area.
- (b) That under the proposed agreement the State of New Mexico will receive its fair share of the recoverable oil or gas in place under its lands in the area.
- (c) That each beneficiary Institution of the State of New Mexico will receive its fair and equitable share of the recoverable oil and gas under its lands within the area.
- (d) That such agreement is in other respects for the best interests of the state, with respect to state lands.

NOW, THEREFORE, by virtue of the authority conferred upon me under Sections 7-11-39, 7-11-40, 7-11-41, 7-11-47, 7-11-48, New Mexico Statutes Annotated 1953 Compilation, I, the undersigned, Commissioner of Public Lands of the State of New Mexico, for the purpose of more properly conserving the oil and gas resources of the State, do hereby consent to and approve the said Agreement, and any leases embracing lands of the State of New Mexico within the area shall be and the same are hereby amended to conform with the terms thereof, and shall remain in full force and effect according to the terms and conditions of said Agreement. This approval is subject to all of the provisions of the aforesaid statutes, and shall specifically cover Amerada's State WE "G" No. 1 Well in the Eumont Gas Pool as set forth by New Mexico Oil Conservation Commission Administrative Order NSP-86.

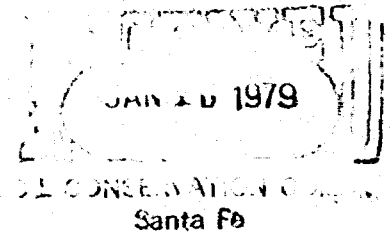
IN WITNESS WHEREOF, this Certificate of Approval is executed, with seal affixed, this 8 day of October 1956.

Eswalke
Commissioner of Public Lands
of the State of New Mexico

ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

January 3, 1979



State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87501

Case 6429

Attention: Mr. Joe Ramey
Director

Re: Request that the Oil Conservation
Division find that the Elliott State
No. 2 well is necessary to effectively
and efficiently drain proration unit
as per 271.305(b) (2).

Dear Sir:

Reference is made to Federal Energy Regulatory Commission regulations in Subpart C - New, Onshore Production Well § 271.304 and 271.305. Paragraph 271.305 applies to a well spudded after December 31, 1978 and drilled within a proration unit in existence at the time that the drilling of the new well began. In 271.305(b) (2) the wording says that the jurisdictional agency must find, prior to the commencement of drilling, that the well is necessary to effectively and efficiently drain a portion of the reservoir covered by the proration unit which cannot be effectively and efficiently drained by any existing well within the proration unit.

This is an application to the Oil Conservation Division for the "Waiver of well-spacing requirement" mentioned in § 271.304 and the "finding" which is called for in § 271.305(b) (2).

It is proposed that Zia Energy, Inc. will drill a New, Onshore Production Well at a standard location of 660' FNL and 1980' FEL of Sec. 34, T20S, R36E, Lea County, New Mexico. This will be on State of New Mexico Lease No. B-11298.

Lease No. B-11298 covers the NE/4 of Sec. 34, T20S, R36E. One well was drilled on this lease by Amerada. It was their State "WEG" No. 1, located in the SE/4 NE/4 of Sec. 34. It was completed in May 1954 as a Eumont gas well

January 3, 1979

with the 160-acre proration unit consisting of the N/2 NE/4 being communitized with the S/2 NE/4. Gas from this proration unit was sold under contract to El Paso Natural Gas Co.

Production history for the Amerada "WEG" No. 1 is presented in a tabulation as Exhibit A and as a decline curve as Exhibit B. Production for 1978 is averaging approximately 125 MCF per month. This is the only well producing in the NE/4. Any further decline in productivity could possibly put this lease in jeopardy, due to non-production.

In an effort to stimulate production from this well, in 1974, additional perforations were made and then fracture treated with a massive gelled water treatment. The result of this workover was a complete failure.

Exhibit C is a structure map purporting to show that the potential for gas production exists in the NW/4 NE/4 as well as in the "WEG" No. 1 location.

Exhibits D-1 through D-5 are electrical log sections of other wells in the area of the proposed new well.

Exhibit E is a copy of a Gas Pooling Agreement between Amerada Petroleum Corporation and Elliott, Inc. pooling the N/2 and the S/2 of the NE/4 of Sec. 34. Your attention is called to page 2, paragraph No. 4, of this agreement. You will notice that termination of this agreement is provided at (a) and (b) in this paragraph. With the completion of the Zia Energy, Inc. Elliott State No. 2 as a Eumont gas well, this pooling agreement will be terminated under the provision set forth in paragraph No. 4 (a). This will make it possible for the Oil Conservation Division to alter or grant a waiver of any applicable well spacing requirements as mentioned in your Rule 15, No. 6(b) (2).

Exhibit F is simply a Certificate of Approval by the State Land Commissioner for the Gas Pooling Agreement.

It is our conclusion, after studying the Warrior, Inc. (formerly Amerada) State "WEG" No. 1 completion and workover history, the production decline curve, and the electrical log sections, that the Yates, Seven Rivers, and Queen formations are very tight and, therefore, the one well in the SE/4 NE/4 cannot effectively and efficiently drain the entire NE/4 of Sec. 34. We, therefore, request a certificate from the Oil Conservation Division that will fill the filing requirements of § 271.304 and § 271.305(b) (2).

Only for information purposes, application for this well was filed with your

Oil Conservation Division

Page 3

January 3, 1979

office on October 3, 1978, and subsequently a certificate was issued. A copy of this certificate is included.

All of the above and the attached information supports our contention that an additional well will be required to drain this portion of the proration unit, and that a price higher than the contract price must be approved for the well to be economically feasible.

Yours truly,

M F Nelson

M. F. Nelson

EXHIBIT "A"

ANNUAL PRODUCTION

Warrior, Inc.
 State "WEG" No. 1-H
 Sec. 34, T20S, R36E,
 Lea County, New Mexico

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1972	11,502	117	130
1973	11,647	103	114
1974	3,122		
1975	904		
1976	419		
1977	2,157		

Cumulative Gas Production - 691,325 MCF

EXHIBIT "B"

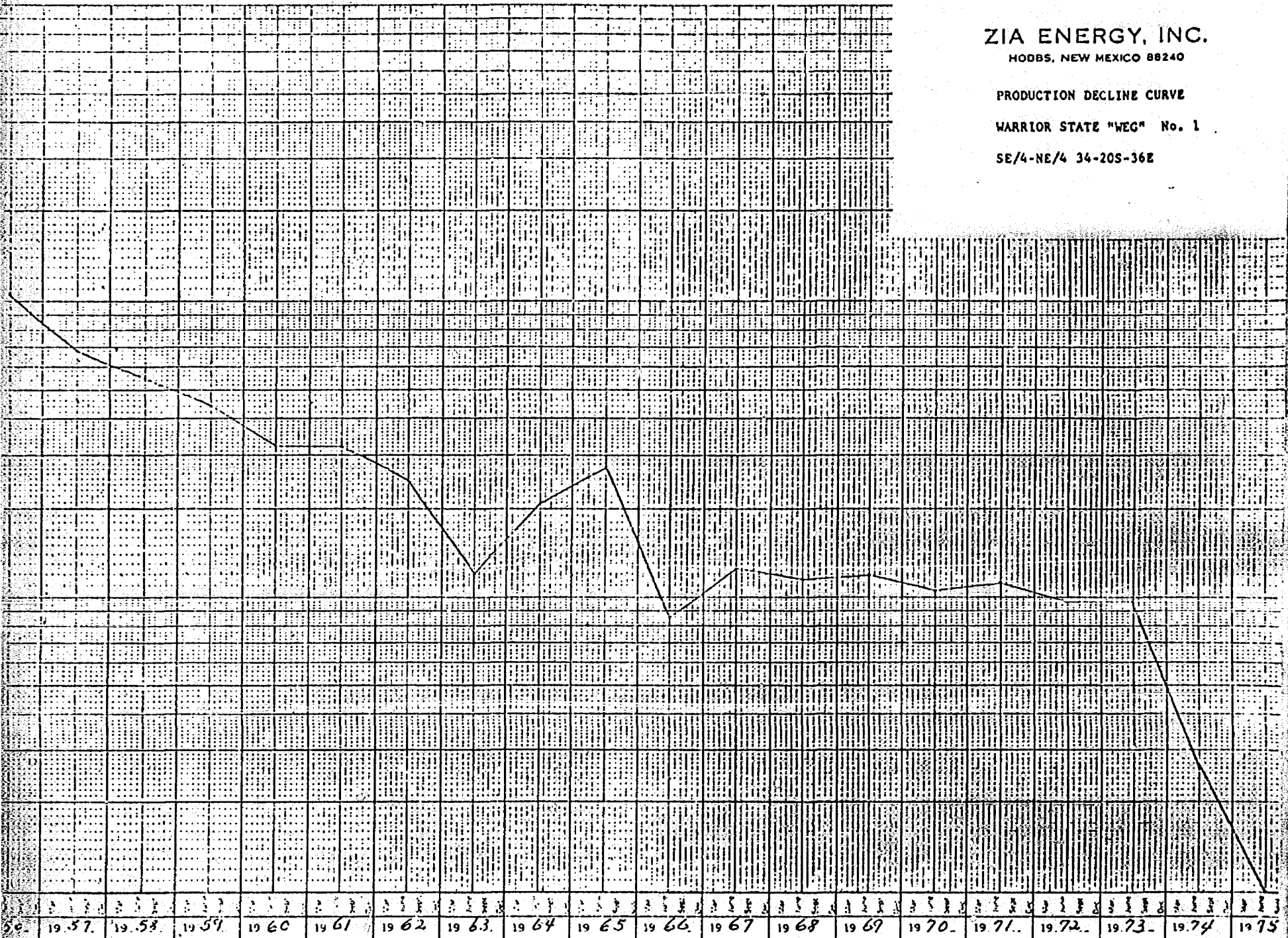
ZIA ENERGY, INC.

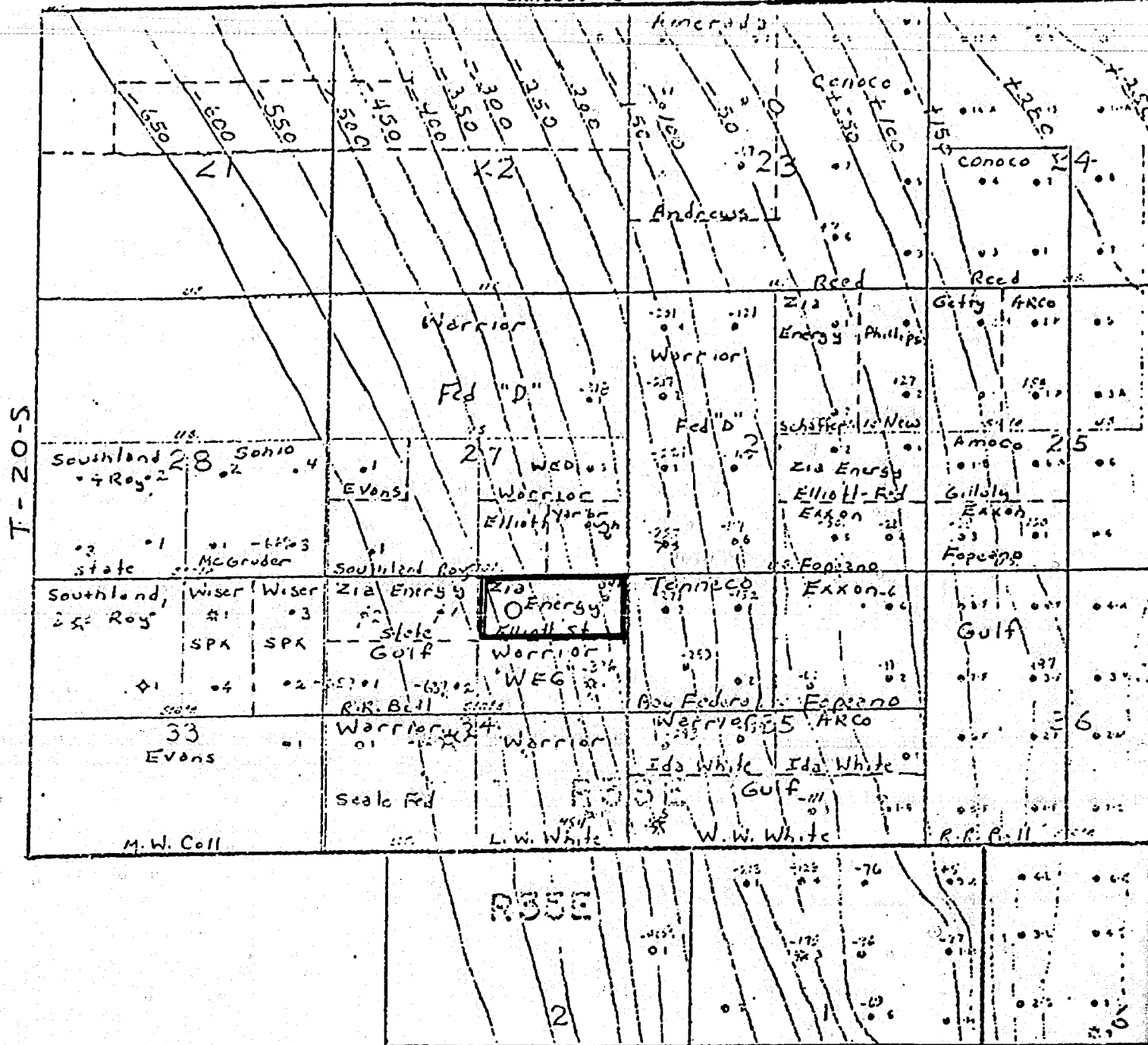
HOBBS, NEW MEXICO 88240

PRODUCTION DECLINE CURVE

WARRIOR STATE "WEG" No. 1

SE/4-NE/4 34-20S-36E





ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

ELLIOTT STATE AREA

EUMONT FIELD - T20S, R36E

Contours on top of Queen

EXHIBIT "E"

GAS POOLING AGREEMENT

11A-1236
This Agreement made and entered into this 21st day of September 1956, by and between AMERADA PETROLEUM CORPORATION and ELLIOTT, INC., hereinafter called "AMERADA" and "ELLIOTT," respectively,

WITNESSETH: That

WHEREAS, Amerada is the record owner of the following State of New Mexico oil and gas lease:

Lease No. B-11298, dated June 10, 1944, from the State of New Mexico, as Lessor, to E. M. Elliott, as Lessee, covering, among other lands, the S/2 NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico; and

WHEREAS, Elliott is the record owner of the following State of New Mexico oil and gas lease:

Lease No. B-11298, dated June 10, 1944, from the State of New Mexico, as Lessor, to E. M. Elliott, as Lessee, covering, among other lands, the N/2 NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico; and,

WHEREAS, it is the desire of Amerada and Elliott that this agreement cover the NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico, as to the gas rights down to a depth of 4300 feet below the surface, said area being hereinafter referred to as the "Pooled Proration Unit;" and,

WHEREAS, in order to comply with existing rules and regulations governing gas well spacing and gas proration units, and to acquire a gas allowable for the above-described pooled proration unit, it is the desire of the parties hereto to pool all leasehold and royalty interests in order to form one tract or unit; and

WHEREAS, Amerada desires to operate the pooled proration unit as an entirety for the purpose of developing and producing dry gas and associated liquid hydrocarbons in accordance with the terms and provisions of this agreement:

NOW, THEREFORE, in consideration of the premises and the mutual advantages offered by this agreement, it is mutually covenanted and agreed by and between the parties hereto that the pooled proration unit shall be developed and operated by Amerada, its successors or assigns, for the production therefrom of dry gas and associated liquid hydrocarbons as an entirety, with the understanding and agreement that the dry gas and associated liquid hydrocarbons produced therefrom shall be allocated among the leaseholds comprising said pooled proration unit in the proportion that the acreage interest of each leasehold bears to the entire acreage interest committed to this agreement. The royalties payable on the dry gas and associated liquid hydrocarbons so allocated to the individual leases comprising the pooled proration unit and the rentals provided for in said leases shall be determined and paid on the basis prescribed in each of the individual leases. Payment of rentals under the terms of the leases subject to this agreement shall not be affected by this agreement except as provided for under the terms and provisions of said leases or as may herein be otherwise provided. Except as herein modified and changed, the oil and gas leases subject to this agreement shall remain in full force and effect as originally made and issued. There shall be no obligation on Amerada, or its successors or assigns, to offset any gas well or wells on separate component tracts into which such pooled proration unit is now or may hereafter be divided; nor shall Amerada, its successors or assigns be required to separately measure said dry gas or associated liquid hydrocarbons by reason of the diverse ownership of such production in and under said tract, but the lessee shall not be released from the obligation to protect said pooled tract from drainage by any gas well or wells which may be drilled offsetting the said tract.

It is further agreed that the commencement, completion, continued operation or production of a well or wells for dry gas and associated liquid hydrocarbons on the pooled proration unit shall be construed and considered as the commencement, completion, continued operation or production from each and all of the lands within and comprising said pooled proration unit, and operations or production pursuant to this agreement shall be deemed to be operations or production as to each lease committed hereto.

It is the intention of the parties hereto that this agreement shall include and affect only dry gas and associated liquid hydrocarbons produced through a gas well or gas wells as defined by the New Mexico Oil Conservation Commission located on the pooled proration unit and shall not include or affect in any manner whatsoever any of the production of hydrocarbons from any oil well located on the pooled tracts or any of the production of hydrocarbons from other than the 4300 feet from the surface as above defined.

It is further agreed that all production of dry gas and associated liquid hydrocarbons and disposal thereof shall be in conformity with allocations made or fixed by any duly authorized person or regulatory body under applicable Federal or State statute. The provisions of this agreement shall be subject to all applicable Federal and State laws or executive orders, rules and regulations which affect the performance of any of the provisions of this agreement, and no party hereto shall suffer a forfeiture or be liable in damages for failure to comply with any of the provisions of this agreement if such compliance is prevented by, or if such failure results from compliance with any such law, order, rule or regulation.

This agreement shall be effective as of the date upon which the unit allowable established by the New Mexico Oil Conservation Commission first becomes effective and shall remain in force and effect for a period of one (1) year and so long thereafter as dry gas, with or without associated liquid hydrocarbons, is produced from any part of said pooled proration unit in paying quantities; provided that this agreement shall terminate in the event of and at such time that (a) Elliott shall complete a gas well above a depth of 4300 feet from the surface in the N/2 of the area hereby pooled, or (b) Amerada shall abandon the gas well that it has drilled and completed in the S/2 of the area hereby pooled.

This agreement shall be binding upon the parties hereto and shall extend to and be binding upon their respective heirs, executors, administrators, successors and assigns.

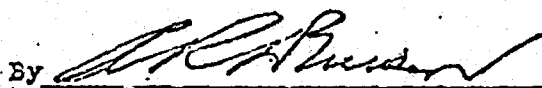
IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year herein first above written.

ATTEST:

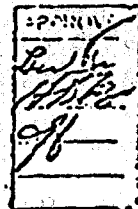


Assistant Secretary

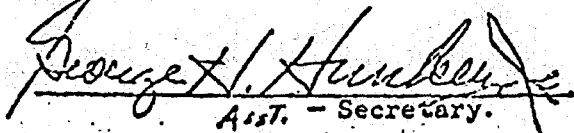
AMERADA PETROLEUM CORPORATION



Vice President.

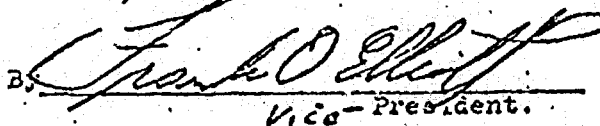


ATTEST:



Asst. - Secretary.

ELLIOTT, INC.



Vice-President.

STATE OF OKLAHOMA)
COUNTY OF TULSA) SS

On this 21st day of September, 1956, before me appeared A. R. DENISON, to me personally known, who being by me duly sworn, did say that he is the Vice President of AMERADA PETROLEUM CORPORATION, and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said A. R. DENISON, acknowledged said instrument to be the free act and deed of said corporation.

Given under my hand and seal this 21st day of September, 1956.

My commission expires:

October 25, 1956

J. L. Dettl
Notary Public

STATE OF NEW MEXICO)
COUNTY OF CHAVES) SS

On this 1st day of October, 1956, before me appeared Frank O. Elliott, to me personally known, who being by me duly sworn, did say that he is the Vice President of ELLIOTT, INC., and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said Frank O. Elliott, acknowledged said instrument to be the free act and deed of said corporation.

Given under my hand and seal this 1st day of October, 1956.

My commission expires:

December 20, 1959

Nina Crane
Notary Public

CERTIFICATE OF APPROVAL

BY COMMISSIONER OF PUBLIC LANDS, STATE OF NEW MEXICO
Amerada's State WE "G" No. 1 Communitization

There having been presented to the undersigned Commissioner of Public Lands of the State of New Mexico for examination, the attached Agreement for the development and operation of acreage which is described within the attached Agreement, dated Sept. 21, 1956, which has been executed or is to be executed by parties owning and holding oil and gas leases and royalty interests in and under the property described, and upon examination of said Agreement, the Commissioner finds:

- (a) That such agreement will tend to promote the conservation of oil and gas and the better utilization of reservoir energy in said area.
- (b) That under the proposed agreement the State of New Mexico will receive its fair share of the recoverable oil or gas in place under its lands in the area.
- (c) That each beneficiary Institution of the State of New Mexico will receive its fair and equitable share of the recoverable oil and gas under its lands within the area.
- (d) That such agreement is in other respects for the best interests of the state, with respect to state lands.

NOW, THEREFORE, by virtue of the authority conferred upon me under Sections 7-11-39, 7-11-40, 7-11-41, 7-11-47, 7-11-48, New Mexico Statutes Annotated 1953 Compilation, 1, the undersigned, Commissioner of Public Lands of the State of New Mexico, for the purpose of more properly conserving the oil and gas resources of the State, do hereby consent to and approve the said Agreement, and any leases embracing lands of the State of New Mexico within the area shall be and the same are hereby amended to conform with the terms thereof, and shall remain in full force and effect according to the terms and conditions of said Agreement. This approval is subject to all of the provisions of the aforesaid statutes, and shall specifically cover Amerada's State W E "G" No. 1 Well in the Eumont Gas Pool as set forth by New Mexico Oil Conservation Commission Administrative Order MSP-86.

IN WITNESS WHEREOF, this Certificate of Approval is executed, with seal affixed, this 8 day of October 1956.

E. Swales

Commissioner of Public Lands
of the State of New Mexico

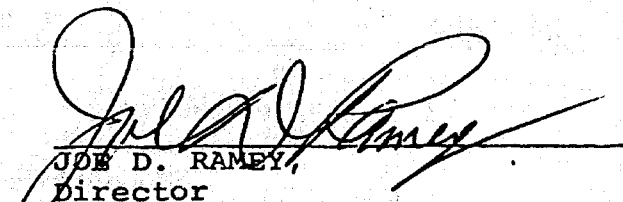
C E R T I F I C A T E

I, JOE D. RAMEY, Director of the Oil Conservation Division of the Energy and Minerals Department, hereby certify that the Oil Conservation Division is the state regulatory agency having jurisdiction over the drilling, spacing, completion and production of oil and gas wells, and over all matters relating to the conservation of oil and gas.

I further certify that I have examined the proposal of Zia Energy, Inc. to drill the following well for development of the Eumont Gas pool:

Elliott Well No. 2, NW/4 NE/4, Section 34, Township 20 South, Range 36 East, Lea County, New Mexico

and find that this is a necessary additional well or completion operation into the subject reservoir.


JOE D. RAMEY,
Director
Oil Conservation Division

Dated: October 12, 1978

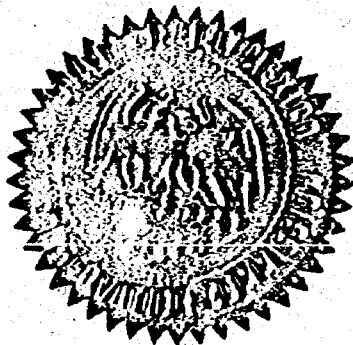
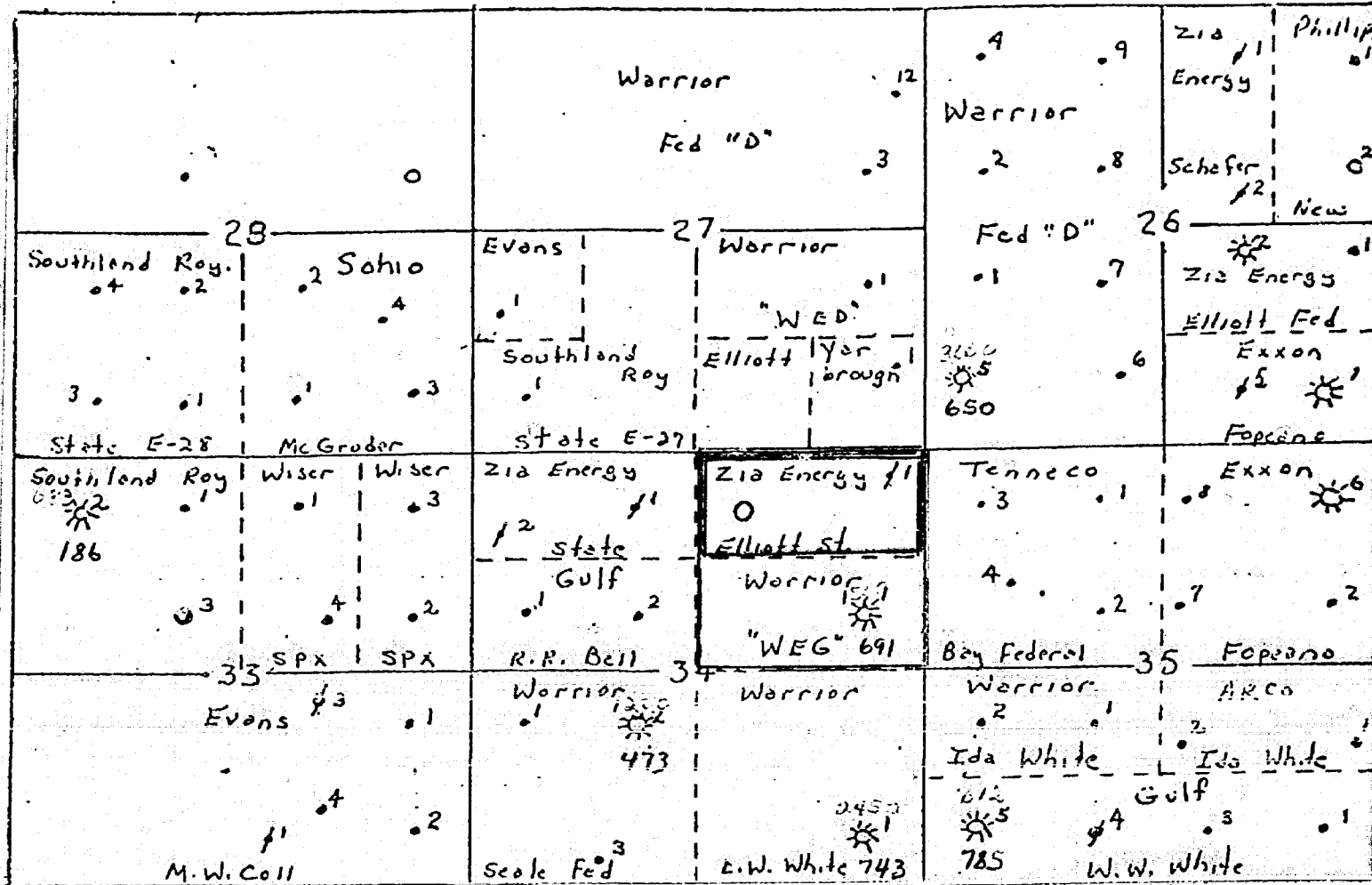


EXHIBIT "H"



ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

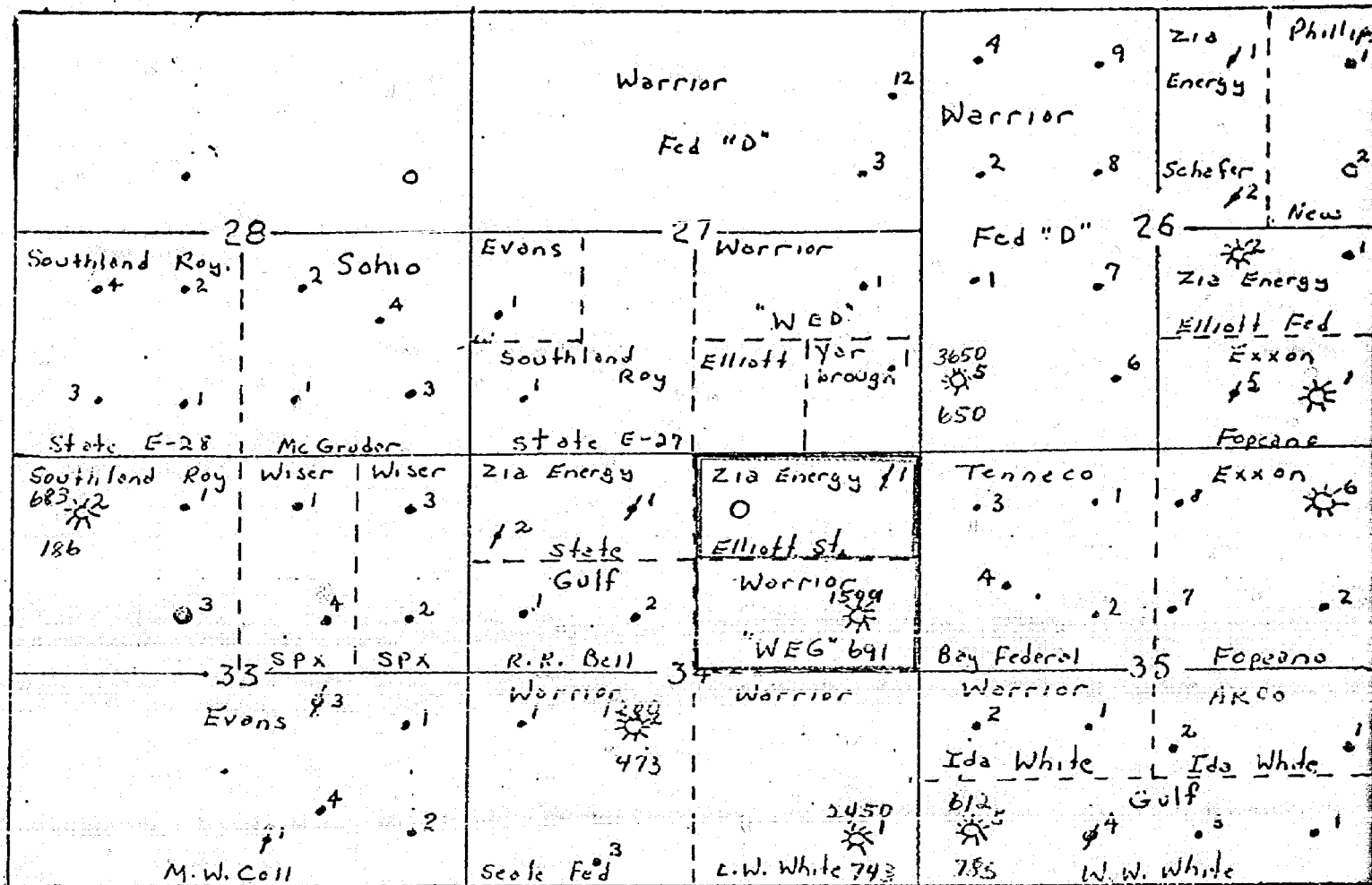
ELLIOTT STATE AREA

EUMONT FIELD - T20S, R36E

Lea County, New Mexico

- State Lease No.-11298
- Zia Energy Elliott State
- Proposed Elliott State No. 2
- Eumont Oil Well
- ☀ Eumont Gas Well
- 100 Initial Potential-MCF
- 100 Cumulative Production-MMCF

EXHIBIT "H"



ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

ELLIOTT STATE AREA

EUMONT FIELD - T20S, R36E

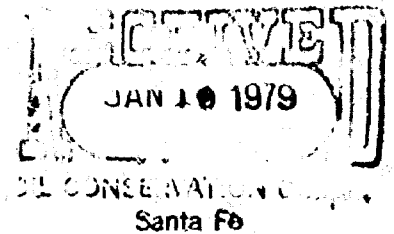
Lea County, New Mexico

- State Lease No.-11298
- Zia Energy Elliott State
- Proposed Elliott State No. 2
- Eumont Oil Well
- ☀ Eumont Gas Well
- 100 Initial Potential-MCF
- 100 Cumulative Production-MMCF

ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

January 3, 1979



State of New Mexico
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87501

Case 6429

Attention: Mr. Joe Ramey
Director

Re: Request that the Oil Conservation Division find that the Elliott State No. 2 well is necessary to effectively and efficiently drain proration unit as per 271.305(b) (2).

Dear Sir:

Reference is made to Federal Energy Regulatory Commission regulations in Subpart C - New, Onshore Production Well § 271.304 and 271.305. Paragraph 271.305 applies to a well spudded after December 31, 1978 and drilled within a proration unit in existence at the time that the drilling of the new well began. In 271.305(b) (2) the wording says that the jurisdictional agency must find, prior to the commencement of drilling, that the well is necessary to effectively and efficiently drain a portion of the reservoir covered by the proration unit which cannot be effectively and efficiently drained by any existing well within the proration unit.

This is an application to the Oil Conservation Division for the "Waiver of well-spacing requirement" mentioned in § 271.304 and the "finding" which is called for in § 271.305(b) (2).

It is proposed that Zia Energy, Inc. will drill a New, Onshore Production Well at a standard location of 660' FNL and 1980' FEL of Sec. 34, T20S, R36E, Lea County, New Mexico. This will be on State of New Mexico Lease No. B-11298.

Lease No. B-11298 covers the NE/4 of Sec. 34, T20S, R36E. One well was drilled on this lease by Amerada. It was their State "WEG" No. 1, located in the SE/4 NE/4 of Sec. 34. It was completed in May 1954 as a Eumont gas well.

January 3, 1979

with the 160-acre proration unit consisting of the N/2 NE/4 being communitized with the S/2 NE/4. Gas from this proration unit was sold under contract to El Paso Natural Gas Co.

Production history for the Amerada "WEG" No. 1 is presented in a tabulation as Exhibit A and as a decline curve as Exhibit B. Production for 1978 is averaging approximately 125 MCF per month. This is the only well producing in the NE/4. Any further decline in productivity could possibly put this lease in jeopardy, due to non-production.

In an effort to stimulate production from this well, in 1974, additional perforations were made and then fracture treated with a massive gelled water treatment. The result of this workover was a complete failure.

Exhibit C is a structure map purporting to show that the potential for gas production exists in the NW/4 NE/4 as well as in the "WEG" No. 1 location.

Exhibits D-1 through D-5 are electrical log sections of other wells in the area of the proposed new well.

Exhibit E is a copy of a Gas Pooling Agreement between Amerada Petroleum Corporation and Elliott, Inc. pooling the N/2 and the S/2 of the NE/4 of Sec. 34. Your attention is called to page 2, paragraph No. 4, of this agreement. You will notice that termination of this agreement is provided at (a) and (b) in this paragraph. With the completion of the Zia Energy, Inc. Elliott State No. 2 as a Eumont gas well, this pooling agreement will be terminated under the provision set forth in paragraph No. 4 (a). This will make it possible for the Oil Conservation Division to alter or grant a waiver of any applicable well spacing requirements as mentioned in your Rule 15, No. 6(b) (2).

Exhibit F is simply a Certificate of Approval by the State Land Commissioner for the Gas Pooling Agreement.

It is our conclusion, after studying the Warrior, Inc. (formerly Amerada) State "WEG" No. 1 completion and workover history, the production decline curve, and the electrical log sections, that the Yates, Seven Rivers, and Queen formations are very tight and, therefore, the one well in the SE/4 NE/4 cannot effectively and efficiently drain the entire NE/4 of Sec. 34. We, therefore, request a certificate from the Oil Conservation Division that will fill the filing requirements of § 271.304 and § 271.305(b) (2).

Only for information purposes, application for this well was filed with your

Oil Conservation Division

Page 3

January 3, 1979

office on October 3, 1978, and subsequently a certificate was issued. A copy of this certificate is included.

All of the above and the attached information supports our contention that an additional well will be required to drain this portion of the proration unit, and that a price higher than the contract price must be approved for the well to be economically feasible.

Yours truly,

M F Nelson

M. F. Nelson

EXHIBIT "A"

ANNUAL PRODUCTION

Warrior, Inc.
State "WEG" No. 1-H
Sec. 34, T20S, R36E,
Lea County, New Mexico

<u>Year</u>	<u>Volume</u>	<u>72-hour Shut-In Press.</u>	<u>Calculated BHP-psia</u>
1955	85,123		
1956	126,078	686	851
1957	82,561	418	491
1958	65,880	365	426
1959	53,237	437	517
1960	39,139	350	407
1961	38,306	220	249
1962	29,601	230	260
1963	14,285	287	330
1964	25,156	178	199
1965	32,690	227	257
1966	10,390	185	208
1967	14,903	136	154
1968	14,000	173	194
1969	14,294	146	164
1970	12,608	165	184
1971	13,380	215	243
1972	11,502	117	130
1973	11,647	103	114
1974	3,122		
1975	904		
1976	419		
1977	2,157		

Cumulative Gas Production - 691,325 MCF

EXHIBIT "B"

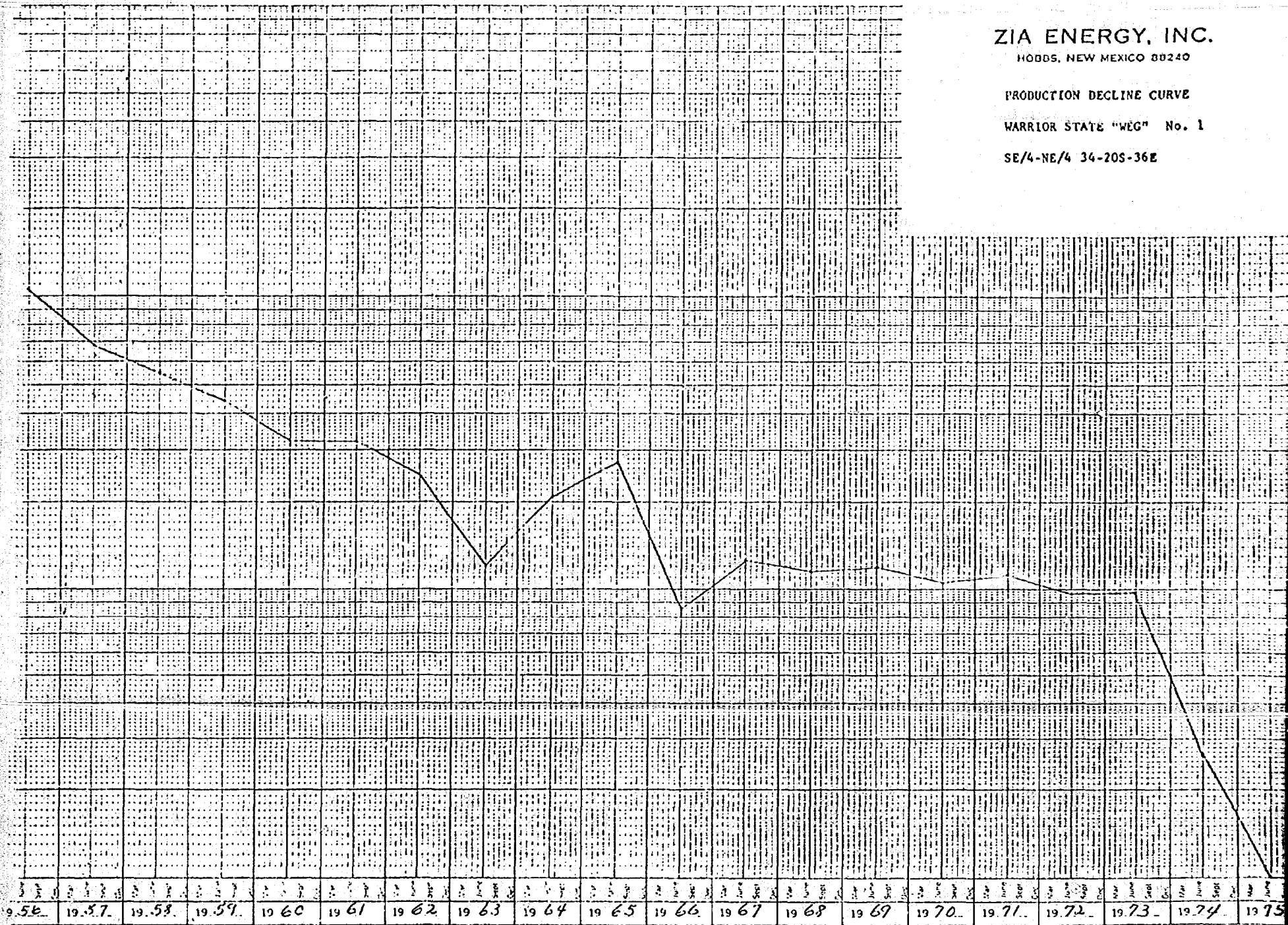
ZIA ENERGY, INC.

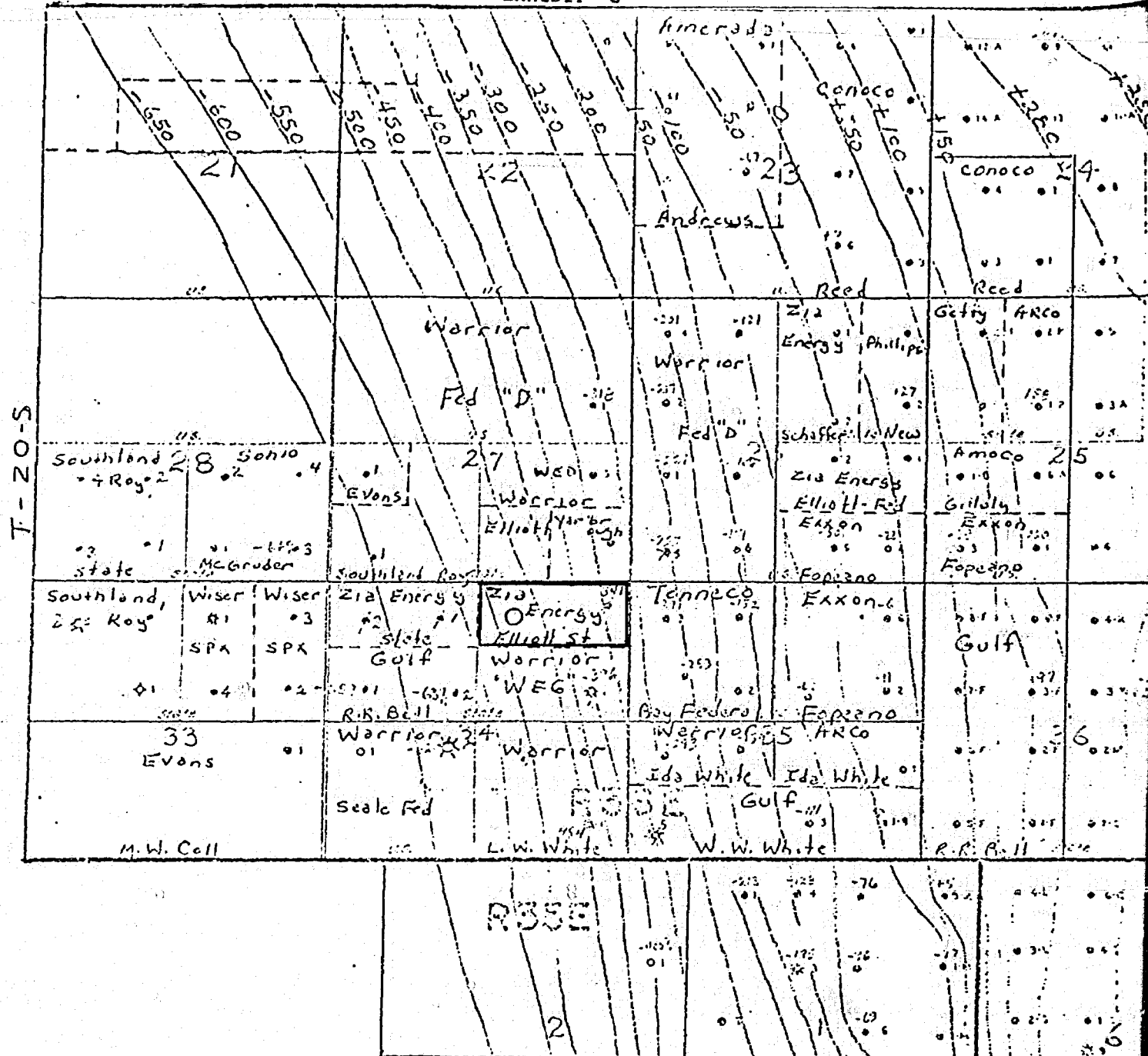
HOBBS, NEW MEXICO 80240

PRODUCTION DECLINE CURVE

WARRIOR STATE "WEG" No. 1

SE/4-NE/4 34-20S-36E





ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

ELLIOTT STATE AREA

EUMONT FIELD - T20S, R36E

Contours on top of Queen

EXHIBIT "E"

GAS POOLING AGREEMENT

This Agreement made and entered into this 21st day of September 1956, by and between AMERADA PETROLEUM CORPORATION and ELLIOTT, INC., hereinafter called "AMERADA" and "ELLIOTT," respectively,

WITNESSETH: That

WHEREAS, Amerada is the record owner of the following State of New Mexico oil and gas lease:

Lease No. B-11298, dated June 10, 1944, from the State of New Mexico, as Lessor, to E. M. Elliott, as Lessee, covering, among other lands, the S/2 NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico; and

WHEREAS, Elliott is the record owner of the following State of New Mexico oil and gas lease:

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WHEREAS, it is the desire of Amerada and Elliott that this agreement cover the NE/4 of Section 34, Township 20 South, Range 36 East, Lea County, New Mexico, as to the gas rights down to a depth of 4300 feet below the surface, said area being hereinafter referred to as the "Pooled Proration Unit;" and,

WHEREAS, in order to comply with existing rules and regulations governing gas well spacing and gas proration units, and to acquire a gas allowable for the above-described pooled proration unit, it is the desire of the parties hereto to pool all leasehold and royalty interests in order to form one tract or unit; and

WHEREAS, Amerada desires to operate the pooled proration unit as an entirety for the purpose of developing and producing dry gas and associated liquid hydrocarbons in accordance with the terms and provisions of this agreement:

NOW, THEREFORE, in consideration of the premises and the mutual advantages offered by this agreement, it is mutually covenanted and agreed by and between the parties hereto that the pooled proration unit shall be developed and operated by Amerada, its successors or assigns, for the production therefrom of dry gas and associated liquid hydrocarbons as an entirety, with the understanding and agreement that the dry gas and associated liquid hydrocarbons produced therefrom shall be allocated among the leaseholds comprising said pooled proration unit in the proportion that the acreage interest of each leasehold bears to the entire acreage interest committed to this agreement. The royalties payable on the dry gas and associated liquid hydrocarbons so allocated to the individual leases comprising the pooled proration unit and the rentals provided for in said leases shall be determined and paid on the basis prescribed in each of the individual leases. Payment of rentals under the terms of the leases subject to this agreement shall not be affected by this agreement except as provided for under the terms and provisions of said leases or as may herein be otherwise provided. Except as herein modified and changed, the oil and gas leases subject to this agreement shall remain in full force and effect as originally made and issued. There shall be no obligation on Amerada, or its successors or assigns, to offset any gas well or wells on separate component tracts into which such pooled proration unit is now or may hereafter be divided; nor shall Amerada, its successors or assigns be required to separately measure said dry gas or associated liquid hydrocarbons by reason of the diverse ownership of such production in and under said tract, but the lessee shall not be released from the obligation to protect said pooled tract from drainage by any gas well or wells which may be drilled offsetting the said tract.

It is further agreed that the commencement, completion, continued operation or production of a well or wells for dry gas and associated liquid hydrocarbons on the pooled proration unit shall be construed and considered as the commencement, completion, continued operation or production from each and all of the lands within and comprising said pooled proration unit, and operations or production pursuant to this agreement shall be deemed to be operations or production as to each lease committed hereto.

It is the intention of the parties hereto that this agreement shall include and affect only dry gas and associated liquid hydrocarbons produced through a gas well or gas wells as defined by the New Mexico Oil Conservation Commission located on the pooled proration unit and shall not include or affect in any manner whatsoever any of the production of hydrocarbons from any oil well located on the pooled tracts or any of the production of hydrocarbons from other than the 4300 feet from the surface as above defined.

It is further agreed that all production of dry gas and associated liquid hydrocarbons and disposal thereof shall be in conformity with allocations made or fixed by any duly authorized person or regulatory body under applicable Federal or State statute. The provisions of this agreement shall be subject to all applicable Federal and State laws or executive orders, rules and regulations which affect the performance of any of the provisions of this agreement, and no party hereto shall suffer a forfeiture or be liable in damages for failure to comply with any of the provisions of this agreement if such compliance is prevented by, or if such failure results from compliance with any such law, order, rule or regulation.

This agreement shall be effective as of the date upon which the unit allowable established by the New Mexico Oil Conservation Commission first becomes effective and shall remain in force and effect for a period of one (1) year and so long thereafter as dry gas, with or without associated liquid hydrocarbons, is produced from any part of said pooled proration unit in paying quantities; provided that this agreement shall terminate in the event of and at such time that (a) Elliott shall complete a gas well above a depth of 4300 feet from the surface in the N/2 of the area hereby pooled, or (b) Amerada shall abandon the gas well that it has drilled and completed in the S/2 of the area hereby pooled.

This agreement shall be binding upon the parties hereto and shall extend to and be binding upon their respective heirs, executors, administrators, successors and assigns.

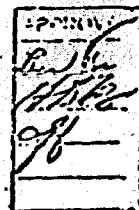
IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year herein first above written.

ATTEST:

[Signature]
Assistant Secretary

AMERADA PETROLEUM CORPORATION

By [Signature]
Vice President.



ATTEST:

[Signature]
Asst. - Secretary.

ELLIOTT, INC.

By [Signature]
Vice-President.

STATE OF OKLAHOMA)
COUNTY OF TULSA) SS

On this 21st day of September, 1956, before me appeared A. R. DENISON, to me personally known, who being by me duly sworn, did say that he is the Vice President of AMERADA PETROLEUM CORPORATION, and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said A. R. DENISON, acknowledged said instrument to be the free act and deed of said corporation.

Given under my hand and seal this 21st day of September, 1956.

J. L. Dettle Wilson
Notary Public

My commission expires:

October 25, 1959

STATE OF NEW MEXICO)
COUNTY OF CHAVES) SS

On this 1st day of October, 1956, before me appeared Frank O. Elliott, to me personally known, who being by me duly sworn, did say that he is the Vice President of ELLIOTT, INC., and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said Frank O. Elliott, acknowledged said instrument to be the free act and deed of said corporation.

Given under my hand and seal this 1st day of October, 1956.

Nina Crane
Notary Public

My commission expires:

December 20, 1959

CERTIFICATE OF APPROVAL

BY COMMISSIONER OF PUBLIC LANDS, STATE OF NEW MEXICO
Amerada's State WE "G" No. 1 Communitization

There having been presented to the undersigned Commissioner of Public Lands of the State of New Mexico for examination, the attached Agreement for the development and operation of acreage which is described within the attached Agreement, dated Sept. 21, 1956, which has been executed or is to be executed by parties owning and holding oil and gas leases and royalty interests in and under the property described, and upon examination of said Agreement, the Commissioner finds:

- (a) That such agreement will tend to promote the conservation of oil and gas and the better utilization of reservoir energy in said area.
- (b) That under the proposed agreement the State of New Mexico will receive its fair share of the recoverable oil or gas in place under its lands in the area.
- (c) That each beneficiary Institution of the State of New Mexico will receive its fair and equitable share of the recoverable oil and gas under its lands within the area.
- (d) That such agreement is in other respects for the best interests of the state, with respect to state lands.

NOW, THEREFORE, by virtue of the authority conferred upon me under Sections 7-11-39, 7-11-40, 7-11-41, 7-11-47, 7-11-48, New Mexico Statutes Annotated 1953 Compilation, I, the undersigned, Commissioner of Public Lands of the State of New Mexico, for the purpose of more properly conserving the oil and gas resources of the State, do hereby consent to and approve the said Agreement, and any leases embracing lands of the State of New Mexico within the area shall be and the same are hereby amended to conform with the terms thereof, and shall remain in full force and effect according to the terms and conditions of said Agreement. This approval is subject to all of the provisions of the aforesaid statutes, and shall specifically cover Amerada's State WE "G" No. 1 Well in the Eumont Gas Pool as set forth by New Mexico Oil Conservation Commission Administrative Order NSP-86.

IN WITNESS WHEREOF, this Certificate of Approval is executed, with seal affixed, this 8 day of October 1956.

Esuvalke

Commissioner of Public Lands
of the State of New Mexico

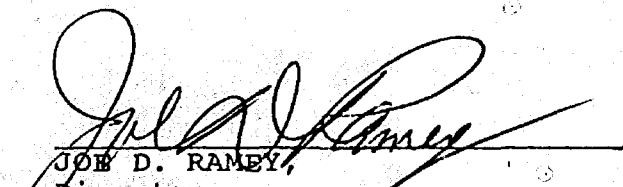
C E R T I F I C A T E

I, JOE D. RAMEY, Director of the Oil Conservation Division of the Energy and Minerals Department, hereby certify that the Oil Conservation Division is the state regulatory agency having jurisdiction over the drilling, spacing, completion and production of oil and gas wells, and over all matters relating to the conservation of oil and gas.

I further certify that I have examined the proposal of Zia Energy, Inc. to drill the following well for development of the Eumont Gas pool:

Elliott Well No. 2, NW/4 NE/4, Section 34, Township 20 South, Range 36 East, Lea County, New Mexico

and find that this is a necessary additional well or completion operation into the subject reservoir.


JOE D. RAMEY,
Director
Oil Conservation Division

Dated: October 12, 1978

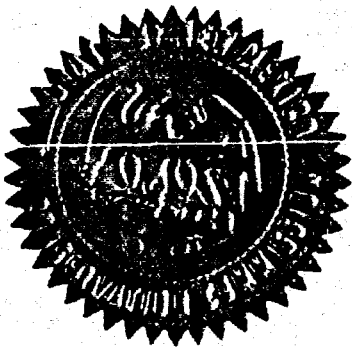
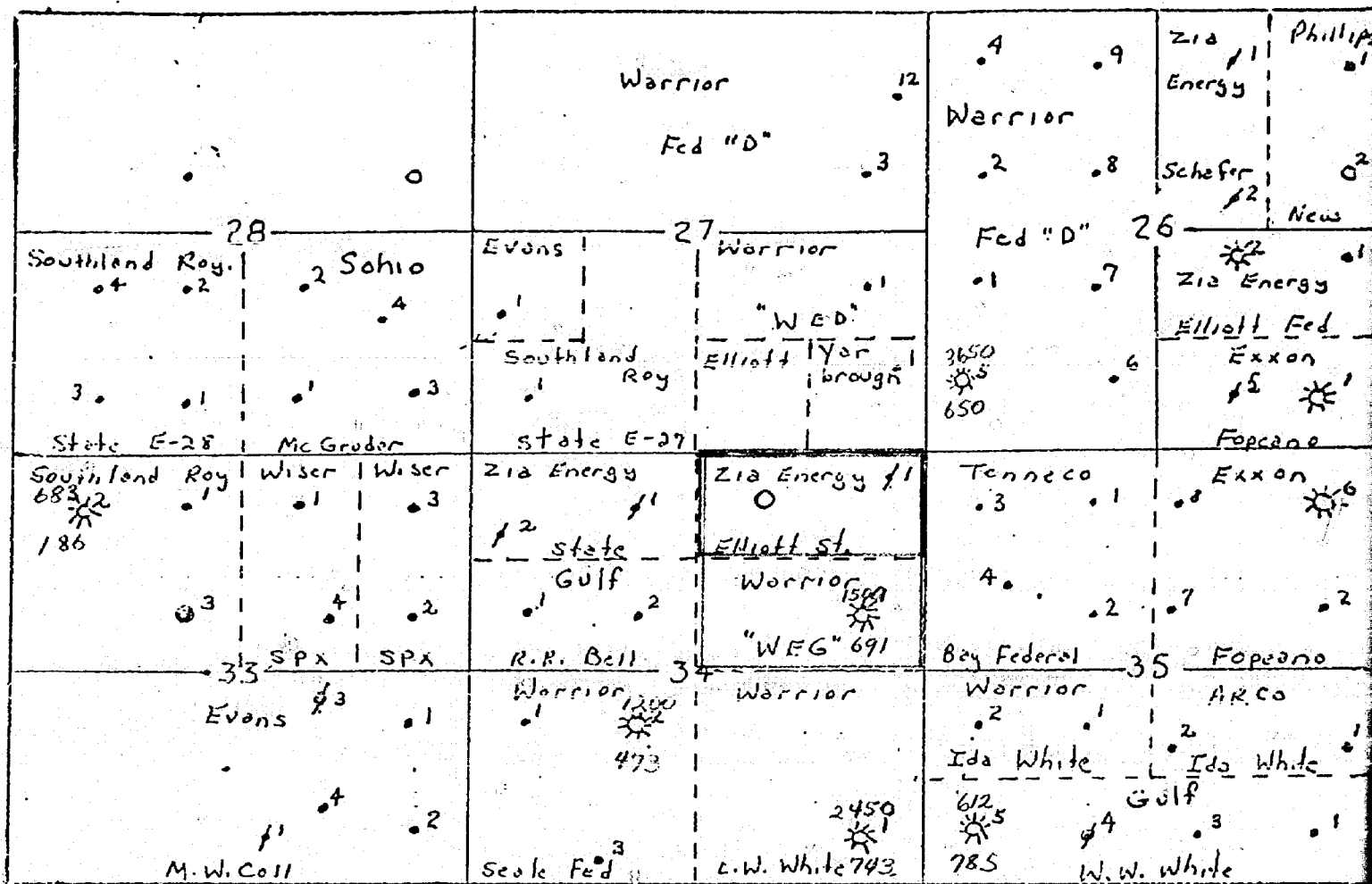


EXHIBIT "H"



ZIA ENERGY, INC.

HOBBS, NEW MEXICO 88240

ELLIOTT STATE AREA

EUMONT FIELD - T20S, R36E

Lea County, New Mexico

- State Lease No.-11298
- Zia Energy Elliott State
- Proposed Elliott State No. 2
- Eumont Oil Well
- ☀ Eumont Gas Well
- 100 Initial Potential-MCF
- ☀ Cumulative Production-MMCF
- 100

ROUGH

dr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 6429

Order No. R-5938

APPLICATION OF ZIA ENERGY, INC.,
FOR APPROVAL OF INFILL DRILLING,
LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on January 31
19 79, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this _____ day of February, 1979, the
Division Director, 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 Division has jurisdiction of this cause and the
subject matter thereof.

(2) That the applicant, Zia Energy, Inc. seeks a finding
that the drilling of its Elliott State Well No. 2 to be
located in Unit B of Section 34, Township 20 South, Range 36 East,

*do we need simultaneous
dedication? Not in this case*

Eumont Gas Pool, Lea County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

Applicant

(3) That the applicant further seeks approval of a waiver of existing well-spacing requirements.

(4) That the standard spacing unit in the Eumont Gas Pool is 640 acres.

(5) That Zia Energy, Inc. is the operator of an 80-acre tract (in said Eumont Gas Pool) consisting of the N/2 NE/4 of said Section 34.

(6) That applicant's 80-acre tract is communitized with the S/2 NE/4 of said Section 34 forming an approved 160-acre non-standard proration unit for said pool.

(7) That said 160-acre non-standard proration unit is dedicated to the Warrior Inc. State "WEG" Well No. 1 located in Unit H of said Section 34.

(8) That production from said State "WEG" Well No. 1 declined from an average monthly rate of 10,506 MCF in 1956 to 970 MCF in 1973

(9) That during 1974 said State "WEG" Well No. 1^{was} extensively worked over being cleaned out, having additional zones perforated, and being acid fraced.

(10) That said workover was unsuccessful and in fact production declined to an average rate of 125 MCF per month or a figure equal to about 13 percent of its preworkover rate.

(11) That the evidence presented demonstrated that said State "WEG" Well No. 1 is no longer effectively and efficiently draining said dedicated 160-acre non-standard proration unit.

(12) That the evidence presented further demonstrated that the drilling and completion of applicant's said Elliott State Well No. 2 should result in the production of an additional 350,000 MCF of gas from applicant's acreage which would not otherwise be recovered from the proration unit.

(13) That such additional recovery from the nonstandard proration unit will result in such unit being more efficiently and economically drained.

(14) That said Elliott State Well No. 2 is to be drilled as an "infill" well on the existing 160-acre non-standard proration unit.

(15) That in order to permit the drainage of a portion of the reservoir covered by said 160-acre non-standard proration unit which cannot be effectively and efficiently drained by the existing well thereon, the subject application for infill drilling should be approved as an exception to the standard well spacing requirements for said Eumont Gas Pool.

IT IS THEREFORE ORDERED:

(1) That the applicant, Zia Energy, Inc., is hereby authorized to drill its Elliott State Well No. 2 to be located in Unit B of Section 34, Township 20 South, Range 36 East, as an infill well on an existing 160-acre non-standard proration unit being the NE/4 of said Section 34, Eumont Gas Pool, Lea County, New Mexico. ~~That~~ The authorization for infill drilling granted by this order is an exception to applicable well spacing requirements and is necessary to permit the drainage of a portion of the reservoir covered by the existing 160-acre non-standard proration unit which cannot efficiently and economically be drained by any existing well thereon.

(2) Jurisdiction