

CASE 6499: THE SUPERIOR OIL COMPANY FOR
SHELLING, BODY COUNTY, NEW

TEXAS

CASE NO.

6449

APPLICATION,
TRANSCRIPTS,
SMALL EXHIBITS,
ETC.

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

EXAMINER HEARING

IN THE MATTER OF:

Application of The Superior Oil) CASE
Company for downhole commingling,) 6449
Eddy County, New Mexico.)

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation
Division:

Lynn Teschendorf, Esq.
Legal Counsel for the Division
State Land Office Bldg.
Santa Fe, New Mexico 87503

For the Applicant:

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I N D E X

PAUL KURTH

Direct Examination by Mr. Kellahin	3
Cross Examination by Mr. Nutter	11
Redirect Examination by Mr. Kellahin	14

E X H I B I T S

Applicant Exhibit One, Plat	11
Applicant Exhibit Two, Letter	11
Applicant Exhibit Three, Sketch	11
Applicant Exhibit Four, Application	11
Applicant Exhibit Five, Order	11
Applicant Exhibit Six, P/Z plot	11
Applicant Exhibit Seven, P/Z plot	11
Applicant Exhibit Eight, Well Test	11
Applicant Exhibit Nine, Well Test	11
Applicant Exhibit Ten, Gas analysis	11
Applicant Exhibit Eleven, Gas Analysis	11
Applicant Exhibit Twelve, Memo	11
Applicant Exhibit Thirteen, Decline curves	11
Applicant Exhibit Fourteen, Decline Curves	11

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MR. NUTTER: Call Case 6449.

MS. TESCHENDORF: Case 6449. Application of The Superior Oil Company for downhole commingling, Eddy County, New Mexico.

MR. KELLAHIN: If the Examiner please, Jason Kellahin, appearing for the applicant. We have one witness to be sworn.

(Witness sworn.)

PAUL KURTH

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 state your name, please?

A My name is Paul Kurth.

Q By whom are you employed and in what position, Mr. Kurth?

A I'm employed as a Senior Production Engineer for the Superior Oil Company.

Q Have you ever testified before the Oil Conservation Division or one of its examiners?

A No, sir, I haven't.

Q For the benefit of the Examiner would you

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1 briefly outline your education and experience as an engineer?

2 A. Why, yes, sir. I graduated from the Univer-
3 sity of Texas with a degree in engineering in 1969. I
4 worked as a petroleum engineer for Texaco, Incorporated,
5 for approximately six years primarily in the Texas Gulf
6 Coast Area, and for approximately the last year I've been
7 employed as a petroleum engineer for The Superior Oil Com-
8 pany.

9 MR. KELLAHIN: Are the witness' qualifica-
10 tions acceptable?

11 MR. NUTTER: Yes, they are.

12 Q (Mr. Kellahin continuing.) Mr. Kurth, are
13 you familiar with the application of The Superior Oil Com-
14 pany in Case Number 6449?

15 A. Yes, sir, I am.

16 Q What does the applicant propose in this case?

17 A. The Superior Oil Company requests approval
18 to commingle downhole the Morrow and the Strawn gas reser-
19 voirs in our Ryan No. 1 Well.

20 And shown on Exhibit Number One is a land
21 plat, which shows the location of this well in the South
22 Carlsbad Field in Eddy County, New Mexico.

23 Q Does the exhibit also show the offsetting
24 ownership?

25 A. Yes, it does.

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1 Q To the Superior Well. Now, would you give
2 a brief summary of the history of this particular well,
3 the Ryan No. 1?

4 A Well, the Ryan No. 1 was originally com-
5 pleted in December of 1972 as a dual gas well in the Morrow
6 and Strawn, and Exhibit Number Three indicates the mechan-
7 ical configuration of the initial completion, and also that
8 is the present mechanical configuration of the well.

9 Also now, on Exhibit Four is the original
10 application that we submitted in January of 1973, for appro-
11 val to produce this dually completed well.

12 In Exhibit Number Five is the administrative
13 order, Number MC-2013, from the Oil Conservation Commission
14 of the State of New Mexico, which granted us approval to
15 produce this well.

16 Q And that resulted in the completion as shown
17 on Exhibit Three?

18 A That is correct.

19 Q All right. Now, Exhibit Number Six, would
20 you identify that exhibit?

21 A All right. Some --

22 Q Have you had a problem with the dual com-
23 pletion?

24 A Yes, sir, we have. Communication between
25 the two zones was detected during an annual packer leakage

1 test, which was run November 26 of 1978, and after we had
2 analyzed the mechanical configuration, the mechanical con-
3 dition of the well, actually, we came to the conclusion that
4 simple repairs by wireline work were not feasible, due to
5 some obstructions in the tubing, and we also believe the
6 tubing to be corkscrewed and were unable to -- the work, to
7 do it properly with wireline tools.

8 And we also believe that the mechanical risk
9 and the hazard involved in pulling both strings of tubing
10 and both of the compression-type packers is not justified.

11 Q Could it result in the loss of the well?

12 A Yes, it certainly could. We believe that
13 the mechanical risk involved in trying to repair the well
14 by pulling both strings of pipe could result in the loss of
15 the wellbore, and this would result in the loss of 1065-
16 million cubic feet of gas reserves.

17 As indicated on Exhibit Number Six and Ex-
18 hibit Number Seven, we have the P/Z plots of the two -- two
19 reservoirs, and indicates the remaining reserves for the --
20 for the Morrow reservoir of being 1.5 Bcf, roughly, and
21 about 89-million cubic feet for the Strawn.

22 Q Now, referring to Exhibit Number Eight, would
23 you identify that exhibit?

24 A Exhibit Number Eight is the well test that
25 we conducted on both the zones, January the 15th, 1979, and

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1 from this well test data we calculated the flowing bottom
2 hole pressures of both the zones and for the Morrow, it
3 was calculated to be 642 psi at the center of perforations,
4 which is 11,755 feet; and for the Strawn, which was 611 psia
5 at center of perforations, which was 10,492 feet.

6 Q Now have you obtained gas samples on the
7 two zones?

8 A Yes, we have. Exhibits Ten and Eleven are
9 the gas samples which were collected on both zones in
10 January, 1977, and indicates that the gas is compatible
11 if it was commingled; we're certain it already is commingled
12 downstream. We have a common purchaser for both the zones
13 already, so it's our opinion that there will be no problem
14 with compatibility if these are commingled downhole.

15 Q Now, Exhibit Number Thirteen, would you
16 identify that exhibit?

17 A Okay. Let's see, I believe that's Exhibit
18 Twelve, is it not, on the --

19 Q I'm sorry.

20 A On the royalty ownership?

21 MR. NUTTER: I think we're going to have to
22 start at the beginning and renumber these. I'm not fol-
23 lowing your numbers at all.

24 MR. KELLAHIN: Mr. Nutter, I think they're
25 correct and the other pack that I gave you are correctly

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1 numbered. I think Lynn has those correct numbers there.

2 (There followed a discussion
3 off the record.)

4 MR. NUTTER: Ten and Eleven were the gas
5 analyses, right?

6 A Let's see, I think the one copy that you
7 have, Mr. Examiner, is incorrect, and all the rest of the
8 copies are correct, and that's unfortunate.

9 MR. KELLAHIN: I gave you two sets; two of
10 them are correct.

11 MR. NUTTER: Okay.

12 MR. KELLAHIN: The one with the stamp on it
13 is not correct.

14 MR. NUTTER: Okay. The official set is
15 wrong, though.

16 A Yes, sir, the official set is wrong. Do we
17 need to back up, then, to covering points, Mr. Examiner,
18 or to clarify anything in there?

19 (There followed a discussion
20 off the record.)

21 MR. NUTTER: State again what Exhibit Number
22 Twelve is, please.

23 A Exhibit Number Twelve is a memo indicating
24 that the royalty ownership of both the Strawn and Morrow
25 formations in the Ryan No. 1 wellbore are common, and also

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1 the fact that the working interests of both the zones in
2 question on the wellbore are common.

3 Q (Mr. Kellahin continuing.) Now, Exhibit
4 Number Thirteen and Fourteen, would you identify those?

5 A Exhibit Thirteen and Fourteen are the pro-
6 duction decline curves for the two zones in question, Ex-
7 hibit Thirteen being the Morrow, which indicates that we had
8 a very definite decline rate, a constant decline rate, on
9 the well.

10 As indicated on there, after the packer
11 leakage test, which was run in November of 1977, apparently
12 December or so of that year is when our problem started
13 according to that production decline curve.

14 As you see, also on Exhibit Fourteen for the
15 Strawn, it correlates quite nicely. We had a nice decline
16 coming down until such time as we apparently had communica-
17 tion develop sometime, I'd say, in December of 1977.

18 Q Now, in order to recover the remaining re-
19 serves without possibly losing that hole, you propose to
20 commingle this production.

21 A That is correct, sir.

22 Q Have you arrived at any proposal on how pro-
23 duction would be allocated to the two zones?

24 A Yes, sir, we do plan to allocate the pro-
25 duction back to the two zones based upon the production de-

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1 cline curves, and in our P/Z data, when we reach a point of
2 abandonment of the Strawn zone, at that point, well, we'll
3 just allocate all the production back to the Morrow reservoir.

4 Q Now in your opinion will approval of this
5 application for commingling prolong the life, productive
6 life, of this well?

7 A Yes, it will.

8 Q Will it result in the recovery of hydrocar-
9 bons that would not otherwise be recovered?

10 A Yes, we go on the assumption that we could
11 possibly lose the wellbore due to our mechanical problems
12 if we attempt to repair; that if we produce the well the
13 way it is, we believe that we will be able to produce all
14 the reserves that belong to this wellbore.

15 Q Now with common ownership as to both zones,
16 does that include the overriding royalties, too?

17 A That is correct.

18 Q So the correlative rights of all parties
19 would be fully protected?

20 A That is correct.

21 Q And were Exhibits One through Fourteen pre-
22 pared by you or under your supervision?

23 A That is correct.

24 MR. KELLAHIN: At this time we'd like to
25 offer Exhibits One through Fourteen, inclusive, which I will

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1 properly mark at the recess.

2 MR. NUTTER: Exhibits One through Fourteen
3 will be admitted in evidence.

4
5 CROSS EXAMINATION

6 BY MR. NUTTER:

7 Q Mr. Kurth, now how is it that you're going
8 to allocate production here between these two zones?

9 A We propose to just take the production de-
10 cline curves on Exhibit Thirteen and Fourteen and based
11 upon those production declines and those forecasts, we'll
12 just allocate the production back, you know, to each -- to
13 each reservoir.

14 Q Based on remaining reserves in each --

15 A On remaining reserves, and at such time as
16 the Strawn, which is very near the point of abandonment, at
17 that point in time we'll allocate everthing back to the
18 Morrow.

19 Q Well, I notice here on your Exhibit -- these
20 exhibits that show the remaining reserves, you have 1.566-
21 billion in the Morrow and you have .89-billion in the Strawn
22 is that correct?

23 A That is correct, sir.

24 Q However, they're taken down to different de-
25 cline -- or different abandonment pressures. If they're

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1 commingled would this be proper?

2 A No, sir, it would not be. We based this
3 strictly on the fact that it was not commingled. And all
4 the data that we present here was prior to November of
5 1977, so all of our bottom hole pressure data is prior to
6 that time. This assumes that they're not commingled.

7 Q I see, so this is backing up to the time that
8 the packer leakage test failed?

9 A That is correct, sir.

10 Q Uh-huh. Now, on your Exhibits Thirteen and
11 Fourteen, which are the production decline curves, it ap-
12 pears that when the packer failed production dropped drasti-
13 cally in the Morrow and increased in the Strawn, so this
14 was actually Morrow gas coming out of the Strawn completion,
15 I guess.

16 A That is correct. In fact, I don't have the
17 tables to show you here, but I just went through and added
18 up the production, and if you add the production up that
19 you see from the two zones, it is very close to what we'd
20 anticipate from the decline curves.

21 Q It would fall right on the combined decline
22 curves.

23 A Yes, sir.

24 Q Do you have any idea where this leak is?

25 A We -- all we know right now is it's obviously

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1 below the top compression packer. We really have no idea
2 except it's down below that point. As they set in another
3 compression packer down in the wellbore, as you can see on
4 the wellbore diagram on Exhibit Number Three, and which
5 kind of complicated any possible repairs we had, and we
6 got such a large distance, over 1000 feet between those two
7 compression packers, and apparently when they set down with
8 those, they poked through the tubing, so we don't know if
9 we have a split down there or exactly what our problem is.

10 Q Now which are the compression packers?

11 A The Model "K" packer at 10,386, and then the
12 we have a Baker Model "A" packer at 11,482.

13 It's the top two packers, though.

14 Q Okay. And then there's a retrievable packer
15 down at 11,610.

16 A That's --

17 Q No, no.

18 A That's a Model "D".

19 Q That's a Model "D" packer.

20 A Yeah, that is correct. That retrievable is --

21 Q That shouldn't be there, should it?

22 A That is correct, that shouldn't be there.

23 That was typed on there, this is a wellbore diagram that
24 we used back in -- that was used back in 1973 when we made
25 the application, and that should be a Model "D" permanent

1 packer.

2 MR. NUTTER: Are there any further questions
3 of the witness? He may be excused.

4 Do you have anything further, Mr. Kellahin?

5 MR. KELLAHIN: That's all I have, Mr. Nutter,
6 thank you.

7 MR. NUTTER: Does anyone have anything they
8 wish to offer in Case Number 6449?

9 We'll take the case under advisement and
10 a fifteen minute recess.

11 (Thereupon after the
12 recess the following proceedings
13 were had, to-wit:)

14
15 MR. KELLAHIN: I'd like to call Mr. Kurth
16 back for a couple of questions.

17 MR. NUTTER: Okay. The hearing will come
18 to order, please.

19 We'll recall Case 6449.

20 MR. KELLAHIN: Thank you.

21
22 PAUL KURTH

23 being recalled as a witness and having been previously
24 sworn, testified as follows, to-wit:

25

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REDIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Kurth, have you made a check of the static and flowing pressures of the two zones involved in the commingling application?

A Yes, sir, we have. We have extrapolated from our P/Z data what the static bottom hole pressure of the Morrow reservoir is, as of 1-1-79, and that was 2403 psia.

We did the same thing using the P/Z data for the Strawn and that came out to be 976 psia.

And the flowing bottom hole pressures which we calculated based upon the January 15th, 1979 test data were 642 psia for the Morrow and 611 psia for the Strawn, and this indicates to us that while the well is flowing there will be no transfer of gas from the higher pressure Morrow sand to the lower pressure Strawn.

MR. KELLAHIN: That's all I have, thank you.

MR. NUTTER: Are there any further questions of Mr. Kurth? He may be excused.

MR. NUTTER: Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: That's all, thank you.

MR. NUTTER: We will take Case Number 6449 under advisement. (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 the said transcript is a full, true, and correct
record of the hearing, prepared by me to the best of my
ability, knowledge, and skill, from my notes taken at the
time of the hearing.

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Carmel, N.Y. New Mexico 87501

Sally W. Boyd CSR
Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is
a complete and correct transcript of the proceedings in
the Ex. Div. hearing of Case No. 6449
heard by me on 2/14 1977.

[Signature], Examiner
Oil Conservation Division

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

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Eddy County, New Mexico.

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BEFORE: Daniel S. Nutter

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A P P E A R A N C E S

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I N D E X

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E X H I B I T S

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MR. NUTTER: Call Case 6449.

MS. TESCHENDORF: Case 6449. Application of
The Superior Oil Company for downhole commingling, Eddy
County, New Mexico.

MR. KELLAHIN: If the Examiner please, Jason
Kellahin, appearing for the applicant. We have one witness
to be sworn.

(Witness sworn.)

PAUL KURTH
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 state your name, please?

A My name is Paul Kurth.

Q By whom are you employed and in what posi-
tion, Mr. Kurth?

A I'm employed as a Senior Production Engineer
for the Superior Oil Company.

Q Have you ever testified before the Oil Con-
servation Division or one of its examiners?

A No, sir, I haven't.

Q For the benefit of the Examiner would you

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1 briefly outline your education and experience as an engineer?

2 A Why, yes, sir. I graduated from the Univer-
3 sity of Texas with a degree in engineering in 1969. I
4 worked as a petroleum engineer for Texaco, Incorporated,
5 for approximately six years primarily in the Texas Gulf
6 Coast Area, and for approximately the last year I've been
7 employed as a petroleum engineer for The Superior Oil Com-
8 pany.

9 MR. KELLAHIN: Are the witness' qualifica-
10 tions acceptable?

11 MR. NUTTER: Yes, they are.

12 Q (Mr. Kellahin continuing.) Mr. Kurth, are
13 you familiar with the application of The Superior Oil Com-
14 pany in Case Number 6449?

15 A Yes, sir, I am.

16 Q What does the applicant propose in this case?

17 A The Superior Oil Company requests approval
18 to commingle downhole the Morrow and the Strawn gas reser-
19 voirs in our Ryan No. 1 Well.

20 And shown on Exhibit Number One is a land
21 plat, which shows the location of this well in the South
22 Carlsbad Field in Eddy County, New Mexico.

23 Q Does the exhibit also show the offsetting
24 ownership?

25 A Yes, it does.

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1 Q To the Superior Well. Now, would you give
2 a brief summary of the history of this particular well,
3 the Ryan No. 1?

4 A Well, the Ryan No. 1 was originally com-
5 pleted in December of 1972 as a dual gas well in the Morrow
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7 ical configuration of the initial completion, and also that
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10 application that we submitted in January of 1973, for appro-
11 val to produce this dually completed well.

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13 order, Number MC-2013, from the Oil Conservation Commission
14 of the State of New Mexico, which granted us approval to
15 produce this well.

16 Q And that resulted in the completion as shown
17 on Exhibit Three?

18 A That is correct.

19 Q All right. Now, Exhibit Number Six, would
20 you identify that exhibit?

21 A All right. Some --

22 Q Have you had a problem with the dual com-
23 pletion?

24 A Yes, sir, we have. Communication between
25 the two zones was detected during an annual packer leakage

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1 test, which was run November 26 of 1978, and after we had
2 analyzed the mechanical configuration, the mechanical con-
3 dition of the well, actually, we came to the conclusion that
4 simple repairs by wireline work were not feasible, due to
5 some obstructions in the tubing, and we also believe the
6 tubing to be corkscrewed and were unable to -- the work, to
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23 you identify that exhibit?

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2 hole pressures of both the zones and for the Morrow, it
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12 downstream. We have a common purchaser for both the zones
13 already, so it's our opinion that there will be no problem
14 with compatibility if these are commingled downhole.

15 Q Now, Exhibit Number Thirteen, would you
16 identify that exhibit?

17 A Okay. Let's see, I believe that's Exhibit
18 Twelve, is it not, on the --

19 Q I'm sorry.

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22 start at the beginning and renumber these. I'm not fol-
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2 (There followed a discussion
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5 analyses, right?

6 A Let's see, I think the one copy that you
7 have, Mr. Examiner, is incorrect, and all the rest of the
8 copies are correct, and that's unfortunate.

9 MR. KELLAHIN: I gave you two sets; two of
10 them are correct.

11 MR. NUTTER: Okay.

12 MR. KELLAHIN: The one with the stamp on it
13 is not correct.

14 MR. NUTTER: Okay. The official set is
15 wrong, though.

16 A Yes, sir, the official set is wrong. Do we
17 need to back up, then, to covering points, Mr. Examiner,
18 or to clarify anything in there?

19 (There followed a discussion
20 off the record.)

21 MR. NUTTER: State again what Exhibit Number
22 Twelve is, please.

23 A Exhibit Number Twelve is a memo indicating
24 that the royalty ownership of both the Strawn and Morrow
25 formations in the Ryan No. 1 wellbore are common, and also

1 the fact that the working interests of both the zones in
2 question on the wellbore are common.

3 Q (Mr. Kellahin continuing.) Now, Exhibit
4 Number Thirteen and Fourteen, would you identify those?

5 A Exhibit Thirteen and Fourteen are the pro-
6 duction decline curves for the two zones in question, Ex-
7 hibit Thirteen being the Morrow, which indicates that we had
8 a very definite decline rate, a constant decline rate, on
9 the well.

10 As indicated on there, after the packer
11 leakage test, which was run in November of 1977, apparently
12 December or so of that year is when our problem started
13 according to that production decline curve.

14 As you see, also on Exhibit Fourteen for the
15 Strawn, it correlates quite nicely. We had a nice decline
16 coming down until such time as we apparently had communica-
17 tion develop sometime, I'd say, in December of 1977.

18 Q Now, in order to recover the remaining re-
19 serves without possibly losing that hole, you propose to
20 commingle this production.

21 A That is correct, sir.

22 Q Have you arrived at any proposal on how pro-
23 duction would be allocated to the two zones?

24 A Yes, sir, we do plan to allocate the pro-
25 duction back to the two zones based upon the production de-

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CERTIFIED SHORTHAND REPORTER
2020 1/2 mi. E. Hwy. 66 (S) 471-2402
Santa Fe, New Mexico 87501

1 cline curves, and in our P/Z data, when we reach a point of
2 abandonment of the Strawn zone, at that point, well, we'll
3 just allocate all the production back to the Morrow reservoir.

4 Q Now in your opinion will approval of this
5 application for commingling prolong the life, productive
6 life, of this well?

7 A Yes, it will.

8 Q Will it result in the recovery of hydrocar-
9 bons that would not otherwise be recovered?

10 A Yes, we go on the assumption that we could
11 possibly lose the wellbore due to our mechanical problems
12 if we attempt to repair; that if we produce the well the
13 way it is, we believe that we will be able to produce all
14 the reserves that belong to this wellbore.

15 Q Now with common ownership as to both zones,
16 does that include the overriding royalties, too?

17 A That is correct.

18 Q So the correlative rights of all parties
19 would be fully protected?

20 A That is correct.

21 Q And were Exhibits One through Fourteen pre-
22 pared by you or under your supervision?

23 A That is correct.

24 MR. KELLAHIN: At this time we'd like to
25 offer Exhibits One through Fourteen, inclusive, which I will

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CERTIFIED SHORTHAND REPORTER
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Santa Fe, New Mexico 87501

properly mark at the recess.

MR. NUTTER: Exhibits One through Fourteen will be admitted in evidence.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Kurth, now how is it that you're going to allocate production here between these two zones?

A We propose to just take the production decline curves on Exhibit Thirteen and Fourteen and based upon those production declines and those forecasts, we'll just allocate the production back, you know, to each -- to each reservoir.

Q Based on remaining reserves in each --

A On remaining reserves, and at such time as the Strawn, which is very near the point of abandonment, at that point in time we'll allocate everything back to the Morrow.

Q Well, I notice here on your Exhibit -- these exhibits that show the remaining reserves, you have 1.566-billion in the Morrow and you have .89-billion in the Strawn is that correct?

A That is correct, sir.

Q However, they're taken down to different decline -- or different abandonment pressures. If they're

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3030 Van Ness (S.E.) 471-2452
Santa Fe, New Mexico 87501

1 commingled would this be proper?

2 A No, sir, it would not be. We based this
3 strictly on the fact that it was not commingled. And all
4 the data that we present here was prior to November of
5 1977, so all of our bottom hole pressure data is prior to
6 that time. This assumes that they're not commingled.

7 Q I see, so this is backing up to the time that
8 the packer leakage test failed?

9 A That is correct, sir.

10 Q Uh-huh. Now, on your Exhibits Thirteen and
11 Fourteen, which are the production decline curves, it ap-
12 pears that when the packer failed production dropped drasti-
13 cally in the Morrow and increased in the Strawn, so this
14 was actually Morrow gas coming out of the Strawn completion,
15 I guess.

16 A That is correct. In fact, I don't have the
17 tables to show you here, but I just went through and added
18 up the production, and if you add the production up that
19 you see from the two zones, it is very close to what we'd
20 anticipate from the decline curves.

21 Q It would fall right on the combined decline
22 curves.

23 A Yes, sir.

24 Q Do you have any idea where this leak is?

25 A We -- all we know right now is it's obviously

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Santa Fe, New Mexico 87501

SALLY WALTON BOYD
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2020 Plaza Blanca (G08) 471-2482
San Antonio, Texas 78201

1 below the top compression packer. We really have no idea
2 except it's down below that point. As they set in another
3 compression packer down in the wellbore, as you can see on
4 the wellbore diagram on Exhibit Number Three, and which
5 kind of complicated any possible repairs we had, and we
6 got such a large distance, over 1000 feet between those two
7 compression packers, and apparently when they set down with
8 those, they poked through the tubing, so we don't know if
9 we have split down there or exactly what our problem is.

10 Q Now which are the compression packers?

11 A The Model "K" packer at 10,386, and then the
12 we have a Baker Model "A" packer at 11,482.

13 It's the top two packers, though.

14 Q Okay. And then there's a retrievable packer
15 down at 11,610.

16 A That's --

17 Q No, no.

18 A That's a Model "D".

19 Q That's a Model "D" packer.

20 A Yeah, that is correct. That retrievable is --

21 Q That shouldn't be there, should it?

22 A That is correct, that shouldn't be there.

23 That was typed on there, this is a wellbore diagram that
24 we used back in -- that was used back in 1973 when we made
25 the application, and that should be a Model "D" permanent

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
2020 Pauline Avenue (909) 471-2463
Santa Fe, New Mexico 87501

1 packer.

2 MR. NUTTER: Are there any further questions
3 of the witness? He may be excused.

4 Do you have anything further, Mr. Kellahin?

5 MR. KELLAHIN: That's all I have, Mr. Nutter,
6 thank you.

7 MR. NUTTER: Does anyone have anything they
8 wish to offer in Case Number 6449?

9 We'll take the case under advisement and
10 a fifteen minute recess.

11 (Thereupon after the
12 recess the following proceedings
13 were had, to-wit:)

14 MR. KELLAHIN: I'd like to call Mr. Kurth
15 back for a couple of questions.

16 MR. NUTTER: Okay. The hearing will come
17 to order, please.

18 We'll recall Case 6449.

19 MR. KELLAHIN: Thank you.

20 PAUL KURTH

21 being recalled as a witness and having been previously
22 sworn, testified as follows, to-wit:
23
24
25

REDIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Kurth, have you made a check of the static and flowing pressures of the two zones involved in the commingling application?

A Yes, sir, we have. We have extrapolated from our P/Z data what the static bottom hole pressure of the Morrow reservoir is, as of 1-1-79, and that was 2403 psia.

We did the same thing using the P/Z data for the Strawn and that came out to be 976 psia.

And the flowing bottom hole pressures which we calculated based upon the January 15th, 1979 test data were 642 psia for the Morrow and 611 psia for the Strawn, and this indicates to us that while the well is flowing there will be no transfer of gas from the higher pressure Morrow sand to the lower pressure Strawn.

MR. KELLAHIN: That's all I have, thank you.

MR. NUTTER: Are there any further questions of Mr. Kurth? He may be excused.

MR. NUTTER: Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: That's all, thank you.

MR. NUTTER: We will take Case Number 6449 under advisement. (Hearing concluded.)

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
3030 Plaza Blanca (505) 471-2402
Santa Fe, New Mexico 87501

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 the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability, knowledge, and skill, from my notes taken at the time of the hearing.

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
208 Plaza Blanca (S.W.) 471-2462
Santa Fe, New Mexico 87501

Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is
a complete and true transcript of the proceedings in
the Examination of Case No. 6449
heard by me on 4/19/79
[Signature], Examiner
Oil Conservation Division



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

JERRY APODACA

NICK FRANKLIN
SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

March 6, 1979

Mr. Jason Kellahin
Kellahin & Kellahin
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: CASE NO. 6449
ORDER NO. ~~R-5934~~

Applicant:

The Superior Oil Company

Dear Sir:

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

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCC X
 Artesia OCC X
 Aztec OCC

Other

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. 6449
Order No. R-5934

APPLICATION OF THE SUPERIOR OIL COMPANY
FOR DOWNHOLE COMMINGLING, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on February 14, 1979, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

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, The Superior Oil Company, is the owner and operator of the Ryan Com. Well No. 1, located in Unit D of Section 5, Township 23 South, Range 27 East, NMPM, South Carlisbad Field, Eddy County, New Mexico.

(3) That the applicant seeks authority to commingle Strawn and Morrow production within the wellbore of the above-described well.

(4) That from the Strawn zone, the subject well is capable of low marginal production only.

(5) That from the Morrow zone, the subject well is capable of low marginal production only.

(6) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

-2-

Case No. 6449
Order No. R-5934

(7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(8) That to afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Artesia district office of the Division any time the subject well is shut-in for 7 consecutive days.

(9) That in order to allocate the commingled production to each of the commingled zones in the subject well, 6 percent of the commingled gas production and 2 percent of the condensate production should be allocated to the Strawn zone, and 94 percent of the commingled gas production and 98 percent of the condensate production to the Morrow zone.

(10) That Division Order MC-2013, which approved the dual completion of the subject well, should be rescinded.

IT IS THEREFORE ORDERED:

(1) That the applicant, The Superior Oil Company, is hereby authorized to commingle Strawn and Morrow production within the wellbore of the Ryan Well No. 1, located in Unit D of Section 5, Township 23 South, Range 27 East, NMPM, South Carlsbad Field, Eddy County, New Mexico.

(2) That 6 percent of the commingled gas production and 2 percent of the condensate production shall be allocated to the Strawn zone and 94 percent of the commingled gas production and 98 percent of the condensate production shall be allocated to the Morrow zone.

(3) That the operator of the subject well shall immediately notify the Division's Artesia district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Division, a plan for remedial action.

(4) That Division Order MC-2013 is hereby rescinded.

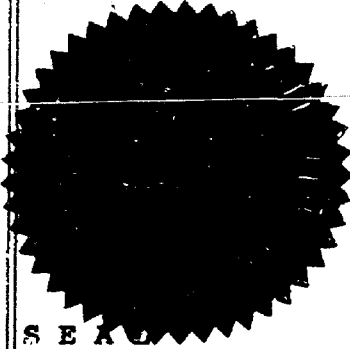
(5) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

-3-

Case No. 6449

Order No. R-5934

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



STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

Joe D. Ramey
JOE D. RAMEY
Director

S E A L

fd/

THE SUPERIOR OIL COMPANY

P. O. BOX 71

CONROE, TEXAS 77301

January 30, 1979

BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION
<i>Superior</i> EXHIBIT NO. <u>II</u>
CASE NO. <u>6499</u>

TO: All Offset Operators (List Attached)

RE: The Superior Oil Company's (87.493% WI)
320-Acre Gas Unit, N/2 Section 5, T23S/R27E
South Carlsbad Field, Eddy County, New Mexico

Gentlemen:

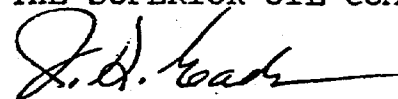
We herewith notify you as operator of mineral interests adjacent to the above referenced property that a hearing has been scheduled February 14 in Sante Fe before the New Mexico Oil Conservation Commission to consider application to commingle gas production downhole from the Strawn and Morrow zones in the well bore of The Superior Oil Company's Ryan Community #1-D Well.

A recent packer leakage test indicated communication between zones on this dually completed well. We plan to continue producing both gas zones through the LT tubing string until the small remaining reserves are depleted. We cannot justify the expense of a major workover involving the pulling and repair of both tubing strings and packers for the small reserves remaining.

Please feel free to call us at (713) 539-1771 if you wish to discuss our plans or need additional information.

Yours very truly,

THE SUPERIOR OIL COMPANY



J. S. Eads
Manager Western Division

JSE/FHS:ps
Attachment

bc w/att.: Mr. Jason W. Kellahi
Kellahin and Fox
P. O. Box 1769
Sante Fe, New Mexico

RYAN NO. 1

SOUTH CARLSBAD FIELD
EDDY COUNTY, NEW MEXICO

EXHIBIT NO. II

Pat Timmons (Hou.), W. N. Mosley (Hou.),
Jim Harrison, Regulatory Group, Central File

OFFSET OPERATORS

to

The Superior Oil Company
320-Acre Gas Unit
N/2 Sec. 5, T23S/R27E
South Carlsbad Field
Eddy County, New Mexico

Cities Service Company
Post Office Box 1919
Midland, Texas 79702

Cotton Petroleum Corporation
One Williams Center, Suite 4200
Tulsa, Oklahoma 74103

Mobil Oil Corporation
Post Office Box 820
Roswell, New Mexico 88201

Phillips Petroleum Company
Frank Phillips Building
Bartlesville, Oklahoma 74004
Attention: Mr. C. G. Eaheart,
Production Manager

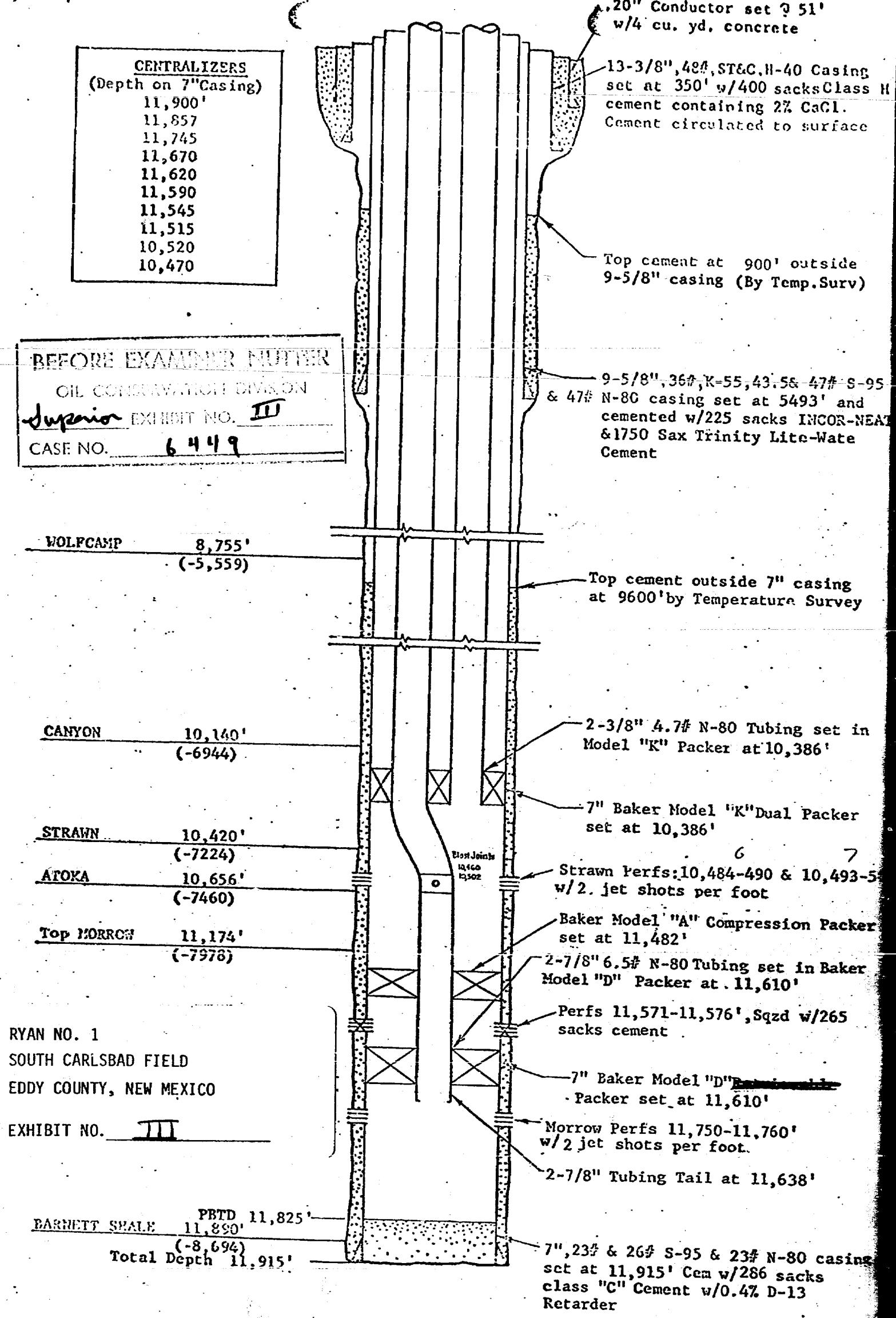
Pennzoil Company
Post Office Box 1828
Midland, Texas 79701
Attention: Mr. C. A. Brown,
Div. Prod. Manager

~~Morris R. Antweil~~
~~Post Office Box 2010~~
~~Hobbs, New Mexico 88240~~

Delta Drilling Company
P. O. Box 866
Odessa, Texas 79760
Attention: Mr. John A. Coon,
Production

CENTRALIZERS	
(Depth on 7" Casing)	
11,900'	
11,857	
11,745	
11,670	
11,620	
11,590	
11,545	
11,515	
10,520	
10,470	

BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION
Superior EXHIBIT NO. III
CASE NO. 6449



DIAGRAMMATIC SKETCH OF DUAL COMPLETION INSTALLATION

The Superior Oil Company
RYAN UNIT NO. 1
Unit D, Section 5, 23-S, 27-E
South Carlsbad Field Area
Eddy County, New Mexico

THE SUPERIOR OIL COMPANY

P. O. BOX 1900

MIDLAND, TEXAS 79701

January 19, 1973

Mr. A. L. Porter, Jr., Secretary-Director
NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87501

Re: Dual Completion

The Superior Oil Company Ryan No. 1
(Strawn & Morrow)
990' FWL & 660' FNL
Section 5, T-23-S, R-27-E
South Carlsbad Field
Eddy County, New Mexico

BEFORE EXAMINER NUTTER

OIL CONSERVATION DIVISION

Superior EXHIBIT NO. IV

CASE NO. 6449

Dear Sir:

Attached for your review and approval is our application for dual gas completion of the Ryan No. 1 Well in the Strawn and Morrow Zones. The above well was drilled at unorthodox location under Order No. R-4369 dated August 21, 1972. The nearest dual completion to the Ryan No. 1 Well is Morris Antweil Allen No. 1 Well, approved under Order No. R-4056 dated November 6, 1970.

The Ryan No. 1 Well was completed through two strings of tubing using packers to separate the Strawn and Morrow Zones. As noted from the diagrammatic sketch, the Lower Morrow completion is producing through 2-7/8" tubing and the Upper Strawn completion is producing through 2-3/8" tubing. Date of first production for testing of said zones was December 20, 1972, for Morrow Zone and December 31, 1972, for Strawn Zone. This well is currently shut-in pending pipeline connection anticipated during January 1973.

Attached are two copies of an Application for Multiple Completion (Form C-107) along with required exhibits under Rules No. 1107 and 112-A IV for administrative approval of multiple completion. A copy of this application will be submitted to the offset operators along with waivers as required under Rule No. 112-A IV. A list of the offset operators and addresses are attached.

Yours very truly,

RYAN NO. 1

SOUTH CARLSBAD FIELD

EDDY COUNTY, NEW MEXICO

EXHIBIT NO. IV

THE SUPERIOR OIL COMPANY

T. D. Clay
T. D. Clay
Petroleum Engineer

COPY TO:
DATE:

W. N. MOSLEY

(2) J. S. MARTIN

R. G. BIESELE

WARREN HARRIS

T. D. CLAY

JAN 22 1973

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
APPLICATION FOR MULTIPLE COMPLETION

Form C-107
5-1-61

Operator: The Superior Oil Company		County Eddy	Date January 18, 1973
Address P. O. Box 1900, Midland, Texas 79701		Lease Ryan	Well No. 1
Location of Well	Unit D	Section 5	Township 23-S
			Range 27-E

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES X NO

2. If answer is yes, identify one such instance: Order No. R-4056 ; Operator Lease, and Well No.: Morris R. Antweil
Allen No. 1 Well

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Undesignated S. Carlsbad - Strawn		Undesignated S. Carlsbad - Morrow
b. Top and Bottom of Pay Section (Perforations)	10,420-10,656 (10,484-10,500)		11,174-11,690 (11,750-11,760)
c. Type of production (Oil or Gas)	Gas		Gas
d. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing

4. The following are attached. (Please check YES or NO)

Yes	No	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Waivers consenting to such multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Morris R. Antweil - Box 2010, Hobbs, New Mexico 88240

Atlantic Richfield - Box 1610, Midland, Texas 79701

Cities Service Oil Company - 700 Vaughn Bldg., Midland, Texas 79701

Mobil Oil Corporation - Box 633, Midland, Texas 79701

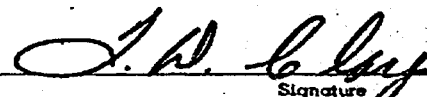
Pennzoil United, Inc. - Box 1828, Midland, Texas 79701

Pubco Petroleum Corporation - Suite B-101, Wall Towers West, Midland, Texas 79701

Phillips Petroleum Company - Phillips Building, Odessa, Texas 79761

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES X NO . If answer is yes, give date of such notification January 22., 1973

CERTIFICATE: I, the undersigned, state that I am the Agent of the The Superior Oil Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.


Signature

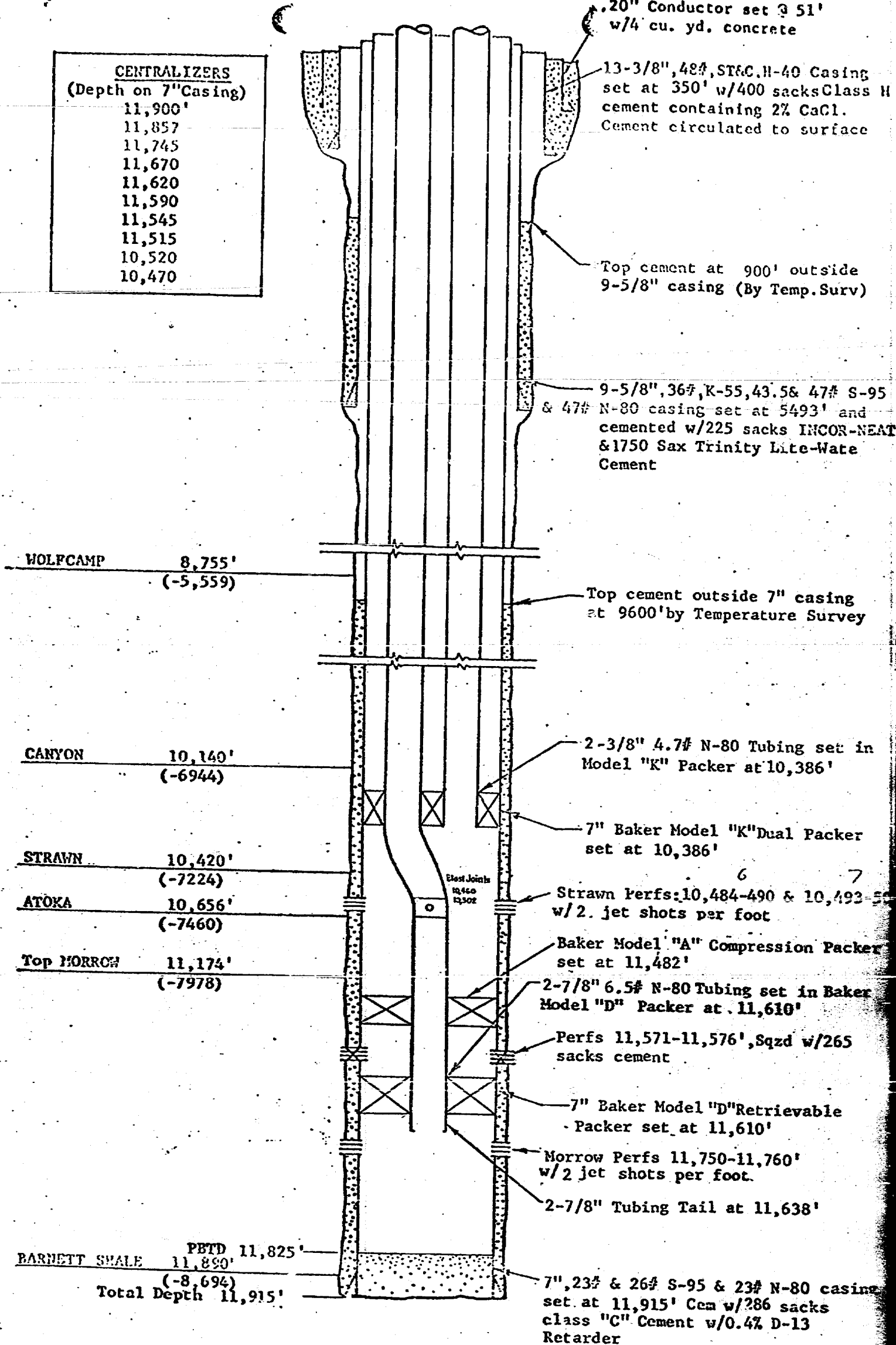
T. D. Clay

*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard perforation unit in one or more of the zones, an application for approval of the same should be filed simultaneously with this application.

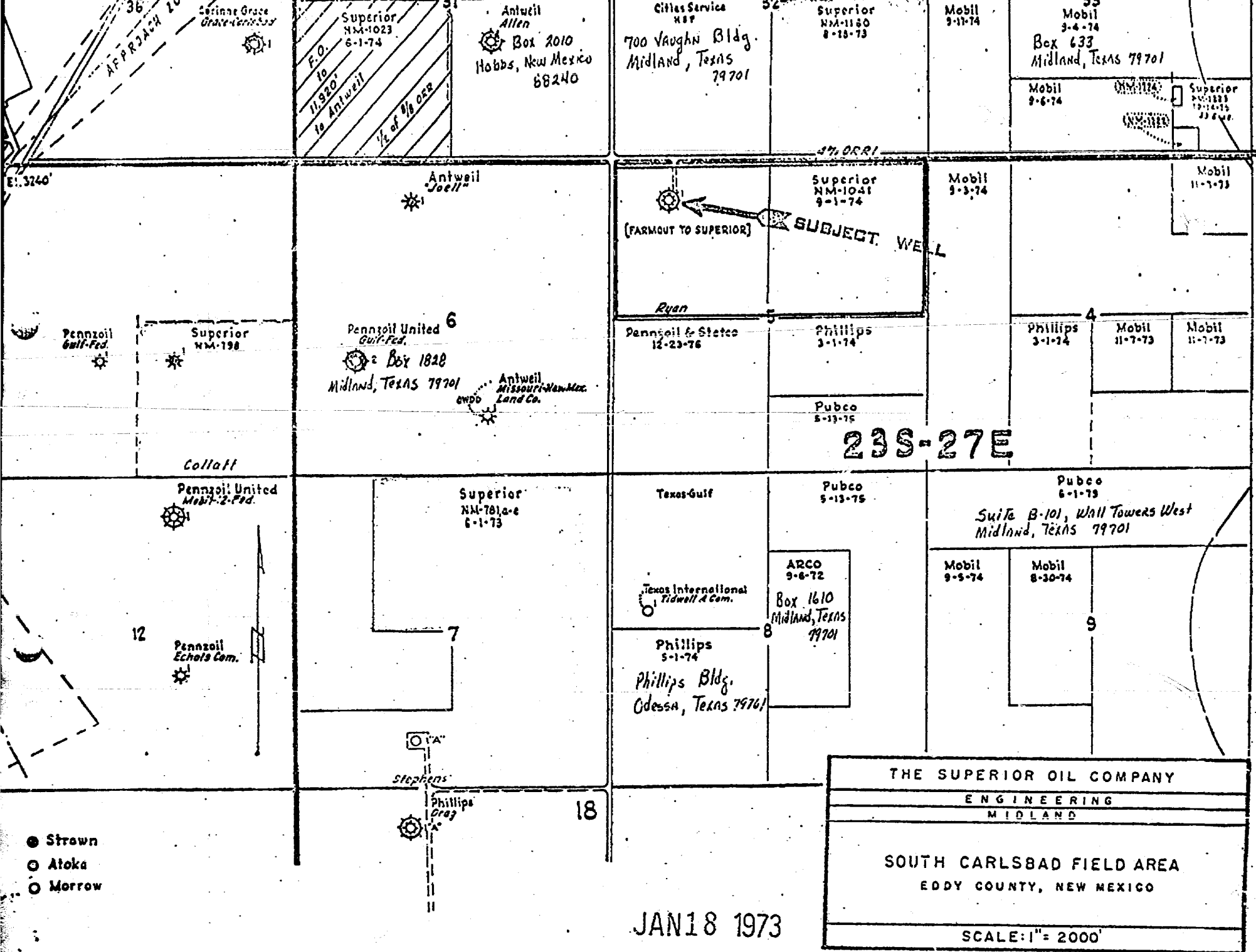
CENTRALIZERS
(Depth on 7" Casing)

11,900'
11,857
11,745
11,670
11,620
11,590
11,545
11,515
10,520
10,470



DIAGRAMMATIC SKETCH OF DUAL COMPLETION INSTALLATION

The Superior Oil Company
RYAN UNIT NO. 1
Unit D, Section 5, 23-S, 27-E
South Carlsbad Field Area
Eddy County, New Mexico



THE SUPERIOR OIL COMPANY

P. O. BOX 1900

MIDLAND, TEXAS 79701

January 19, 1973

Mr. A. L. Porter, Jr., Secretary-Director
NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87501

Re: Dual Completion
The Superior Oil Company
Ryan No. 1 (Strawn & Morrow)
990' FWL & 660' FNL
Section 5, T-23-S, R-27-E
South Carlsbad Field
Eddy County, New Mexico

Gentlemen:

The above captioned well was completed as a dual gas well in the Morrow and Strawn Zones. As noted from the diagrammatic sketch, the Ryan Well was completed through separate tubing strings using packers to separate the Strawn and Morrow Zones. The nearest dual completion is approximately 4,000 feet northwest of the Ryan Well.

If you have no objection to this dual completion, please sign below and submit a copy to the New Mexico Commission Office in Santa Fe and District Office at Artesia.

COMPANY: _____

BY: _____

DATE: _____

Morris R. Antweil
Box 2010
Hobbs, New Mexico 88240
Att: Mr. R. M. Williams or Alan Antweil

Atlantic Richfield Company
Box 1610
Midland, Texas 79701
Att: Mr. J. R. Rhotenberry

Cities Service Oil Company
700 Vaughn Building
Midland, Texas 79701
Att: Mr. E. F. Motter

Mobil Oil Corporation
Box 633
Midland, Texas 79701
Att: Mr. C. F. Underriner, Jr.

Pennzoil United, Inc.
Box 1828
Midland, Texas 79701
Att: Mr. F. Clinton Edwards

Pubco Petroleum Corporation
Suite B-101, Wall Towers West
Midland, Texas 79701
Att: Mr. Marion Causey

Phillips Petroleum Company
Phillips Building
Fourth and Washington
Odessa, Texas 79760
Att: Mr. G. W. Edwards



OIL CONSERVATION COMMISSION

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

February 11, 1973

GOVERNOR
BRUCE KING
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMJO
MEMBER

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

The Superior Oil Company
P. O. Box 1900
Midland, Texas 79701

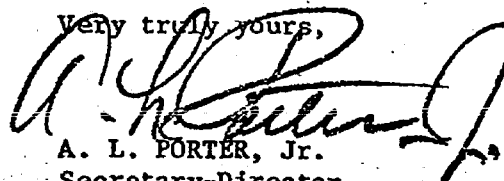
Gentlemen:

Enclosed herewith please find Administrative Order MC-2013 for the following well:

Ryan Well No. 1 located in Unit D of Section
5, Township 23 South, Range 27 East, NMPM, ✓
Eddy County, New Mexico,

to produce gas from the Strawn formation adjacent to the South
Carlsbad-Strawn Gas Pool and from the Morrow formation adjacent to
the South Carlsbad-Morrow Gas Pool.

Very truly yours,


A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/og

THE SUPERVISOR

FEB 15 1973

RYAN NO. 1
SOUTH CARLSBAD FIELD
EDDY COUNTY, NEW MEXICO
EXHIBIT NO. V

COPY TO:
DATE:

W. N. MOSLEY
E. E. BRANSON
M. L. LEIERER

BEFORE EXAMINER NUTTER	
OIL CONSERVATION DIVISION	
<i>Superior</i>	EXHIBIT NO. <u>V</u>
CASE NO.	<u>6449</u>

THE APPLICATION OF THE SUPERIOR OIL
COMPANY FOR A DUAL COMPLETION.

ORDER NO. MC-2013

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION COMMISSION

Under the provisions of Rule 112-A, The Superior Oil Company made application to the New Mexico Oil Conservation on January 22, 1973, for permission to dually complete its Ryan Well No. 1 located in Unit D of Section 5, Township 23 South, Range 27 East, N4PM, Eddy County, New Mexico, in such a manner as to produce gas from the Strawn formation adjacent to the South Carlsbad-Strawn Gas Pool and from the Morrow formation adjacent to the South Carlsbad-Morrow Gas Pool.

Now, on this 11th day of February, 1973, the Secretary-Director finds:

- (1) That application has been duly filed under the provisions of Rule 112-A of the Commission's Rules and Regulations;
- (2) That satisfactory information has been provided that all operators of offset acreage have been duly notified; and
- (3) That no objections have been received within the waiting period as prescribed by said rule.
- (4) That the proposed dual completion will not cause waste nor impair correlative rights.
- (5) That the mechanics of the proposed dual completion are feasible and consonant with good conservation practices.

IT IS THEREFORE ORDERED:

That the applicant herein, The Superior Oil Company, be and the same is hereby authorized to dually complete its Ryan Well No. 1 located in Unit D of Section 5, Township 23 South, Range 27 East, N4PM, Eddy County, New Mexico, in such a manner as to produce gas from the Strawn formation adjacent to the South Carlsbad-Strawn Gas Pool and from the Morrow formation adjacent to the South Carlsbad-Morrow Gas Pool through parallel strings of tubing.

PROVIDED HOWEVER, That applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A.

PROVIDED FURTHER, That applicant shall take packer-leakage tests upon completion and annually thereafter during the Shut-in Pressure Test Period for the South Carlsbad-Morrow Gas Pool.

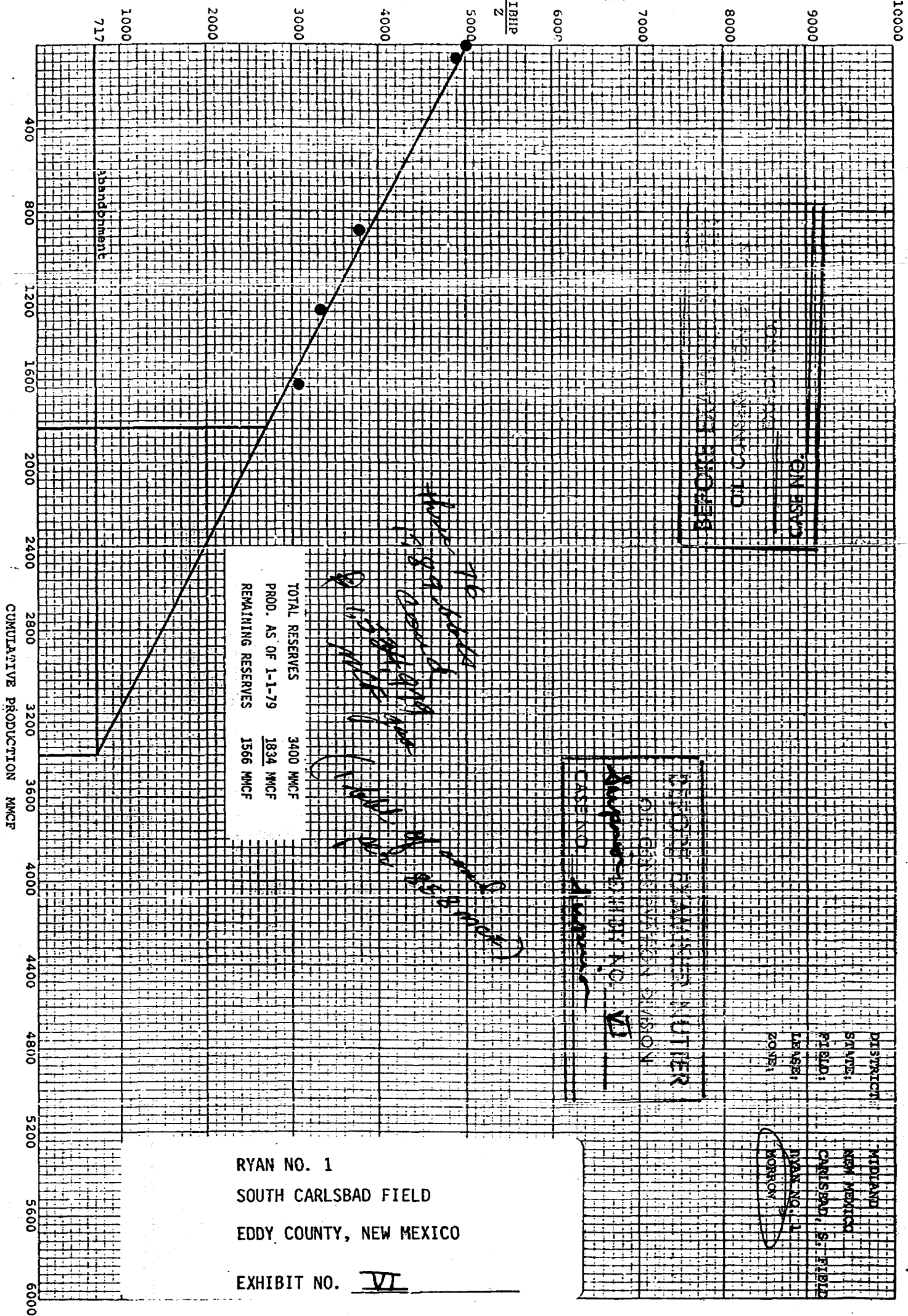
IT IS FURTHER ORDERED: That jurisdiction of this cause is hereby retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

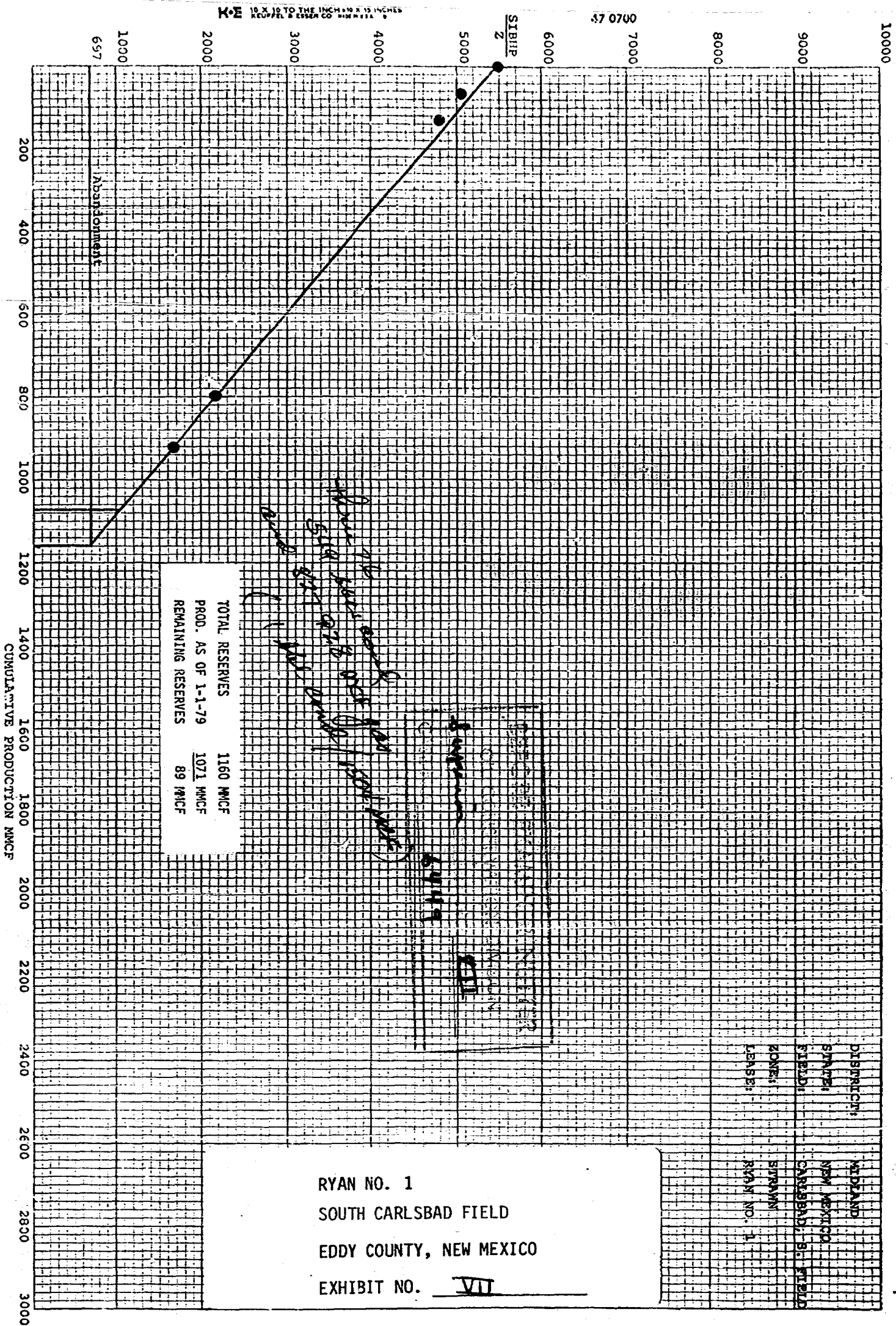

A. L. PORTER, JR.
Secretary-Director

47 0700



RYAN NO. 1
SOUTH CARLSBAD FIELD
EDDY COUNTY, NEW MEXICO

EXHIBIT NO. VI



Operator THE SUPERIOR OIL COMPANY		Pool CARLSBAD, SOUTH (MORROW)				County EDDY							
Address P. O. BOX 71,		CONROE, TEXAS		77301		TYPE OF TEST - (X) <input checked="" type="checkbox"/>		Scheduled <input type="checkbox"/>		Completion <input type="checkbox"/>		Special <input checked="" type="checkbox"/>	

LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	STATUS	CHOKE SIZE	TUB. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS - OIL RATIO CU.FT/B
		U	S	T	R							WATER BBLs.	GRAV. OIL	OIL BBLs.	GAS M.C.F.	
Ryan	1	D	5	23S	27E	1-15-79	F		480	0	24	0	52.4	0	740	--
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <p>BEFORE EXAMINER NUTTER OIL CONSERVATION DIVISION <i>Superior</i> EXHIBIT NO. <u>2011</u> CASE NO. <u>6449</u></p> </div> <div style="width: 40%; border-left: 1px solid black; padding-left: 10px;"> <p>RYAN NO. 1 SOUTH CARLSBAD FIELD EDDY COUNTY, NEW MEXICO EXHIBIT NO. <u>2011</u></p> </div> </div>																

DIST: NMOCC (2), WNM, GET, OBB, REGULATORY GROUP, CENTRAL FILE

No well will be assigned an allowable greater than the amount of oil produced on the official test.

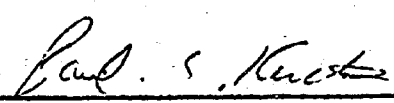
During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCP measured at a pressure base of 15,025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

I hereby certify that the above information is true and complete to the best of my knowledge and belief.


 (Signature)
Production Engineer
 (Title)

**NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS**

C-116
Revised 1-1-65

Operator THE SUPERIOR OIL COMPANY		Pool CARLSBAD, SOUTH (STRAWN)				County EDDY											
P. O. BOX 71,		CONROE, TEXAS		77301		TYPE OF TEST - (X)		Scheduled <input type="checkbox"/>		Completion <input type="checkbox"/>		Special <input checked="" type="checkbox"/>					
LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	STATUS	CHOKE SIZE	TDG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS M.C.F.	CU.FT./BBL.
		U	S	T	R							WATER BBL.	GRAV. OIL	OIL BBL.			
Ryan	1	D	1	23S	27E	1-15-79	F		480	0	24	0	52.4	0	106	--	

BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION
EXHIBIT NO. 24 TX
CASE NO. 6449

RYAN NO. 1
SOUTH CARLSBAD FIELD
EDDY COUNTY, NEW MEXICO
EXHIBIT NO. 14

DIST: NMOCC (2), WNM, GET, CBB, REGULATORY GROUP, CENTRAL FILE

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

I hereby certify that the above information is true and complete to the best of my knowledge and belief.

Paul S. Kuntz
(Signature)
Production Engineer
(Title)

THE SUPERIOR OIL COMPANY

GAS DEPARTMENT

Base Conditions:
14.65 P.S.I.A., 60°F.
(Unless otherwise noted.)

Lake Creek Lab. No. 8057

SAMPLE REPORT

File No. 30-0262-106

District Midland
Field Carlsbad South
Plant _____
Lease Ryan
Operator The Superior Oil Company
Well Number 1-27
Producing Zone Harrow
Perforated _____

Sample of Sales Gas
Separator Pressure 356 PSIG.
Separator Temperature 66 °F.
Atmospheric Temperature _____
Shipped From _____

Shipped
BEFORE EXAMINER MUTTER
Date Shipped _____
Shipped Via EXHIBIT NO. X
CASE NO. 1449

LABORATORY REPORT

Fractional Analysis				BTU and SP. GR. computed by A.G.A. method, Gas Measurement Committee Report NO. 3, 1969 Miscellaneous Tests	
Component	Mol. %	L. V. %	G. P. M.		
CO ₂	1.06			Specific Gravity @ 60° F. calc. (air=1)	0.590
O ₂				Spec. Gravity @ 60° F. deter.	0.589
N ₂	21			B. T. U./cu. ft. @ 14.73#A. 60°F calc. sat.	1020
Total Inert				" " " " " "	
H ₂ S				G5+(as gas) Sp. Gr. Ideal. (air = 1)	3.5558
Methane	95.54			G5+ BTU/cu. ft. @ 14.73#A. 60°F Ideal Dr	5350.0
Ethane	2.46				
Propane	.33		.0903		
Isobutane	.29		.0293	Sulphur	
N. Butane	.06		.0188	Hexane Plus, G. P. M. Factor	41.93
Isopentane	.05		.0182	Hexane Plus, Spec. Gr. @ 60° F.	7305
N. Pentane	.02		.0072	Hexane Plus, Mol. Weight	97.2
Hexanes Plus	.18		.0755	Hexane Plus, Cu. Ft. Vap./Gal.	23.85
TOTAL	100.00		.2393	Sep. Liq. - Cu. Ft. Vap./Gal.	

REMARKS Date of sample: JANUARY 20, 1977* Llano Rancho.H₂S: 2ppm by Superior Oil Drager Test.

RYAN NO. 1
SOUTH CARLSBAD FIELD
EDDY COUNTY, NEW MEXICO

EXHIBIT NO. X

J. R. Williams

THE SUPERIOR OIL COMPANY

GAS DEPARTMENT

Base Conditions:
14.65 P.S.I.A., 60°F.
(Unless otherwise noted.)

Lake Creek Lab. No. 8048

SAMPLE REPORT File No. 30-0262-106

District MidlandSample of Sales GasField Carlsbad SouthSeparator Pressure 355 PSIG.

Plant _____

Separator Temperature 42 °F.Lease RYAN

Atmospheric Temperature _____

BEFORE EXAMINER NUTTER
Operator The Superior Oil Company
OIL CONSERVATION DIVISION

Shipped From _____

Well Number EXHIBIT NO. XI-UT

Shipped _____

CASE NO. 6449
Producing Zone Stream

Date Shipped _____

Perforated _____

Shipped Via _____

LABORATORY REPORT

Fractional Analysis				BTU and SP. GR. computed by A.G.A. method. Gas Measurement Committee Report NO.3, 1969 Miscellaneous Tests	
Component	Mol. %	L. V. %	G. P. M.		
CO ₂	.42			Specific Gravity @ 60° F. calc. (air=1)	0.599
O ₂				Spec. Gravity @ 60° F. deter.	0.598
N ₂	.80			B. T. U./cu.ft. @ 14.73#A. 60°F calc. sat.	1041
Total Inert				" " " " " "	
H ₂ S				C6+(as gas) Sp. Gr. Ideal. (air = 1)	3.3351
Methane	93.70			C6+ BTU/cu. ft. @ 14.73#A. 60°F Ideal Dry	5318.0
Ethane	3.63				
Propane	.83		.2272		
Isobutane	.19		.0618	Sulphur	
N. Butane	.18		.0564	Hexane Plus, G. P. M. Factor	41.81
Isopentane	.08		.0291	Hexane Plus, Spec. Gr. @ 60° F.	728.0
N. Pentane	.04		.0144	Hexane Plus, Mol. Weight	96.6
Hexanes Plus	.13		.0544	Hexane Plus, Cu. Ft. Vap./Gal.	23.92
TOTAL	100.00		.4433	Sep. Liq. - Cu. Ft. Vap./Gal.	

REMARKS Date of sample: JANUARY 20, 1977

* Llano Ranney.

RYAN NO. 1
SOUTH CARLSBAD FIELD
EDDY COUNTY, NEW MEXICO
EXHIBIT NO. XI

A. B. Williams

THE SUPERIOR OIL COMPANY

INTER-OFFICE CORRESPONDENCE

TO F. H. Speers LOCATION Conroe DATE 1-26-79

FROM J. G. Owens LOCATION Houston

SUBJECT NM-1041 - M. M. Harding
 NM-1259 - F. H. Ryan, Sr.
 Ryan #1 Unit
 Carlsbad, South Field
Eddy County, New Mexico

Regarding your inquiry as to the royalty ownership in the Strawn and Morrow formations underlying the subject leases, our records indicate that the ownership is common within all the formations of Pennsylvanian Age as to such leases.

J. G. Owens
 J. G. Owens

JGO:ag

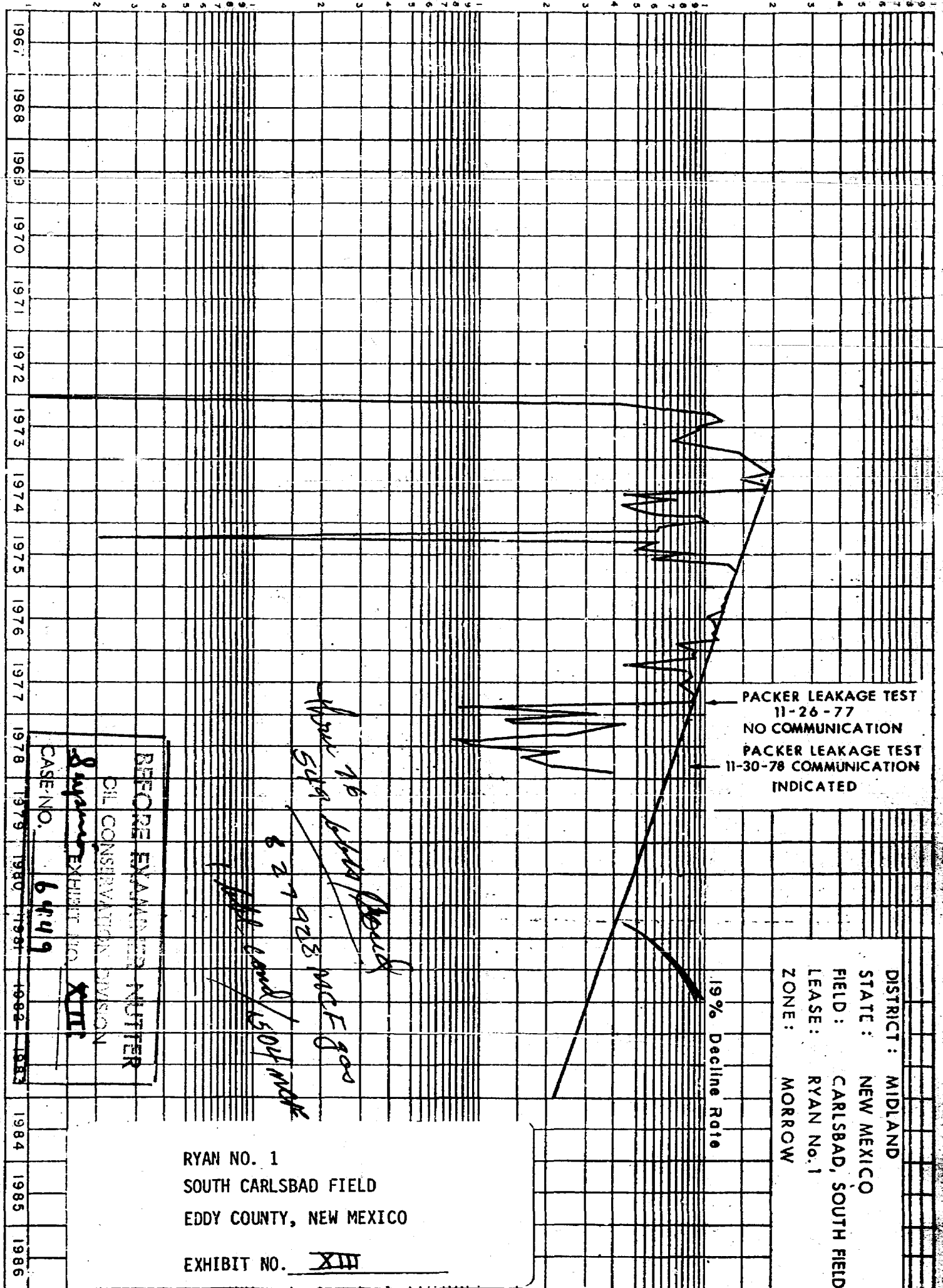
xc: Paul Kurth
 FHS File

BEFORE EXAMINER NUTTER	
OIL CONSERVATION DIVISION	
<i>Superior</i>	EXHIBIT NO. <u>811</u>
CASE NO.	<u>6449</u>

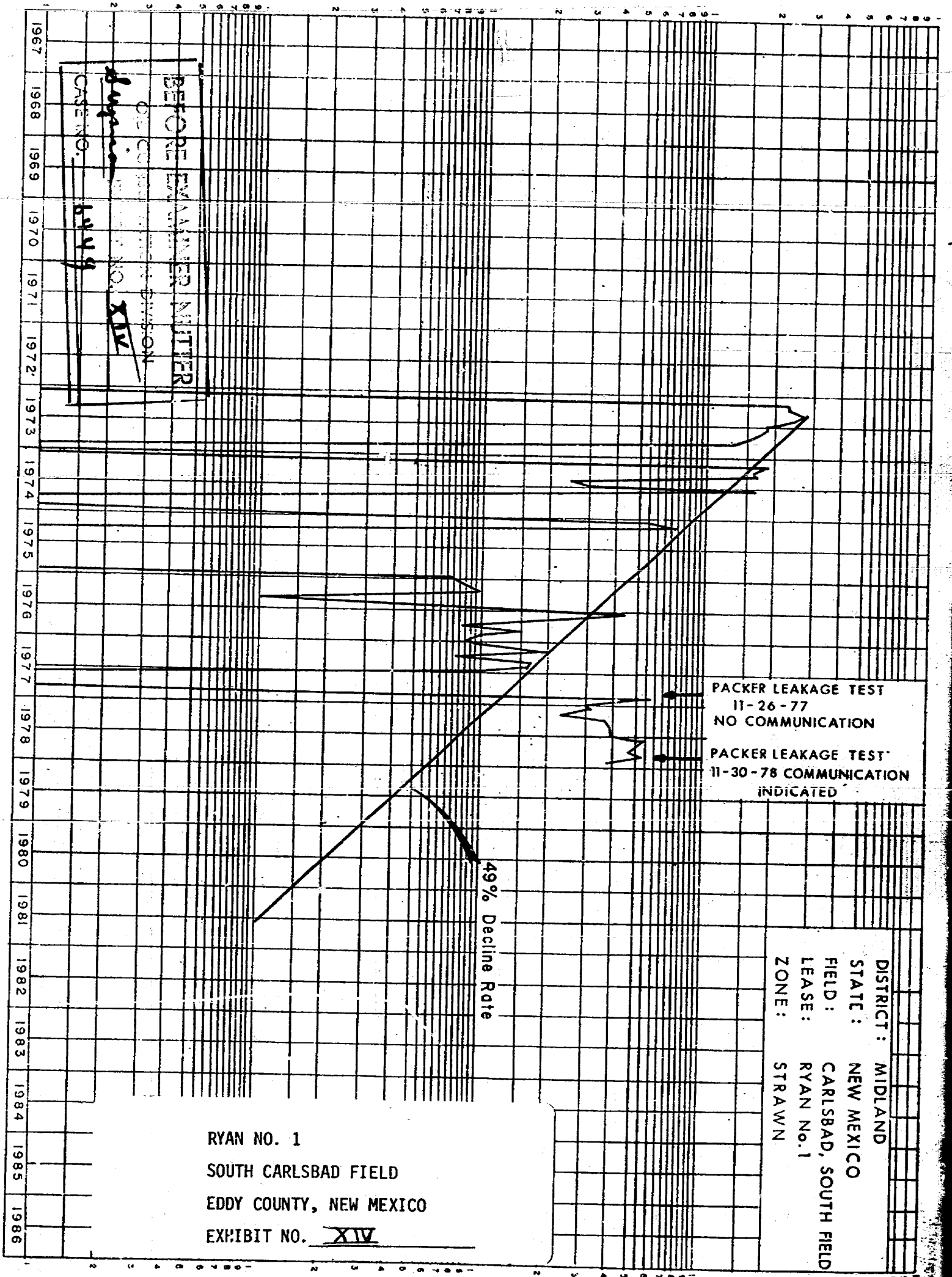
RYAN NO. 1
 SOUTH CARLSBAD FIELD
 EDDY COUNTY, NEW MEXICO
 EXHIBIT NO. XII



AVERAGE DAILY PRODUCTION RATE - MCFD



AVERAGE DAILY PRODUCTION RATE — MCFD



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. 6449
Order No. R-5934

APPLICATION OF THE SUPERIOR OIL COMPANY
FOR DOWNHOLE COMMINGLING, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on February 14, 1979, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

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, The Superior Oil Company, is the owner and operator of the Ryan Com. Well No. 1, located in Unit D of Section 5, Township 23 South, Range 27 East, NMPM, South Carlsbad Field, Eddy County, New Mexico.
- (3) That the applicant seeks authority to commingle Strawn and Morrow production within the wellbore of the above-described well.
- (4) That from the Strawn zone, the subject well is capable of low marginal production only.
- (5) That from the Morrow zone, the subject well is capable of low marginal production only.
- (6) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(8) That to afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Artesia district office of the Division any time the subject well is shut-in for 7 consecutive days.

(9) That in order to allocate the commingled production to each of the commingled zones in the subject well, 6 percent of the commingled gas production and 2 percent of the condensate production should be allocated to the Strawn zone, and 94 percent of the commingled gas production and 98 percent of the condensate production to the Morrow zone.

(10) That Division Order MC-2013, which approved the dual completion of the subject well, should be rescinded.

IT IS THEREFORE ORDERED:

(1) That the applicant, The Superior Oil Company, is hereby authorized to commingle Strawn and Morrow production within the wellbore of the Ryan Com Well No. 1, located in Unit D of Section 5, Township 23 South, Range 27 East, NMPM, South Carlsbad Field, Eddy County, New Mexico.

(2) That 6 percent of the commingled gas production and 2 percent of the condensate production shall be allocated to the Strawn zone and 94 percent of the commingled gas production and 98 percent of the condensate production shall be allocated to the Morrow zone.

(3) That the operator of the subject well shall immediately notify the Division's Artesia district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Division, a plan for remedial action.

(4) That Division Order MC-2013 is hereby rescinded.

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

-3-

Case No. 6449
Order No. R-5934

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


JOE D. RAMEY
Director

S E A L

fd/

THE SUPERIOR OIL COMPANY

P. O. BOX 71

CONROE, TEXAS 77301

January 30, 1979

TO: All Offset Operators (List Attached)

RE: The Superior Oil Company's (87.493% WI)
320-Acre Gas Unit, N/2 Section 5, T23S/R27E
South Carlsbad Field, Eddy County, New Mexico

Gentlemen:

We herewith notify you as operator of mineral interests adjacent to the above referenced property that a hearing has been scheduled February 14 in Sante Fe before the New Mexico Oil Conservation Commission to consider application to commingle gas production downhole from the Strawn and Morrow zones in the well bore of The Superior Oil Company's Ryan Community #1-D Well.

A recent packer leakage test indicated communication between zones on this dually completed well. We plan to continue producing both gas zones through the IT tubing string until the small remaining reserves are depleted. We cannot justify the expense of a major workover involving the pulling and repair of both tubing strings and packers for the small reserves remaining.

Please feel free to call us at (713) 539-1771 if you wish to discuss our plans or need additional information.

Yours very truly,

THE SUPERIOR OIL COMPANY



J. S. Eads

Manager, Western Division

JSE/FHS:ps
Attachment

bc w/att.: Mr. Jason W. Kellahi:
Kellahin and Fox
P. O. Box 1769
Sante Fe, New Mexico

RYAN NO. 1

SOUTH CARLSBAD FIELD

EDDY COUNTY, NEW MEXICO

EXHIBIT NO. II

Pat Timmons (Hou.), W. N. Mosley (Hou.),
Jim Harrison, Regulatory Group, Central File

OFFSET OPERATORS

to

The Superior Oil Company
320-Acre Gas Unit
N/2 Sec. 5, T23S/R27E
South Carlsbad Field
Eddy County, New Mexico

Cities Service Company
Post Office Box 1919
Midland, Texas 79702

Cotton Petroleum Corporation
One Williams Center, Suite 4200
Tulsa, Oklahoma 74103

Mobil Oil Corporation
Post Office Box 820
Roswell, New Mexico 88201

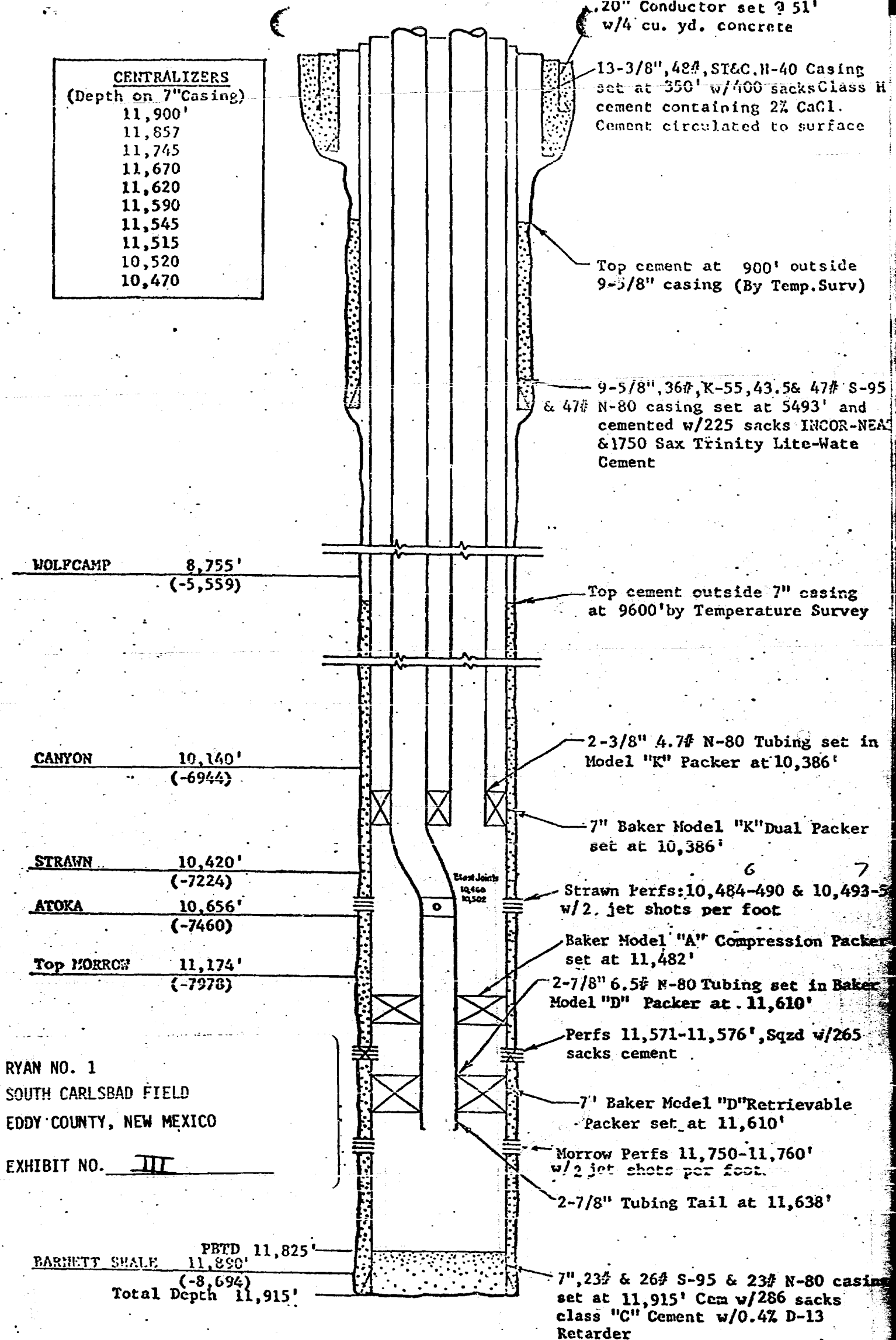
Phillips Petroleum Company
Frank Phillips Building
Bartlesville, Oklahoma 74004
Attention: Mr. C. G. Eaheart,
Production Manager

Pennzoil Company
Post Office Box 1828
Midland, Texas 79701
Attention: Mr. C. A. Brown,
Div. Prod. Manager

~~Morris R. Antweil~~
~~Post Office Box 2010~~
~~Hobbs, New Mexico 88240~~

Delta Drilling Company
P. O. Box 866
Odessa, Texas 79760
Attention: Mr. John A. Coon,
Production

CENTRALIZERS (Depth on 7" Casing)	
11,900'	
11,857	
11,745	
11,670	
11,620	
11,590	
11,545	
11,515	
10,520	
10,470	



DIAGRAMMATIC SKETCH OF DUAL COMPLETION INSTALLATION

The Superior Oil Company
RYAN UNIT NO. 1
 Unit D, Section 5, 23-S, 27-E
 South Carlsbad Field Area
 Eddy County, New Mexico

THE SUPERIOR OIL COMPANY

P. O. BOX 1900

MIDLAND, TEXAS 79701

January 19, 1973

Me

Mr. A. L. Porter, Jr., Secretary-Director
NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87501

Re: Dual Completion
The Superior Oil Company Ryan No. 1
(Strawn & Morrow)
990' FWL & 660' FNL
Section 5, T-23-S, R-27-E
South Carlsbad Field
Eddy County, New Mexico

Dear Sir:

Attached for your review and approval is our application for dual gas completion of the Ryan No. 1 Well in the Strawn and Morrow Zones. The above well was drilled at unorthodox location under Order No. R-4369 dated August 21, 1972. The nearest dual completion to the Ryan No. 1 Well is Morris Antweil Allen No. 1 Well, approved under Order No. R-4056 dated November 6, 1970.

The Ryan No. 1 Well was completed through two strings of tubing using packers to separate the Strawn and Morrow Zones. As noted from the diagrammatic sketch, the Lower Morrow completion is producing through 2-7/8" tubing and the Upper Strawn completion is producing through 2-3/8" tubing. Date of first production for testing of said zones was December 20, 1972, for Morrow Zone and December 31, 1972, for Strawn Zone. This well is currently shut-in pending pipeline connection anticipated during January 1973.

Attached are two copies of an Application for Multiple Completion (Form C-107) along with required exhibits under Rules No. 1107 and 112-A IV for administrative approval of multiple completion. A copy of this application will be submitted to the offset operators along with waivers as required under Rule No. 112-A IV. A list of the offset operators and addresses are attached.

Yours very truly,

RYAN NO. 1
SOUTH CARLSBAD FIELD
EDDY COUNTY, NEW MEXICO
EXHIBIT NO. IV

THE SUPERIOR OIL COMPANY

T. D. Clay
T. D. Clay
Petroleum Engineer

COPY TO:
DATE:

W. N. MOSTLEY

(2) J. S. MARTIN

R. G. BIESELE

WARREN HANCOCK

T. D. CLAY

JAN 22 1973

NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
APPLICATION FOR MULTIPLE COMPLETION

Form C-107
5-1-61

Operator: The Superior Oil Company		County: Eddy	Date: January 18, 1973
Address: P. O. Box 1900, Midland, Texas 79701		Lease: Ryan	Well No.: 1
Location of Well: D	Unit: D	Section: 5	Township: 23-S
		Range: 27-E	

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES ☒ NO ☐

2. If answer is yes, identify one such instance: Order No. R-4056; Operator Lease, and Well No.: Morris R. Antweil
Allen No. 1 Well

The following facts are submitted:		Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation		<u>Undesignated</u> <u>S. Carlsbad - Strawn</u>		<u>Undesignated</u> <u>S. Carlsbad - Morrow</u>
b. Top and Bottom of Pay Section (Perforations)		<u>10,420-10,656</u> <u>(10,484-10,500)</u>		<u>11,174-11,890</u> <u>(11,750-11,760)</u>
c. Type of production (Oil or Gas)		<u>Gas</u>		<u>Gas</u>
d. Method of Production (Flowing or Artificial Lift)		<u>Flowing</u>		<u>Flowing</u>

4. The following are attached. (Please check YES or NO)

Yes	No	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	c. Waivers consenting to such multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.*
<input checked="" type="checkbox"/>	<input type="checkbox"/>	d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Morris R. Antweil - Box 2010, Hobbs, New Mexico 88240

Atlantic Richfield - Box 1610, Midland, Texas 79701

Cities Service Oil Company - 700 Vaughn Bldg., Midland, Texas 79701

Mobil Oil Corporation - Box 633, Midland, Texas 79701

Pennzoil United, Inc. - Box 1828, Midland, Texas 79701

Pubco Petroleum Corporation - Suite B-101, Wall Towers West, Midland, Texas 79701

Phillips Petroleum Company - Phillips Building, Odessa, Texas 79761

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES ☒ NO ☐. If answer is yes, give date of such notification January 22., 1973.

CERTIFICATE: I, the undersigned, state that I am the Agent of the The Superior Oil Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

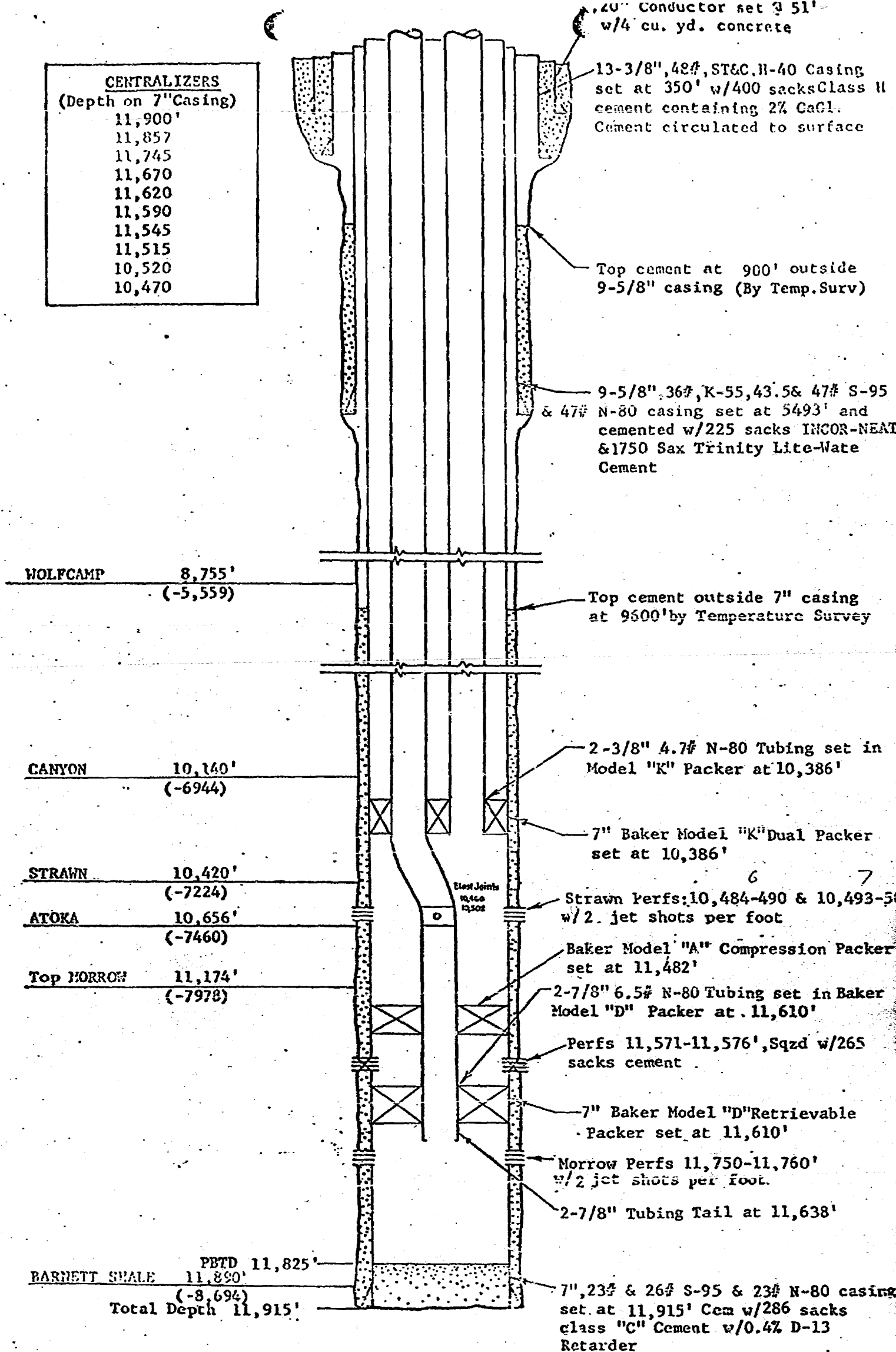
T. D. Clay
Signature

*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard perforation unit in one or more of the zones, a separate application for approval of the same should be filed simultaneously with this application.

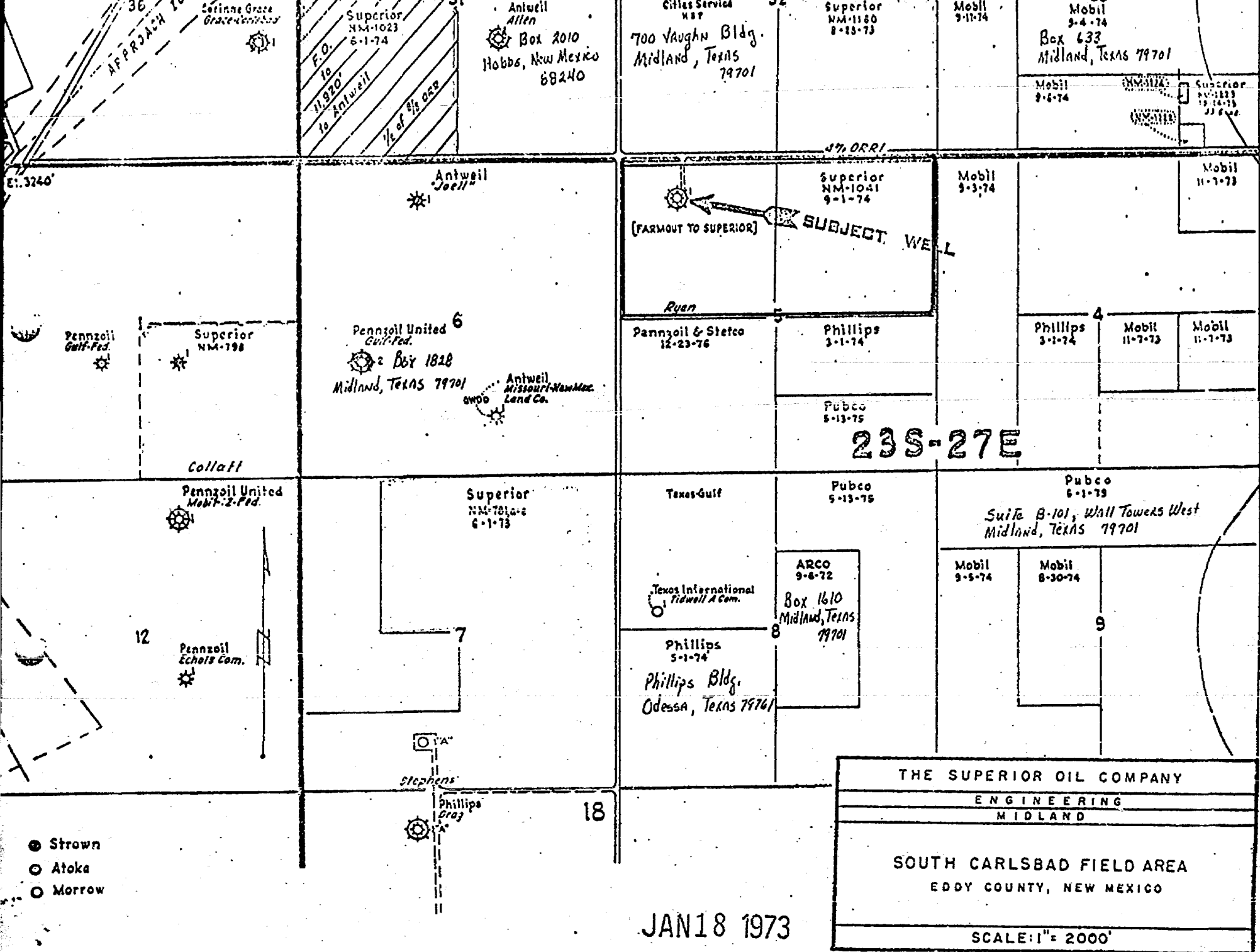
CENTRALIZERS
(Depth on 7" Casing)

11,900'
11,857
11,745
11,670
11,620
11,590
11,545
11,515
10,520
10,470



DIAGRAMMATIC SKETCH OF DUAL COMPLETION INSTALLATION

The Superior Oil Company
RYAN UNIT NO. 1
Unit D, Section 5, 23-S, 27-E
South Carlsbad Field Area
Eddy County, New Mexico



THE SUPERIOR OIL COMPANY

P. O. BOX 1900

MIDLAND, TEXAS 79701

January 19, 1973

Mr. A. L. Porter, Jr., Secretary-Director
NEW MEXICO OIL CONSERVATION COMMISSION
P. O. Box 2088
State Land Office Building
Santa Fe, New Mexico 87501

Re: Dual Completion
The Superior Oil Company
Ryan No. 1 (Strawn & Morrow)
990' FWL & 660' FNL
Section 5, T-23-S, R-27-E
South Carlsbad Field
Eddy County, New Mexico

Gentlemen:

The above captioned well was completed as a dual gas well in the Morrow and Strawn Zones. As noted from the diagrammatic sketch, the Ryan Well was completed through separate tubing strings using packers to separate the Strawn and Morrow Zones. The nearest dual completion is approximately 4,000 feet northwest of the Ryan Well.

If you have no objection to this dual completion, please sign below and submit a copy to the New Mexico Commission Office in Santa Fe and District Office at Artesia.

COMPANY: _____

BY: _____

DATE: _____

Morris R. Antweil
Box 2010
Hobbs, New Mexico 88240
Att: Mr. R. M. Williams or Alan Antweil

Atlantic Richfield Company
Box 1610
Midland, Texas 79701
Att: Mr. J. R. Rhotenberry

Cities Service Oil Company
700 Vaughn Building
Midland, Texas 79701
Att: Mr. E. F. Motter

Mobil Oil Corporation
Box 633
Midland, Texas 79701
Att: Mr. C. F. Underriner, Jr.

Pennzoil United, Inc.
Box 1828
Midland, Texas 79701
Att: Mr. F. Clinton Edwards

Pubco Petroleum Corporation
Suite B-101, Wall Towers West
Midland, Texas 79701
Att: Mr. Marion Causey

Phillips Petroleum Company
Phillips Building
Fourth and Washington
Odessa, Texas 79760
Att: Mr. G. W. Edwards



OIL CONSERVATION COMMISSION

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

February 11, 1973

GOVERNOR
BRUCE KING
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARNHO
MEMBER

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

The Superior Oil Company
P. O. Box 1900
Midland, Texas 79701

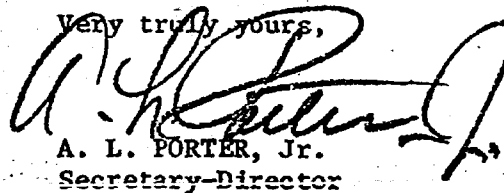
Gentlemen:

Enclosed herewith please find Administrative Order MC-2013 for the following well:

Ryan Well No. 1 located in Unit D of Section
5, Township 23 South, Range 27 East, NMPM, ✓
Eddy County, New Mexico,

to produce gas from the Strawn formation adjacent to the South
Carlsbad-Strawn Gas Pool and from the Morrow formation adjacent to
the South Carlsbad-Morrow Gas Pool.

Very truly yours,



A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/og

THE SUPR 0.

FEB 15 1973

RYAN NO. 1
SOUTH CARLSBAD FIELD
EDDY COUNTY, NEW MEXICO
EXHIBIT NO. V

COPY TO:
DATE:

W. N. MOSLEY
E. E. BRANSON
M. L. LEIERER

THE APPLICATION OF THE SUPERIOR OIL
COMPANY FOR A DUAL COMPLETION.

ORDER NO. MC-2013

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION COMMISSION

Under the provisions of Rule 112-A, The Superior Oil Company made application to the New Mexico Oil Conservation on January 22, 1973, for permission to dually complete its Ryan Well No. 1 located in Unit D of Section 5, Township 23 South, Range 27 East, NMPM, Eddy County, New Mexico, in such a manner as to produce gas from the Strawn formation adjacent to the South Carlsbad-Strawn Gas Pool and from the Morrow formation adjacent to the South Carlsbad-Morrow Gas Pool.

Now, on this 11th day of February, 1973, the Secretary-Director finds:

- (1) That application has been duly filed under the provisions of Rule 112-A of the Commission's Rules and Regulations;
- (2) That satisfactory information has been provided that all operators of offset acreage have been duly notified; and
- (3) That no objections have been received within the waiting period as prescribed by said rule.
- (4) That the proposed dual completion will not cause waste nor impair correlative rights.
- (5) That the mechanics of the proposed dual completion are feasible and consonant with good conservation practices.

IT IS THEREFORE ORDERED:

That the applicant herein, The Superior Oil Company, be and the same is hereby authorized to dually complete its Ryan Well No. 1 located in Unit D of Section 5, Township 23 South, Range 27 East, NMPM, Eddy County, New Mexico, in such a manner as to produce gas from the Strawn formation adjacent to the South Carlsbad-Strawn Gas Pool and from the Morrow formation adjacent to the South Carlsbad-Morrow Gas Pool through parallel strings of tubing.

PROVIDED HOWEVER, That applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A.

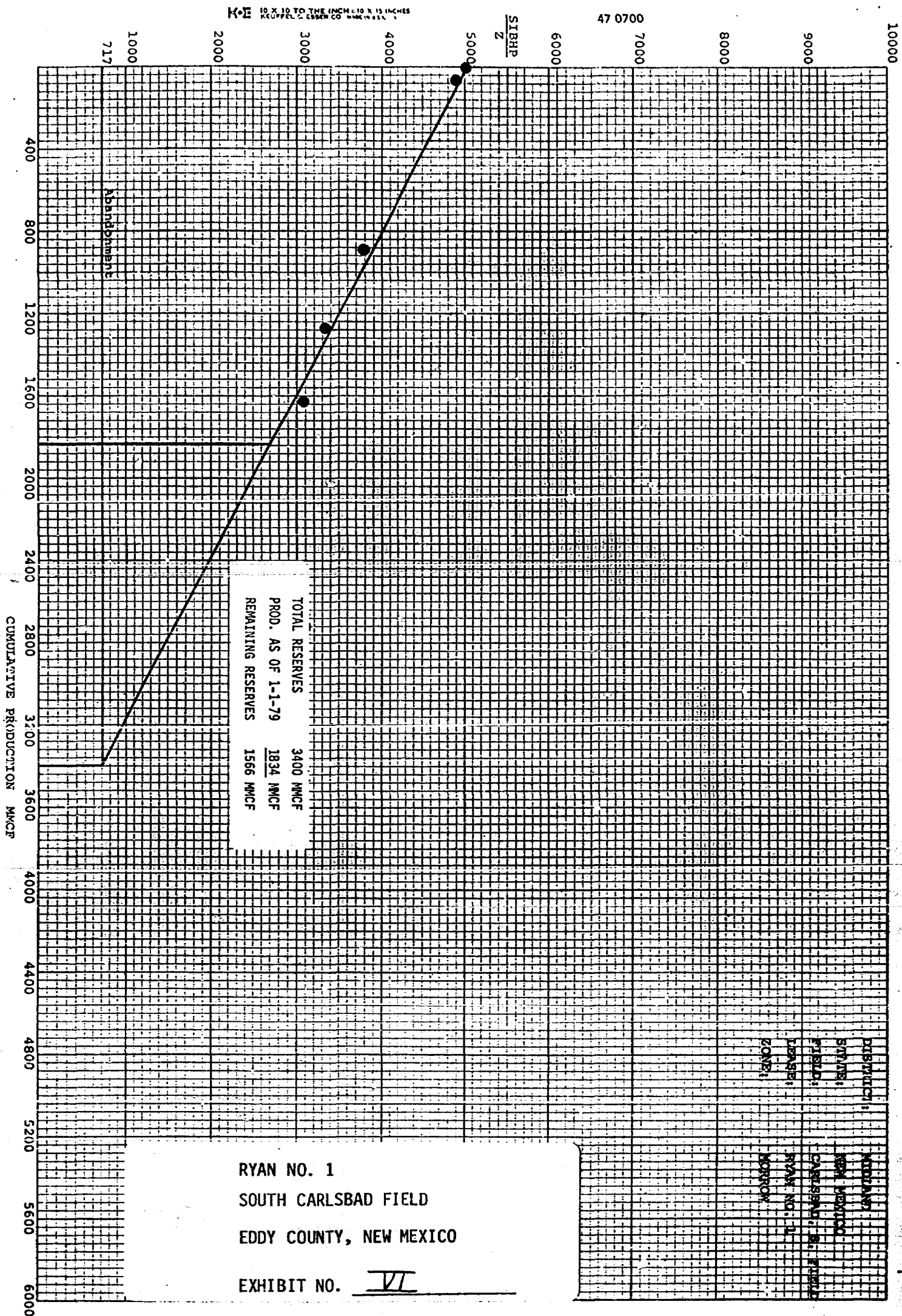
PROVIDED FURTHER, That applicant shall take packer-leakage tests upon completion and annually thereafter during the Shut-in Pressure Test Period for the South Carlsbad-Morrow Gas Pool.

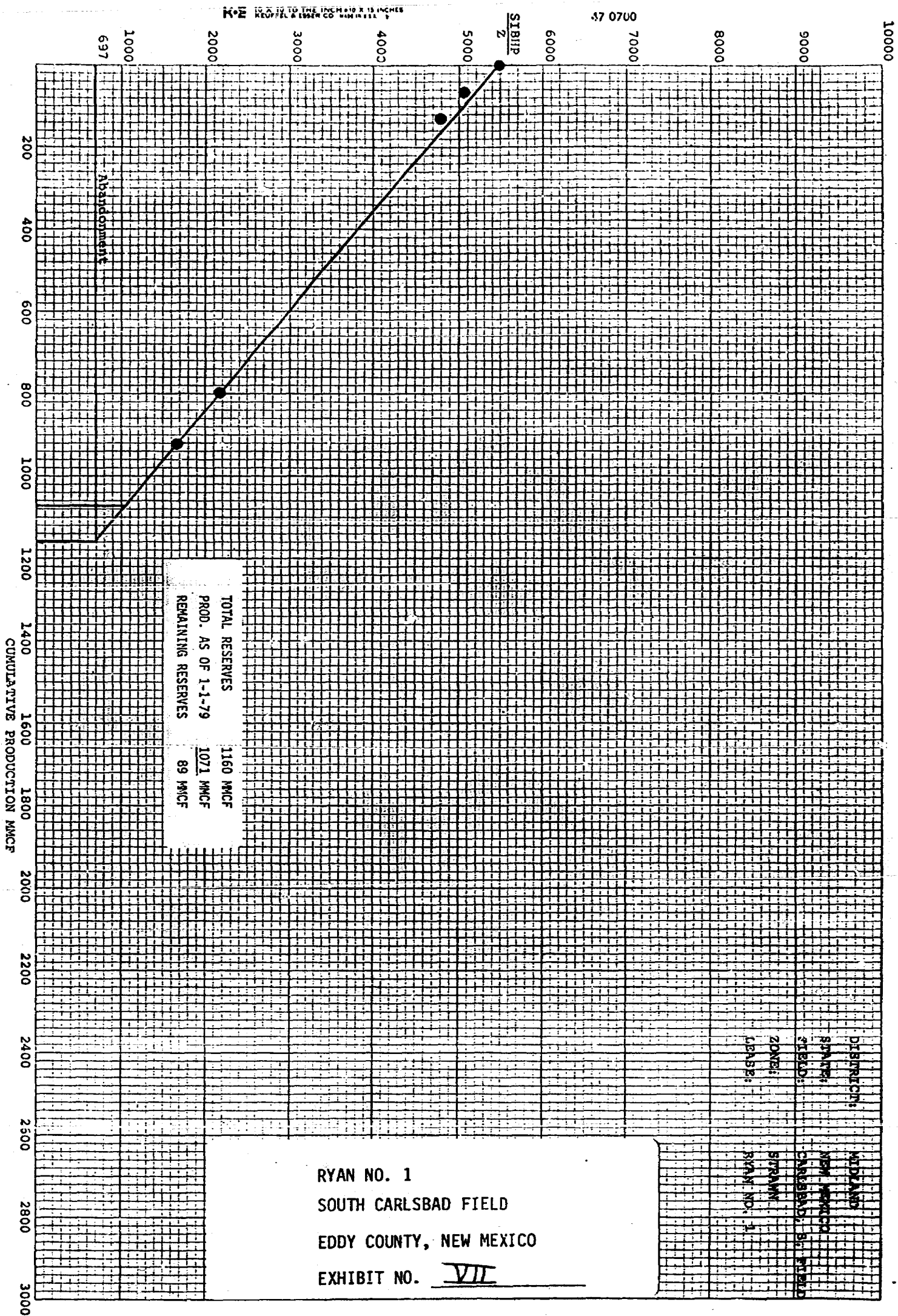
IT IS FURTHER ORDERED: That jurisdiction of this cause is hereby retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

A. L. Porter, Jr.
A. L. PORTER, JR.
Secretary-Director





Operator THE SUPERIOR OIL COMPANY		Pool CARLSBAD, SOUTH (MORROW)				County EDDY									
Address P. O. BOX 71,		CONROE, TEXAS		77301	TYPE OF TEST - (X)	Scheduled <input type="checkbox"/>	Completion <input type="checkbox"/>	Special <input checked="" type="checkbox"/>							
LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	SIZE	TUB. PRESS.	DAILY ALLOW. ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS - O RATIO CU. FT. / B
		U	S	T	R						WATER DBLS.	GRAV. OIL	OIL DBLS.	GAS M.C.F.	
Ryan	1	D	5	23S	27E	1-15-79	F	480	0	24	0	52.4	0	740	--
RYAN NO. 1 SOUTH CARLSBAD FIELD EDDY COUNTY, NEW MEXICO EXHIBIT NO. VII															
DIST: NMOCC (2), WNM, GET, CBB, REGULATORY GROUP, CENTRAL FILE															
<p>No well will be assigned an allowable greater than the amount of oil produced on the official test.</p> <p>During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.</p> <p>Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.</p> <p>Report casing pressure in lieu of tubing pressure for any well producing the casing.</p> <p>Mail original and one copy of this report to the district office of the Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.</p>															
<p>I hereby certify that the above information is true and complete to the best of my knowledge and belief.</p> <p style="text-align: right;"><i>Paul S. Kuester</i> (Signature) Production Engineer (Title)</p>															

**NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS**

C-116
Revised 1-1-65

THE SUPERIOR OIL COMPANY	Pool CARLSBAD, SOUTH (STRAWN)	County EDDY
--------------------------	----------------------------------	----------------

P. O. BOX 71, CONROE, TEXAS 77301	TYPE OF TEST - (X)	Scheduled <input type="checkbox"/>	Completion <input type="checkbox"/>	Special <input checked="" type="checkbox"/>
-----------------------------------	--------------------	------------------------------------	-------------------------------------	---

LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	STATUS	CHOKE SIZE	TUB. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS-OIL RATIO CU. FT./BB.
		U	S	T	R							WATER BBL.	GRAV. OIL	OIL BBL.	GAS M.C.F.	
Ryan	1	D	1	23S	27E	1-15-79	F		480	0	24	0	52.4	0	106	--

RYAN NO. 1
 SOUTH CARLSBAD FIELD
 EDDY COUNTY, NEW MEXICO
 EXHIBIT NO. IX

DIST: NMOCC (2), WNM, GET, CBB, REGULATORY GROUP, CENTRAL FILE

No well will be assigned an allowable greater than the amount of oil produced on the official test.

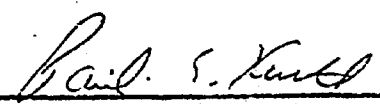
During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 101 and appropriate pool rules.

I hereby certify that the above information is true and complete to the best of my knowledge and belief.


 (Signature)
 Production Engineer
 (Title)

THE SUPERIOR OIL COMPANY

GAS DEPARTMENT

Base Conditions:
14.65 P.S.I.A., 60°F.
(Unless otherwise noted.)

Lake Creek Lab. No. 8057

SAMPLE REPORT File No. 30-0262-106

District	Midland	Sample of	Sales Gas
Field	Carlsbad South	Separator Pressure	356 PSIG.
Plant		Separator Temperature	66 °F.
Lease	Ryan	Atmospheric Temperature	
Operator	The Superior Oil Company	Shipped From	
Well Number	1-27	Shipped	
Producing Zone	Horrow	Date Shipped	
Perforated		Shipped Via	

LABORATORY REPORT

Fractional Analysis				BTU and SP. GR. computed by A.G.A. method, Gas Measurement Committee Report NO.3, 1969 Miscellaneous Tests	
Component	Mol. %	L. V. %	G. P. M.		
CO ₂	1.06			Specific Gravity @ 60° F. calc. (air=1)	0.590
O ₂				Spec. Gravity @ 60° F. deter.	0.589
N ₂	21			B. T. U./cu.ft. @ 14.73° A. 60° F. calc. sat.	1020
Total Inert				" " " " " "	
H ₂ S				C6+(as gas) Sp. Gr. Ideal. (air = 1)	3.3558
Methane	95.54			C6+ BTU/cu. ft. @ 14.73° A. 60° F. Ideal Dry	5350.0
Ethane	2.46				
Propane	.33		.0903		
Isobutane	.09		.0293	Sulphur	
N. Butane	.06		.0188	Hexane Plus, G. P. M. Factor	41.93
Isopentane	.05		.0182	Hexane Plus, Spec. Gr. @ 60° F.	7305
N. Pentane	.02		.0072	Hexane Plus, Mol. Weight	97.2
Hexanes Plus	.18		.0755	Hexane Plus, Cu. Ft. Vap./Gal.	23.85
TOTAL	100.00		.2393	Sep. Liq. - Cu. Ft. Vap./Gal.	

REMARKS Date of sample: January 20, 1977

* Liano Ranney.

H₂S: 2ppm by Superior Oil Draeger Test.

RYAN NO. 1
SOUTH CARLSBAD FIELD
EDDY COUNTY, NEW MEXICO

EXHIBIT NO. X

J. E. Williams

Base Conditions:
14.65 P.S.I.A., 60°F.
(Unless otherwise noted.)

Iako Creek Lab. No. 8048

SAMPLE REPORT File No. 30-0262-106

District	Midland	Sample of	Sales Gas
Field	Carlsbad South	Separator Pressure	355 PSIG.
Plant		Separator Temperature	42 °F.
Lease	Ryan	Atmospheric Temperature	
Operator	The Superior Oil Company	Shipped From	
Well Number	1-UT	Shipped	
Producing Zone	Strawn	Date Shipped	
Perforated		Shipped Via	

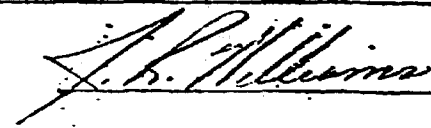
LABORATORY REPORT

Fractional Analysis				BTU and SP. GR. computed by A.G.A. method. Gas Measurement Committee Report NO.3, 1969 Miscellaneous Tests	
Component	Mol. %	L. V. %	G. P. M.		
CO ₂	42			Specific Gravity @ 60° F. calc. (air=1)	0.599
O ₂				Spec. Gravity @ 60° F. meter.	0.598
N ₂	80			B. T. U./cu.ft. @ 14.73° A. 60° F. calc. sat.	1041
Total Inert				" " " " " "	
H ₂ S				C5+(as gas) Sp. Gr. Ideal. (air = 1)	3.335
Methane	93.70			C6+ BTU/cu. ft. @ 14.73° A. 60° F. Ideal Dry	5318.0
Ethane	3.63				
Propane	83		2272		
Isobutane	19		0618	Sulphur	
N. Butane	18		0564	Hexane Plus, G. P. M. Factor	41.81
Isopentane	08		0291	Hexane Plus, Spec. Gr. @ 60° F.	728.0
N. Pentane	04		0144	Hexane Plus, Mol. Weight	96.6
Hexanes Plus	13		0544	Hexane Plus, Cu. Ft. Vap./Gal.	23.92
TOTAL	100.00		4433	Sep. Liq. - Cu. Ft. Vap./Gal.	

REMARKS Date of sample: January 20, 1947

* Llano Rancho.

RYAN NO. 1
SOUTH CARLSBAD FIELD
EDDY COUNTY, NEW MEXICO
EXHIBIT NO. XI



THE SUPERIOR OIL COMPANY

INTER-OFFICE CORRESPONDENCE

TO F. H. Speers LOCATION Conroe DATE 1-26-79
FROM J. G. Owens LOCATION Houston
SUBJECT NM-1041 - M. M. Harding
NM-1259 - F. H. Ryan, Sr.
Ryan #1 Unit
Carlsbad, South Field
Eddy County, New Mexico

Regarding your inquiry as to the royalty ownership in the Strawn and Morrow formations underlying the subject leases, our records indicate that the ownership is common within all the formations of Pennsylvanian Age as to such leases.

J. G. Owens
J. G. Owens

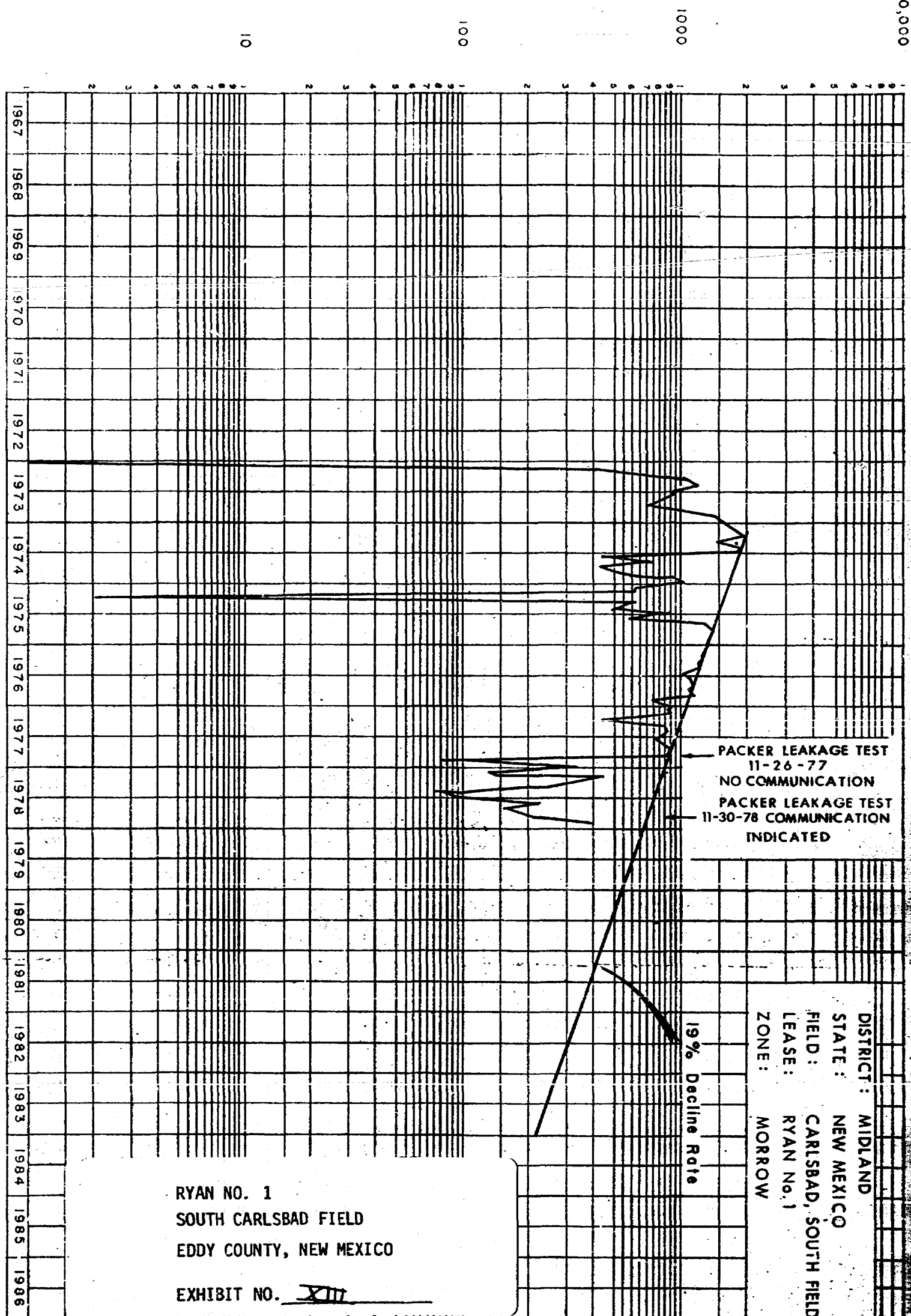
JGO:ag

xc: Paul Kurth
FHS File

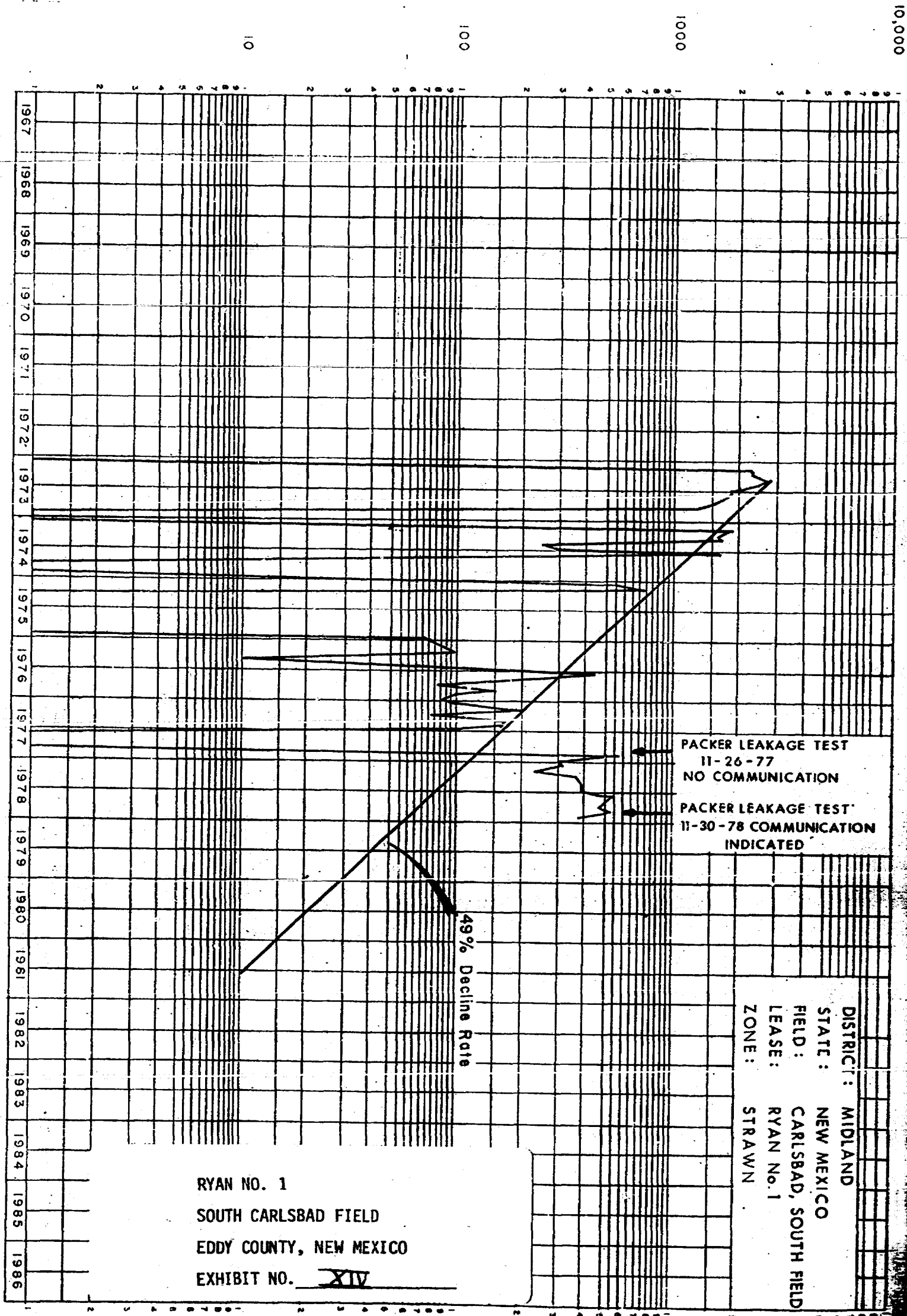
RYAN NO. 1
SOUTH CARLSBAD FIELD
EDDY COUNTY, NEW MEXICO
EXHIBIT NO. XII



AVERAGE DAILY PRODUCTION RATE - MCFD



AVERAGE DAILY PRODUCTION RATE — MCFD



Dockets Nos. 7-79 and 8-79 are tentatively set for hearing on February 28 and March 14, 1979. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - FEBRUARY 14, 1979

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

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

- ALLOWABLE:
- (1) Consideration of the allowable production of gas for March, 1979, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.
 - (2) Consideration of the allowable production of gas for March, 1979, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.
 - (3) Consideration of purchaser's nominations for the one year period beginning April 1, 1979, for both of the above areas.

CASE 6445: In the matter of the hearing called by the Oil Conservation Division on its own motion to permit Consolidated Minerals Development Corporation, American Surety Company, and all other interested parties to appear and show cause why the Sarah "S" Well No. 1 located in Unit J of Section 26, Township 31 North, Range 23 East, Colfax County, New Mexico, should not be plugged and abandoned in accordance with a Division-approved plugging program.

CASE 6446: Application of Flag-Redfern Oil Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation through the perforated interval from 4,969 feet to 4,984 feet in its Santa Fe Well No. 2 located in Unit D of Section 35, Township 10 South, Range 36 East, Dickinson-San Andres Pool, Lea County, New Mexico.

CASE 6447: Application of Atlantic Richfield Company for approval of infill drilling and an unorthodox well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a finding that the drilling of its J. R. Phillips "B" Well No. 6 to be located at an unorthodox location 990 feet from the North line and 1650 feet from the West line of Section 31, Township 19 South, Range 37 East, Eumont Gas Pool, Lea County, New Mexico, is necessary to effectively and efficiently drain that portion of the previously approved 160-acre non-standard proration unit which cannot be so drained by the existing unit well.

CASE 6448: Application of Sam H. Snoddy for amendment of Order No. R-5521, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-5521 to change the 160-acre non-standard proration unit to a 320-acre non-standard proration unit comprising the SW/4 of Section 25 and the NW/4 of Section 36, both in Township 20 South, Range 32 East, South Salt Lake Field, Lea County, New Mexico.

CASE 6449: Application of The Superior Oil Company for downhole commingling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Strawn and Morrow production in the wellbore of its Ryan Com. Well No. 1 located in Unit D of Section 5, Township 23 South, Range 27 East, South Carlsbad Field, Eddy County, New Mexico.

CASE 6450: Application of Sun Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for its East Millman Pool Unit Area comprising 920 acres, more or less, of Federal and state lands in Township 19 South, Range 28 East, Eddy County, New Mexico.

CASE 6451: Application of Burleson & Huff for approval of infill drilling and an unorthodox well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a finding that the drilling of its Coll A Well No. 2 to be located at an unorthodox location 1980 feet from the North line and 330 feet from the East line of Section 29, Township 25 South, Range 37 East, Jalmat Gas Pool, Lea County, New Mexico, is necessary to effectively and efficiently drain that portion of the previously approved 160-acre non-standard proration unit which cannot be so drained by the existing unit well.

CASE 6452: Application of Burleson & Huff for approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a finding that the recompletion of its Harrison Well No. 2 located in Unit N or, in the alternative, the drilling of its Harrison Well No. 4 to be located in Unit L, both in Section 25, Township 24 South, Range 36 East, Jalmat Gas Pool, Lea County, New Mexico, is necessary to effectively and efficiently drain that portion of the previously approved 160-acre non-standard proration unit which cannot be so drained by the existing unit well.

CASE 6453: Application of Moranco for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Blinberry and Drinkard production in the wellbore of its EM Elliott Well No. 1 located in Unit E of Section 35, Township 21 South, Range 37 East, Lea County, New Mexico.

THE SUPERIOR OIL COMPANY

P. O. BOX 71

CONROE, TEXAS 77301

January 16, 1979

JAN 22 1979

Case 6449

New Mexico Oil Conservation Division
Post Office Box 2088
Sante Fe, New Mexico 87501

Attention: Mr. Joe D. Ramey, Director

Re: Request for Hearing
The Superior Oil Company

Gentlemen:

We respectfully request that a hearing be scheduled before the Conservation Commission on February 14, 1979 to consider this request for approval to commingle gas production down-hole from the Strawn and Morrow zones in our Ryan Com. #1-D Well, Carlsbad South Field, Eddy County, New Mexico.

Yours very truly,

J. S. Eads

J. S. Eads
Manager Western Division

JSE/FHS:ps

cc: State of New Mexico
Energy and Minerals Dept.
Oil Conservation Division
Artesia District Office
P. O. Drawer DD
Artesia, New Mexico 88210

D-5-235-27E

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. 6449

Order No. R-5934

APPLICATION OF THE SUPERIOR OIL COMPANY

FOR DOWNHOLE COMMINGLING, EDDY

COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on February 14
19 79, at Santa Fe, New Mexico, before Examiner Daniel S.
Nutter.

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, The Superior Oil Company, is
the owner and operator of the Ryan Com. Well No. 1,
located in Unit D of Section 5, Township 23 South,
Range 27 East, South Carlsbad Field, Eddy County, New Mexico.

(3) That the applicant seeks authority to commingle
Strawn and Morrow production
within the wellbore of the above-described well.

(4) That from the Strawn zone, the subject well is capable of low marginal production only.

(5) That from the Morrow zone, the subject well is capable of low marginal production only.

(6) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(8) That to afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Artesia district office of the Division any time the subject well is shut-in for 7 consecutive days.

(9) That in order to allocate the commingled production to each of the commingled zones in the subject well, ^{and 2 percent of the condensate production} ~~94~~ 6 percent of the commingled gas production should be allocated to the Strawn zone, and ^{and 98 percent of the condensate production} ~~94~~ percent of the commingled gas production to the Morrow zone.

(ALTERNATE)

(9) That in order to allocate the commingled production to each of the commingled zones in the wells, applicant should consult with the supervisor of the Artesia district office of the Division and determine an allocation formula for each of the production zones.

(10) That Division Order MC-2013, which approved the dual completion of the subject well, should be rescinded.

IT IS THEREFORE ORDERED:

(1) That the applicant, The Superior Oil Company, is hereby authorized to commingle Strawn and Morrow production within the wellbore of the Ryan Com Well No. 1, located in Unit D of Section 5, Township 23 South, Range 27 East, South Carlsbad Field, NMPM, Eddy County, New Mexico.

(2) That the applicant shall consult with the Supervisor of the Artesia district office of the Division and determine an allocation formula for the allocation of production to each zone in each of the subject wells.

(ALTERNATE)

(2) That 6 percent of the commingled gas and 2 percent of the condensate production production shall be allocated to the Strawn zone and 94 percent of the commingled gas and 98 percent of the condensate production production shall be allocated to the Morrow zone.

(3) That the operator of the subject well shall immediately notify the Division's Artesia district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Division, a plan for remedial action.

(5) 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.

(4) That Division Order MC-2013 is hereby rescinded.