

1 2 CASE 5833: SOUTHERN UNION PROD. *in Co.*  
CO. FOR DOWNHOLE COMMINGLING, RIO  
ARRIBA COUNTY, NEW MEXICO

CASE NO.

5833

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APPLICATION,  
TRANSCRIPTS,  
SMALL EXHIBITS,  
ETC.

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
January 5, 1977

EXAMINER HEARING

IN THE MATTER OF:

Application of Southern Union Production) CASE  
Company for downhole commingling, ) 5833  
Rio Arriba County, New Mexico. )

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

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

For the Applicant:                      Jack M. Campbell, Esq.  
CAMPBELL, BINGAMAN & BLACK, P.A.  
Attorneys at Law  
San Francisco & Jefferson  
Santa Fe, New Mexico

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I N D E X

1		
2		<u>Page</u>
3	<u>JERRY LEE</u>	
4	Direct Examination by Mr. Campbell	3
5	Cross Examination by Mr. Nutter	12

EXHIBIT INDEX

	<u>Offered</u>	<u>Admitted</u>
11 Applicant's Exhibit One, Plat	4	12
12 Applicant's Exhibit Two, Plat	4	12
13 Applicant's Exhibit Three-A thru G, Dia. Sketch	5	12
14 Applicant's Exhibit Four-A thru G, Decline Cur.	6	12
15 Applicant's Exhibit Five, Production Survey	6	12

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1 MR. NUTTER: The hearing will come to order, please.  
2 The next case will be Case Number 5833.

3 MS. TESCHENDORF: Case 5833, application of Southern  
4 Union Production Company for downhole commingling, Rio Arriba  
5 County, New Mexico.

6 MR. CAMPBELL: Mr. Examiner, I'm Jack M. Campbell,  
7 Campbell, Bingaman and Black, Santa Fe, New Mexico appearing  
8 on behalf of the applicant and I have one witness.

9 (THEREUPON, the witness was duly sworn.)

10  
11 JERRY LEE

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

14  
15 DIRECT EXAMINATION

16 BY MR. CAMPBELL:

17 Q Would you state your name, please?

18 A My name is Jerry Lee, I reside in Dallas, Texas and  
19 I'm currently employed by Southern Union Production Company  
20 as Area Drilling and Production Engineer.

21 Q Have you testified previously before this Commission  
22 or its Examiner?

23 A Yes, I have.

24 MR. CAMPBELL: Are the witness' qualifications  
25 acceptable, Mr. Examiner?

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1 MR. NUTTER: Yes, they are.

2 Q (Mr. Campbell continuing.) Are you acquainted with  
3 the application of Southern Union Production Company in this  
4 case?

5 A Yes, I am.

6 Q In general terms what are you seeking here?

7 A We are seeking permission to commingle production  
8 from the Otero-Gallup formation with the Basin-Dakota formation  
9 in seven wells in the Jicarilla area.

10 Q I hand you what has been identified as Applicant's  
11 Exhibit Number One and ask you to state what that is?

12 A Exhibit One is a location plat showing the location  
13 of the subject wells. It also shows cumulative production  
14 through '76 for the Otero-Gallup formation, both oil and gas  
15 production.

16 Q I notice an identification of a well in Section 4 as  
17 10-1, does that have any relevancy to this case?

18 A No, it does not.

19 Q It's a Pictured Cliffs well?

20 A It's a Pictured Cliffs, yes.

21 Q I hand you what has been identified as Applicant's  
22 Exhibit Number Two and ask you to state what that is?

23 A Exhibit Two is also a location plat showing the  
24 subject wells with cumulative production for the Basin-Dakota  
25 formation, both gas and oil.

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1 Q I hand you what has been identified as a set of  
2 Exhibits Three, A through G, and ask you to state what those  
3 are, please?

4 A Exhibits Three-A through Three-G are diagrammatic  
5 sketches of the mechanical configurations of the subject wells.

6 Q In general terms what do these diagrammatic sketches  
7 indicate as to the completion of these wells?

8 A These sketches indicate that all seven wells were  
9 completed in a similar manner with a production packer isolat-  
10 ing the two zones and the two different formations producing  
11 through individual strings of tubing.

12 Q I note that Exhibits Three-A and Three-B which refer  
13 to Jicarilla "L" 2 and Jicarilla "L" 3 may have some slight  
14 difference from the completion of the other wells, can you at  
15 this point state what that difference is?

16 A The Jicarilla "L" 2 and "L" 3 both have what is  
17 known as a parallel anchor which is attached to both strings  
18 of tubing, the short and long string.

19 MR. CAMPBELL: Mr. Examiner, we will return to that  
20 when we get to the point of describing the intentions to  
21 rework in this case. I just wanted to call them to your  
22 attention.

23 Q (Mr. Campbell continuing.) I now hand you a set of  
24 exhibits which have been identified as Applicant's Exhibit  
25 Four, A through G, and ask you to state what those are,

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1 please?

2 A. Exhibits Four-A through G are decline curve graphs  
3 depicting the production or historical production for the  
4 Dakota gas formation.

5 Q. I note that you don't have similar exhibits for the  
6 Gallup formation, can you explain the reason for that, please?

7 A. Attempts were made to determine or to do a graphical  
8 presentation of the Otero-Gallup formation, however, due to  
9 the intermittent manner in which the Otero-Gallup has been  
10 produced due to problems associated with production with it,  
11 it is impossible to get a meaningful relationship or graphical  
12 presentation on the Otero-Gallup formation.

13 MR. NUTTER: So no meaningful decline curve can be  
14 drawn?

15 A. This is correct.

16 Q. (Mr. Campbell continuing.) I now hand you what has  
17 been identified as Applicant's Exhibit Five and ask you to  
18 state, please, what that is?

19 A. Exhibit Five is a summary of daily average production  
20 for both the Gallup and Dakota formations taken for the year  
21 1976. That is the latest production information that we  
22 have.

23 Also included is a shut-in surface pressure for  
24 both zones in each of the wells taken from the New Mexico  
25 packer leakage test in June of '76.

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1 Q Do these figures indicate to you, Mr. Lee, that as  
2 far as the Gallup formation is concerned that these wells are  
3 low marginal wells?

4 A Yes, they do.

5 Q That has always been the case?

6 A That has always been the case. The problems  
7 associated with production for the Gallup formation is primarily  
8 the result of low GOR's which result in insufficient gas to  
9 lift the oil from this Gallup oil formation.

10 Q Is that the basic reason for your application here?

11 A Yes, it is.

12 Q All right, now, referrring back to Exhibits Three-A  
13 through Three-G, will you explain to the Examiner what it is  
14 you intend to do mechanically in reworking these wells if that  
15 application is approved?

16 Q Should the application be approved it is our intent  
17 to produce both formations through one string of tubing. We  
18 hope to accomplish this by removing the short string of tubing  
19 from the well and perforating some holes in the long string  
20 above the permanent packer. This would permit commingling  
21 of the Gallup zone with the Basin-Dakota formation.

22 Q Now, with regard to Exhibits Three-A and Three-B,  
23 being Jicarilla "L" 2 and Jicarilla "L" 3 which you referred  
24 to in your earlier testimony, what would you do in that  
25 situation?

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1 A. In the Jicarilla "L" 2 and "L" 3, as I mentioned  
2 earlier, there is a parallel anchor holder. This anchor  
3 actually is attached to the bottom of the short string and to  
4 the long string. It's possible that when an attempt is made to  
5 recomplete or rework the wells that we will be unable to pull  
6 this string, this short string, it may be sanded in the hole  
7 due to the fact that this anchor is below the Gallup perforations  
8 and if there has been a collection of sand on the anchor it  
9 may be impossible to pull this string of tubing or release it  
10 from this anchor catcher. In that case we possibly would  
11 want to go in and cut this string of tubing off and still pull  
12 it out of the hole. However, the economics at the time and  
13 the problems associated with getting into this string to  
14 make an inside cut may determine as to what we would do.

15 In any event we would still like to commingle  
16 these zones by perforating through the long string and commingle  
17 and possibly leave the short string in the hole if it is  
18 infeasible to pull it.

19 Q Have you looked at the alternative of artificial  
20 lift for the Gallup formation?

21 A. Yes, we have. At the present time the reserves,  
22 both the reserves and production rate make it infeasible to  
23 use conventional artificial lift techniques for the Gallup  
24 formation. The production rates are insufficient to offset  
25 the operating costs and expense of artificial lift in these

1 wells.

2 Q Is it your intention to attempt to use the gas from  
3 the Dakota formation to increase the oil production from the  
4 Gallup formation?

5 A At the present time several of these wells, well,  
6 in particular the Jicarilla "L" 6 and "N" 1 are not producing.  
7 There is insufficient gas to lift the oil and the problems  
8 associated with keeping them on production make them uneconomic.  
9 It is our hope that should this application be approved by  
10 use of the energy from the Dakota gas formation we can keep  
11 the Otero-Gallup oil zone producing.

12 Q You referred to the "L" 6 and "N" 1 Wells, Exhibit  
13 Five reflects that those have a rather substantially lower  
14 shut-in pressure than the other Gallup wells, can you account  
15 for that?

16 A Yes, I can. One of the things that we took into  
17 consideration as we were reviewing the possibility of doing  
18 this was the problem of possible cross flow should the occasion  
19 arise after commingling that we may have to shut the wells in.  
20 These two particular wells indicate extremely low pressures  
21 in the Gallup formation. However, I do feel that these  
22 pressures, being surface shut-in pressures, are not a valid  
23 indication of the bottom-hole pressures for those particular  
24 zones. The wells are not producing from the Gallup formation  
25 and in all probability there isn't an excessive amount of oil

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1 in the hole above the packer which is putting an excessive  
2 hydrostatic pressure on the Gallup formation. In effect, the  
3 bottom-hole pressure of the Gallup formation is probably very  
4 similar to the other Gallup wells in the area.

5 Q Do you believe that if these wells are shut in for  
6 any extended period of time there might be an increased risk  
7 of cross flow?

8 A The potential of cross flow in my opinion could  
9 become significant if the wells were shut in for an extended  
10 period of time, say in excess of seven days. However, due to  
11 the low differential pressure between the Dakota formation  
12 and the Gallup formation bottom-hole pressures and the low  
13 permeability of each of the zones, I don't feel that in short  
14 periods of seven days or less that there would be any problem  
15 of cross flow or anything of this nature.

16 Q Do you believe that if you are permitted to commingle  
17 these two zones in these wells that it will prevent waste and  
18 result in greater ultimate recovery of oil and gas?

19 A Yes, I do.

20 Q What is the nature of the ownership under these  
21 wells?

22 A Southern Union Production Company has a hundred  
23 percent working interest under all leases and the royalty is  
24 the same in both zones for all wells.

25 Q So that there is complete common ownership of both

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1 working interest and royalty interests?

2 A. That is correct.

3 Q. If the Commission feels that it needs to allocate  
4 production between the two zones for its own allocation  
5 purposes, do you have any ideas as to how this might be done?

6 A. There are two possibilities for allocation of  
7 production back to the two zones after commingling. The first  
8 would be and possibly the most accurate means of doing it, would  
9 be to take the production history on the Dakota formation which  
10 shows and we have in Exhibits Four-A through G, it's easy to  
11 determine that there is an easily definable decline that can  
12 be associated with each of the wells in the Dakota formation.  
13 Through extrapolation of this production data we feel that  
14 we could predict what the Dakota formation should produce if,  
15 as we anticipate after commingling, we show an increase in both  
16 gas and oil production over what the Dakota formation is  
17 currently producing, all increase could be associated with the  
18 Otero-Gallup formation and on this basis we could use this  
19 decline curve for the Dakota formation to allocate and use  
20 any excess production over what we would anticipate from the  
21 decline curves to the Otero-Gallup formation.

22 The other possibility that we may use is using  
23 a percentage of production. However, percentage production on  
24 past history of Otero-Gallup production, there is no valid  
25 percentage that we feel that we could arrive at at the

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1 present time. What we might could do is if after commingling  
2 we do see an increase in production over the Dakota formation,  
3 we could assign this production to the Gallup formation and  
4 thereby determine a percentage of the total production  
5 associated with each of the zones and use this method for  
6 future reporting of the allocations.

7 Q Mr. Lee, were the exhibits here prepared by you or  
8 under your supervision?

9 A Yes, they were.

10 MR. CAMPBELL: I would like to offer in evidence  
11 Applicant's Exhibits One through Five.

12 MR. NUTTER: Southern Union Exhibits One through  
13 Five will be admitted into evidence.

14 (THEREUPON, Applicant's Exhibits One through  
15 Five were admitted into evidence.)

16 MR. CAMPBELL: That's all the questions I have at  
17 this time, Mr. Examiner.

18  
19 CROSS EXAMINATION

20 BY MR. NUTTER:

21 Q Mr. Lee, have you made any calculation as to the  
22 bottom-hole pressure in the Gallup formation on any of these  
23 wells?

24 A No, sir, I haven't.

25 Q Have you calculated the Dakota formation bottom-hole

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1 pressures?

2 A. The Dakota is a dry formation and the surface shut-in  
3 pressures are probably reasonably valid for bottom-hole, within  
4 five percent of the bottom-hole pressures, assuming that we  
5 do have dry gas which is the case.

6 Q. So a normal gas gradient with these surface pressures  
7 should give you the bottom-hole pressure?

8 A. Yes, it should.

9 Q. But you haven't taken any sonic surveys or anything  
10 to determine the bottom-hole pressure on these other wells?

11 A. No, we haven't. The reason for that being that  
12 with the Gallup formation it is a high paraffin content crude,  
13 it is virtually impossible to run a valid bottom-hole pressure  
14 without the risk of leaving the bomb itself in the hole.

15 Now, with this fluctuation of production what we  
16 normally do, we will cut the paraffin in the wells and produce  
17 it and we can keep it on for short periods of time or we have  
18 used hot oiling, using continuous tubing to hot oil and get  
19 the well on production but this is, of course, an expensive  
20 operation to do and for the amount of production that we are  
21 currently getting out of it we can't continue to do this. To  
22 get a valid fluid level to determine bottom-hole pressures it  
23 is difficult in this situation because the paraffin itself  
24 plugs the tubing and you can't be assured that you are getting  
25 a valid fluid level.

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1 Q These are all flowing wells in the Gallup then,  
2 aren't they?

3 A They are flowing in the sense that when you can for  
4 short periods of time after you hot oil and remove the oil and  
5 paraffin from the tubing, you can keep them on for short periods  
6 of time.

7 Q I guess the paraffin problem can't be resolved by  
8 the use of free-flowing pistons.

9 A Our experience, well, with the Otero-Gallup formation  
10 particularly, we have insufficient gas pressure to operate,  
11 in our opinion to operate a piston or anything of this nature.

12 Q Now, on Exhibit Number Five you show average daily  
13 oil production and gas production for each of the two forma-  
14 tions, what is that based on, that's average daily for when?

15 A That is for 1976.

16 Q The whole year?

17 A Yes, sir, that is taking the production and days  
18 produced in 1976 and determining an average daily for both  
19 oil and gas in each of the --

20 Q That is total production for the year by days  
21 actually?

22 A Days actually produced, yes, sir.

23 Q Now, the Gallup, from your conversation I gather  
24 has not produced every day, though, has it?

25 A No, sir, it has not. In fact, we have had numerous

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1 problems this year in trying to keep the Gallup on at all in  
2 any of the wells and that is why some of the production figures  
3 indicate such low production even though the well was  
4 producing it rapidly plugs back off with fluid or paraffin.

5 Q Well, Mr. Lee, I guess there is sort of a correlation  
6 between the poorer wells as shown on your Exhibit Five as far  
7 as production of gas and oil here in 1976 and the cumulative  
8 production from those wells. Now, you mentioned that the  
9 "L" 6 and the "N" 1, for example, are not producing at all  
10 now, but, they are two of the poorer wells as far as the  
11 Gallup formation is concerned in the area, aren't they?

12 A They are poor from the standpoint of cumulative  
13 production, however, I'm not sure that necessarily means that  
14 the reserves are not present, it's just that they have  
15 insufficient gas volumes to lift the oil and they log off  
16 and it is more difficult to keep them on production.

17 Q Well, they have less gas volumes possibly --

18 A Less gas volumes would indicate that they are poor  
19 in a sense that the amount of gas present within the zones  
20 or the amount of gas that we are actually delivering to the  
21 wellbore.

22 Q Which may be an indication of the reserves under  
23 those wells.

24 Now, when you perforate after you have removed the  
25 short string of tubing and when you perforate the long string,

1 what would you do, shoot holes in that tubing opposite the  
2 holes that are already in the casing in the Gallup formation?

3 A. That would be the most logical place to shoot them.  
4 It may be that we might shoot them slightly above or below,  
5 depending on the depth at which we could get in the tubing.  
6 If we had a problem getting down the tubing we might want to  
7 shoot it slightly higher. Our objective would be to shoot,  
8 you know, would be to shoot in that general region of the  
9 Gallup perforations, the idea being to get as much fluid  
10 hydrostatic help to feed the Dakota string from the fluid  
11 from the Gallup formation.

12 Q You don't anticipate that there will be an ocean of  
13 oil in the Gallup and drown the Dakota out?

14 A. I sure don't. I wish that that were the case.

15 MR. CAMPBELL: If that were the case you would be  
16 pleased to do somemore work on the well, wouldn't you?

17 A. I would. If the Otero-Gallup produced a sufficient  
18 quantity of oil that it resulted in problems with keeping both  
19 the Dakota and the Gallup on production then in that case we  
20 could consider -- our economics would change and then we could  
21 consider putting artificial lift on the well.

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

24 (THEREUPON, the witness was excused.)

25 MR. CAMPBELL: Thank you, Mr. Examiner.

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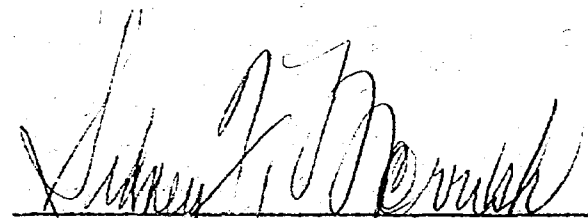
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1 MR. NUTTER: Does anyone have anything they wish to  
2 offer in Case Number 5833? We will take the case under  
3 advisement.  
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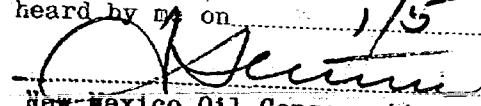
REPORTER'S CERTIFICATE

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

  
Sidney F. Morrish, C.S.R.

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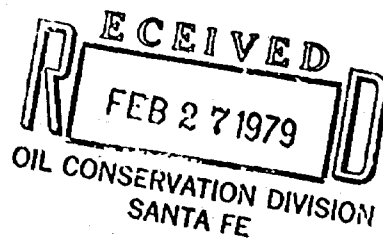
I do hereby certify that the foregoing is  
a complete record of the proceedings in  
the Examiner hearing of Case No. 3833  
heard by me on 1/5, 1977.  
, Examiner  
New Mexico Oil Conservation Commission

SUPRON ENERGY CORPORATION

Post Office Box 808

FARMINGTON, NEW MEXICO 87401

February 20, 1979



New Mexico Oil Conservation Division  
1000 Rio Brazos Road  
Aztec, New Mexico 87410

Attention: Mr. A. R. Kendrick

Gentlemen:

Our Jicarilla "L" No. 2 well, located in Section 10, Township 24 North, Range 5 West, Rio Arriba County, has been shut in since January 30, 1979. It has a full tank and the trucks can't get to it because of the bad roads.

This notification is required by Commingling Order No. R-5354 A

*Kenneth E. Roddy*  
Kenneth E. Roddy  
Production Superintendent

KER:bjs

*File  
Case No. 5853  
Jew*





# OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO  
1000 RIO BRAZOS RD. - AZTEC

87410

DIRECTOR  
JOE D. RAMEY

LAND COMMISSIONER  
PHIL R. LUCERO



STATE GEOLOGIST  
EMERY C. ARNOLD

JUL 26 1977

July 21, 1977

*Nutter  
Examiner  
Case 5833*

*File  
Jm*

Mr. Rudy Motto  
Supron Energy Corporation  
P. O. Box 808  
Farmington, New Mexico 87401

Re: Production allocation to zones of down-hole commingled wells

Dear Mr. Motto:

We are in agreement for the allocation of production for your down-hole commingled wells on the Jicarilla L and Jicarilla N leases.

By copy of this letter and your letter, we are advising the Geological Survey and our Santa Fe offices of the allocation percentages.

If there are questions, please contact us.

Yours very truly,

*AR Kendrick*

A. R. Kendrick  
Supervisor, District #3

Enclosures

xc: with enclosures as stated

ARK:no

SUPRON ENERGY CORPORATION  
POST OFFICE BOX 808  
FARMINGTON, NEW MEXICO 87401

July 18, 1977

JUL 26 1977

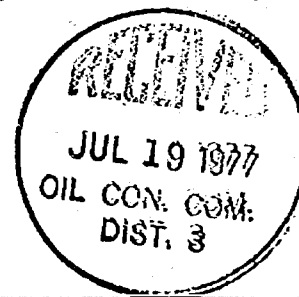
Mr. A. R. Kendrick, District Supervisor  
New Mexico Oil Conservation Commission  
1000 Rio Brazos Road  
Aztec, New Mexico 87410

Reference: Case No. 5833  
Order No. R5354  
Authorization to Commingle Gallup and Dakota production  
within the wellbore.

Jicarilla "L" #2 - (G), Sec. 10, T-24N, R-5W  
Jicarilla "L" #3 - (E), Sec. 3, T-24N, R-5W  
Jicarilla "L" #4 - (G), Sec. 9, T-24N, R-5W  
Jicarilla "L" #5 - (N), Sec. 33, T-25N, R-5W  
Jicarilla "L" #6 - (M), Sec. 34, T-25N, R-5W  
Jicarilla "N" #1 - (K), Sec. 4, T-24N, R-5W

This letter will verify our verbal agreement of July 15, 1977 in your Aztec office, as to the proper percentage of production of Oil and Gas to assign to the Dakota and Gallup formations of each of the above named wells. These percentage figures were arrived at after careful consideration of the past several months production and are as follows:

Well Name & No.	Formation	Gas (%)	Oil (%)
Jicarilla "L" #2	Gallup	14	60
Jicarilla "L" #2	Dakota	86	40
Jicarilla "L" #3	Gallup	47	50
Jicarilla "L" #3	Dakota	53	50
Jicarilla "L" #4	Gallup	12	28
Jicarilla "L" #4	Dakota	88	12
Jicarilla "L" #5	Gallup	7	30
Jicarilla "L" #5	Dakota	93	70
Jicarilla "L" #6	Gallup	2	7
Jicarilla "L" #6	Dakota	98	93
Jicarilla "N" #1	Gallup	2	15
Jicarilla "N" #1	Dakota	98	85



JUL 26 1977

OIL CON. COM. DIST. 3

- 2 -

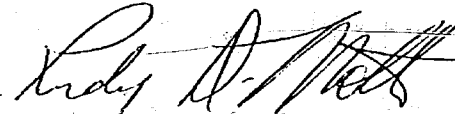
These percentage figures will be applied to all of the commingled wells effective after turn on.

The Jicarilla "N" #2 well located in Unit N, Sec. 3, T-24N, R-5W was also included in this case and Order number, however, it will not be commingled until a later date.

If additional information is required please let us know.

Sincerely yours,

SUPRON ENERGY CORPORATION



Rudy D. Motto  
Area Superintendent

RDM:ml

cc: Mr. Haskell Fleetwood  
File





SURFACE HOLE SIZE 12-1/4"  
PRODUCTION HOLE SIZE 7-7/8"

SOUTHERN PRODUCTION COMPANY  
WELL: J. ARILLA "L" #2  
LOCATION: 1650 FEET FROM NORTH LINE AND  
1650 FEET FROM EAST LINE, SEC.  
TOWNSHIP 24 NORTH, RANGE 5 WEST  
N.M.P.M., RIO ARriba COUNTY,  
NEW MEXICO.  
FIELD: BASIN DAKOTA - OTERO GALLUP  
DUAL COMPLETION.

SURFACE CASING: 8-5/8", 24.0#, J-55 SET AT  
305 FT. R.K.B. CEMENTED TO SURFACE W/1000

STAGE COLLAR SET AT 3545 FT. R.K.B. CEMENT  
W/1175 CU. FT. CEMENT; CEMENT CIRCULATED TO  
SURFACE.

TOP CEMENT ON 2ND STAGE CEMENT 3700 FT. R.K.B.

STAGE COLLAR SET AT 4925 FT. R.K.B. CEMENT  
W/360 CU. FT. CEMENT.

TOP CEMENT ON 1ST STAGE CEMENT 5400 FT. R.K.B.

2-1/16", 3.25#, JCN-55 TBG. SET TO GALLUP.  
LANDED AT 6072 FT. R.K.B.

BAKER MODEL "L" SLIDING SLEEVE SET IN DAKOTA  
TUBING AT 6721 FT. R.K.B.  
BAKER 5-1/2" MODEL "E" PRODUCTION PACKER  
SET AT 6723 FEET R.K.B.

DAKOTA TUBING PERFORATED FROM 6859-6964 FT.  
R.K.B.  
2-1/16", 3.25#, JCN-55 TUBING SET TO DAKOTA  
LANDED AT 6963 FT. R.K.B.

PRODUCTION CASING: 5-1/2", 15.50#, J-55 C  
SET AT 6997 FT. R.K.B. FIRST STAGE CEMENT  
W/550 CU. FT. OF CEMENT.  
P.B.T.D. 6963 FEET.  
TOTAL DEPTH 7000 FT.

711  
BEFORE EXAMINED MUTTER  
OIL CONSERVATION COMMISSION  
APPLICANT EXHIBIT NO. 3A  
CASE NO. 5833

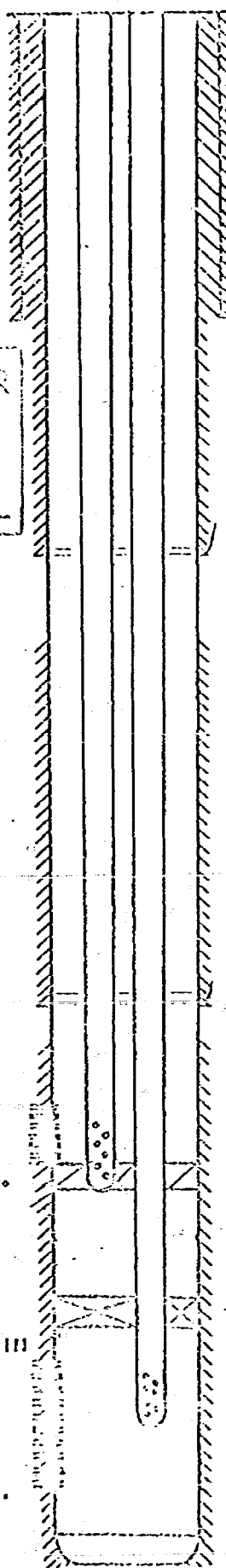
LARKIN FIG. 502, 5-1/2"  
CENTRALIZERS RUN ON 31 FT.  
SPACING ACROSS GALLUP FROM 5700  
FT.-6103 FT. R.K.B. LARKIN  
5-1/2" RECIPROCATING SCRATCHERS  
RUN ON 10 FT. SPACING FROM  
5710-6093 FT. R.K.B.

GALLUP TUBING PERFORATED 6036-  
6040 FT. R.K.B.  
GALLUP PERFORATIONS  
5799-6020 FT. R.K.B.  
BAKER PARALLEL STRING TUBING  
ANCHOR SET AT 6072 FT. R.K.B.

LARKIN FIG. 502, 5-1/2"  
CENTRALIZERS RUN 30 FT. SPACING  
FROM 6892-6952 FT. R.K.B. LARKIN  
5-1/2" RECIPROCATING SCRATCHERS  
RUN ON 10' SPACING FROM 6897-  
6950 FT. R.K.B.

DAKOTA PERFORATIONS  
6870-6938 FT. R.K.B.

SUPCO EXHIBIT NO. \_\_\_\_\_



SURFACE HOLE SIZE = 12-1/4"  
PRODUCTION HOLE SIZE = 7-7/8"

BEFORE OIL AND GAS  
OIL COMPANY  
APPLICANT WILLIAM J. B.  
CASE NO. 5833

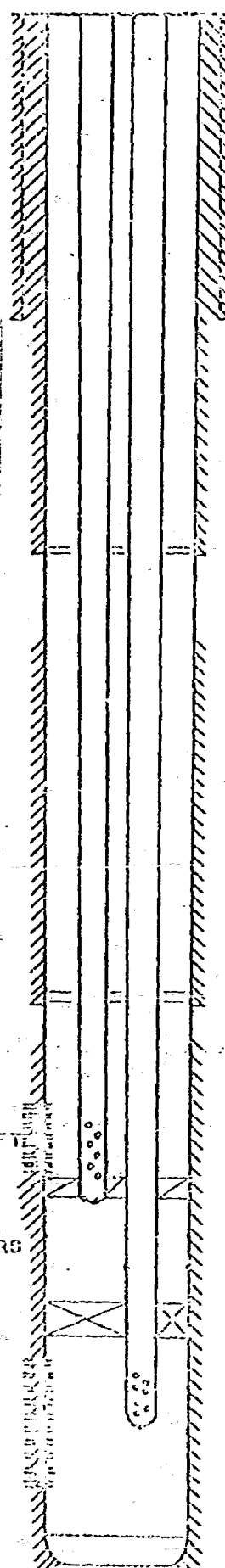
LARKIN FIG 502, 5-1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING ACROSS  
GALLUP FROM 5800 FT. - 6180 FT.  
R.K.B. LARKIN 5-1/2"  
RECIPROCATING SCRATCHERS RUN  
ON 10 FT. SPACING FROM 5810 FT. -  
6170 FT. R.K.B.

GALLUP PERFORATIONS  
5900 - 6130 FT. R.K.B.  
GALLUP T&G. PERF. FROM 6107-6111 FT.  
BAKER PARALLEL STRING TUBING  
ANCHOR SET AT 6144 FT. R.K.B.

LARKIN FIG 502, 5-1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING AND 5-1/2"  
RECIPROCATING SCRATCHERS RUN ON  
10 FT. SPACING ACROSS DAKOTA FROM  
6724 FT. - 7033 FT. R.K.B.

DAKOTA PERFORATIONS  
6926 - 6934 FT. R.K.B.

SUPCO EXHIBIT NO. \_\_\_\_\_



WELL: JICARILLA #3  
LOCATION: 2239 FEET FROM THE NORTH LINE  
790 FEET FROM THE WEST LINE C.  
SEC. 3, T-24N, R-5E, 134P.M.  
RIO ARriba COUNTY, NEW MEXICO

FIELD: BASIN DAKOTA - OTERO GALLUP  
DUAL COMPLETION.

SURFACE CASING: 8-5/8", 24.0#, J-55 SET AT  
341 FT. R.K.B. CEMENTED TO SURF.  
W/250 BAGS.

STAGE COLLAR SET AT 3602 FT. R.K.B.  
CEMENTED W/1200 CU. FT. CEMENT; CEMENT  
CIRCULATED TO SURFACE.

TOP CEMENT ON 2ND STAGE CEMENT AT 4220 FT.  
R.K.B.

STAGE COLLAR SET AT 4993 FT. R.K.B.  
CEMENTED W/375 CU. FT. OF CEMENT.  
TOP CEMENT ON 1ST STAGE CEMENT 5050 FT.  
R.K.B.

2-1/16", 3.25#, J-55 T&G. SET TO GALLUP  
6144 FT. R.K.B.

BAKER MODEL "L" GLIDING SLEEVE SET IN  
DAKOTA TUBING AT 6743 FT. R.K.B.  
BAKER 5-1/2" MODEL "L" PRODUCTION PACKER  
SET AT 6733 FT. R.K.B.

DAKOTA TUBING PERFORATED FROM 6926-6934

2-1/16", 3.25#, J-55 T&G. SET TO DAKOTA  
LANDED AT 6975 FT. R.K.B.

5-1/2" PRODUCTION CASING 15.50#, J-55 SET  
7004 FT. R.K.B. 1ST STAGE CEMENTED W/500  
CU. FT. CEMENT.  
P.B.T.D. 7043 FT. R.K.B.  
TOTAL DEPTH 7035 FT. R.K.B.

SOUTHERN UNION PRODUCTION COMPANY

SURFACE HOLE SIZE = 12-1/4"

PRODUCTION HOLE SIZE = 7-7/8"

BEFORE SETTING THE PUMP  
ON CEMENTED PERFORATIONS  
APPLICANT PERMIT NO. 3C  
CASE NO. 5833

LARKIN FIG. 502, 5 1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING ACROSS  
GALLUP FROM 5573 FT. - 5960 FT.  
R.K.B. LARKIN 5 1/2" RECIPROCATING  
SCRATCHERS RUN ON 10 FT. SPACING  
FROM 5573 FT. - 5960 FT. R.K.B.

5884 FT.

GALLUP PERFORATIONS

5874 FT.

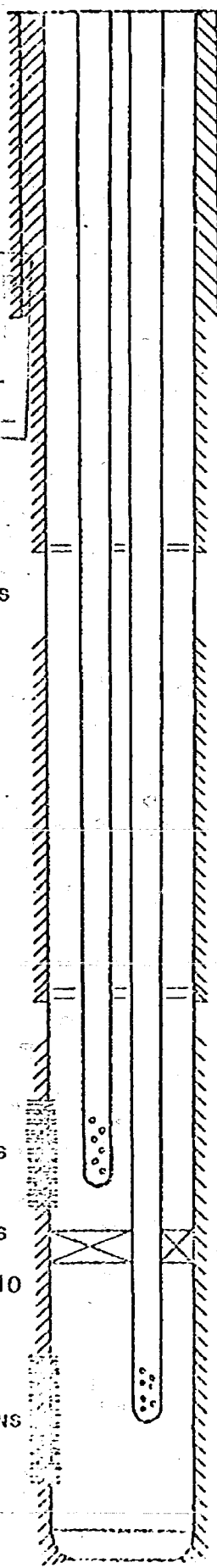
LARKIN FIG. 502, 5 1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING AND 5 1/2"  
RECIPROCATING SCRATCHERS RUN ON 10  
FT. SPACING ACROSS DAKOTA FROM  
6565 FT. - 6920 FT. R.K.B.

6804 FT.

DAKOTA PERFORATIONS

6880 FT.

SUPCI EXHIBIT NO. \_\_\_\_\_



WELL: JICARILLA "L" No. 4

LOCATION: 1650 FT. FROM THE NORTH LINE &  
1700 FT. FROM THE EAST LINE OF  
SECTION 9, TOWNSHIP 24 NORTH,  
RANGE 5 WEST, N.M.P.M., RIO ARRI  
COUNTY, NEW MEXICO.

FIELD: BASIN DAKOTA-OTERO GALLUP  
DUAL COMPLETION

SURFACE CASING: 8-5/8", 24.0#, J-55 SET AT  
303 FT. R.K.B. CEMENTED TO  
SURFACE W/250 SACKS

TOP CEMENT ON 3RD STAGE AT SURFACE

STAGE COLLAR SET AT 3506 FT. R.K.B.

CEMENTED W/1300 CU. FT. CEMENT.

TOP CEMENT ON 2ND STAGE 3506 FT. R.K.B.

STAGE COLLAR SET AT 4864 FT. R.K.B.

CEMENTED W/375 CU. FT. CEMENT

TOP CEMENT ON 1ST STAGE 5100 FT. R.K.B.

2-1/16", 3.25#, YCO-55 TBG. SET TO GALLUP  
AT 5782 FT. R.K.B. TBG. PERFORATED  
AT 5774 TO 5782 FT. R.K.B.

BAKER 5 1/2" MODEL "D" PRODUCTION PACKER SET  
6595 FT. R.K.B.

2-1/16", 3.25#, YCO-55 TBG. SET TO DAKOTA.  
LANDED AT 6831 FT. R.K.B. TBG.  
PERFORATED FROM 6823-6831 FT. R.K.B.

5 1/2", 15.5#, K-55 PRODUCTION CSG. SET AT 6920  
R.K.B. 1ST STAGE CEMENTED W/600  
CU. FT. CEMENT

P.B.T.D. 6897 FT. R.K.B.

TOTAL DEPTH 6925 FT. R.K.B.

SURFACE HOLE SIZE: 12-1/4"  
PRODUCTION HOLE SIZE: 7-7/8"

BEFORE EXAMINATION  
OIL CONSERVATION BOARD  
APPLICANT, EXHIBIT NO. 3D  
CASE NO. 5833

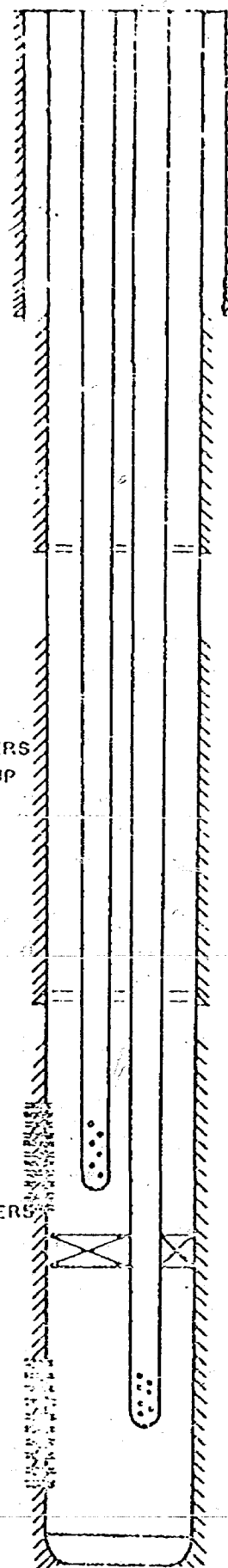
LARKIN FIG. 502, 5-1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING ACROSS GALLUP  
FROM 5950 FT. TO 6432 FT. R.K.B.  
LARKIN 5-1/2" RECIPROCATING  
SCRATCHERS RUN ON 10 FT. SPACING  
FROM 5950 FT. TO 6432 FT. R.K.B.

GALLUP PERFORATIONS:  
6050 FT. - 6332 FT. R.K.B.

LARKIN FIG. 502, 5-1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING AND 5-1/2"  
RECIPROCATING SCRATCHERS RUN ON  
10 FT. SPACING ACROSS DAKOTA  
FROM 6770 FT. TO 7154 FT. R.K.B.

DAKOTA PERFORATIONS:  
7056 FT. - 7114 FT. R.K.B.

SUPCO EXHIBIT NO. \_\_\_\_\_



SOUTHERN UNION PRODUCTION COMPANY  
JICARILL "L" No. 5 940 FT. FROM THE  
SOUTH LINE AND 1850 FEET FROM THE WEST  
LINE OF SECTION 33, TOWNSHIP 25 NORTH,  
RANGE 5 WEST, N.M.P.U., RIO ARIDA COUNTY,  
NEW MEXICO.

BASIN DAKOTA - OTERO GALLUP DUAL  
COMPLETION.

SURFACE CASING: 8-5/8", 22.0#, K-55  
SET AT 339 FT. R.K.B.  
CEMENTED TO SURFACE WITH  
250 SACKS.

TOP CEMENT ON 3RD STAGE AT 700 FT. R.K.B.  
CEMENTED WITH 1300 CU. FT. CEMENT.

STAGE COLLAR SET AT 3810 FT. R.K.B.

TOP CEMENT ON 2ND STAGE AT 4250 FT. R.K.B.  
CEMENTED WITH 375 CU. FT. CEMENT.

STAGE COLLAR SET AT 5165 FT. R.K.B.

TOP CEMENT ON 1ST STAGE AT 5400 FT.  
CEMENTED W/600 CU. FT. CEMENT.

2-1/16", 3.25#, YCO-55 TBG. SET TO  
GALLUP AT 6279 FT. R.K.B.

BAKER MODEL "D" 5-1/2" PRODUCTION PACKER  
SET AT 6890 FT. R.K.B.

2-1/16", 3.25#, YCO-55 TBG. SET TO DAKOTA  
BOTTOM OF TBG. AT 7056 FT. R.K.B.

PRODUCTION CASING: 5-1/2", 15.5#, K-55  
CASING. LANDED @ 7154 FT. R.K.B.

P.B.T.D. 7135 FT. R.K.B.

TOTAL DEPTH: 7172 FT. R.K.B.

SURFACE HOLE SIZE: 12-1/4"  
PRODUCTION HOLE SIZE: 7-7/8"

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
APPLICANT REPORT NO. 3E  
CASE NO. 5833

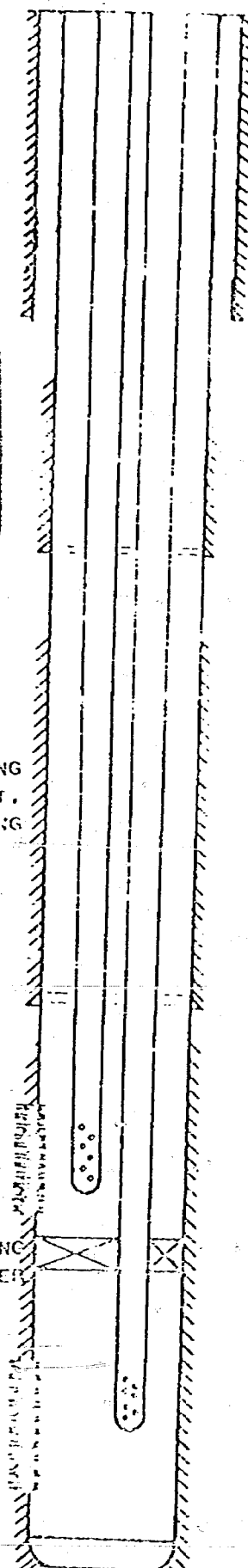
LARKIN FIG. 502, 5-1/2"  
CENTRALIZERS RUN ON 32 FT. SPACING  
ACROSS GALLUP FROM 5944 - 6456 FT.  
R.K.B. LARKIN 5-1/2" RECIPROCATING  
SCRATCHERS RUN ON 10 FT. SPACING  
FROM 5944 FT. TO 6456 FT. R.K.B.

GALLUP PERFORATIONS:  
6066 - 6356 FT. R.K.B.

LARKIN FIG. 502, 5-1/2"  
CENTRALIZERS RUN ON 32 FT. SPACING  
AND 5-1/2" RECIPROCATING SCRATCHERS  
RUN ON 10 FT. SPACING FROM  
6825 FT. TO 7209 FT. R.K.B.

DAKOTA PERFORATIONS:  
7084 - 7156 FT. R.K.B.

SUPCO EXHIBIT NO. \_\_\_\_\_



SOUTHERN UNION PRODUCTION COMPANY  
JICARIL "L" No. 6  
LOCATED 830 FT. SOUTH LINE AND 790 FT. W.  
LINE OF SEC. 34, T-25N, R-5E, N.M.P.M.,  
RIO ARriba COUNTY, NEW MEXICO.

DAKOTA - Otero Gallup  
DUAL COMPLETION.

SURFACE CASING: 8-5/8", 24.00, K-55 G.  
LANDED AT 303 FT. R.K.B. CEMENTED  
SURFACE W/250 SACKS CEMENT.

TOP CEMENT ON 3RD STAGE AT 1100 FT.  
CEMENTED W/1300 CU. FT. CEMENT.

STAGE COLLAR SET AT 3807 FT. R.K.B.

TOP CEMENT ON 2ND STAGE AT 4200 FT.  
CEMENTED W/400 CU. FT. CEMENT.

STAGE COLLAR SET AT 5173 FT. R.K.B.

TOP CEMENT ON 3RD STAGE AT 5400 FT.  
CEMENTED W/600 CU. FT. CEMENT.  
2-1/16", 3.25#, YCO-55, I.J. Tbg. SET  
GALLUP AT 6176 FT. R.K.B.

BAKER MODEL "D" 5-1/2" PRODUCTION  
PACKER SET AT 6000 FT. R.K.B.  
2-1/16", 3.25#, YCO-55, I.J. Tbg. SET  
DAKOTA. BOTTOM OF Tbg. AT 7070 FT. R.K.B.

PRODUCTION CASING: 6-1/2", 15.50, K-  
CASING. LANDED AT 7209 FT. R.K.B.

P.B.T.D. 7173 FT. R.K.B.

TOTAL DEPTH: 7210 FT. R.K.B.

SOUTHERN UNION PRODUCTION COMPANY

SURFACE HOLE SIZE = 12-1/4"  
PRODUCTION HOLE SIZE = 7-7/8"

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
APPLICANT EXHIBIT NO. 3F  
CASE NO. 5833

LARKIN FIG. 502, 5 1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING ACROSS  
GALLUP FROM 5692-6108 FT. R.K.B.

LARKIN 5 1/2" RECIPROCATING  
SCRATCHERS RUN ON 10 FT. SPACING  
FROM 5700 FT. TO 6100 FT. R.K.B.

5802 FT.  
GALLUP PERFS.

LARKIN FIG. 502, 5 1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING AND 5 1/2"  
RECIPROCATING SCRATCHERS RUN ON  
10 FT. SPACING ACROSS 6892 FT.  
DAKOTA FROM 6695 FT TO  
7005 FT. R.K.B.

DAKOTA PERFS.

SUPCO EXHIBIT NO. \_\_\_\_\_

6968 FT.

WELL: JICARILLA "N" No. 1  
LOCATION: 1850 FEET FROM THE SOUTH LINE &  
1850 FEET FROM THE WEST LINE OF  
SECTION 4, TOWNSHIP 24 NORTH,  
RANGE 5 WEST, N.M.P.M., RIO ARRA  
COUNTY, NEW MEXICO.  
FIELD: BASIN DAKOTA-OTERO GALLUP  
DUAL COMPLETION

SURFACE CASING: 8-5/8", 24.0#, J-55 SET AT  
339 FT. R.K.B. CEMENTED TO SURFACE  
W/250 SACKS.

TOP CEMENT ON 3RD STAGE AT 500 FT.

STAGE COLLAR SET AT 3559 FT. R.K.B.  
CEMENTED W/1200 CU.FT. CEMENT.

TOP CEMENT ON 2ND STAGE 4200 FT. R.K.B.

STAGE COLLAR SET AT 4979 FT. R.K.B.  
CEMENTED W/375 CU.FT. OF CEMENT.  
TOP CEMENT ON 1ST STAGE CEMENT 4930 FT. R.K.B.

2-1/16", 3.25#, YCO-55 TUBING SET TO GALLUP  
5982 FT. R.K.B. TBG. PERFORATED  
5982 FT. - 5974 FT.

BAKER 5 1/2" MODEL "D" PRODUCTION PACKER SET  
6735 FT. R.K.B.

2-1/16", 3.25#, YCO-55 TUBING SET TO DAKOTA  
LANDED AT 6907 FT. R.K.B. TUBING PERFORATED  
FROM 6899 FT. - 6897 FT. R.K.B.

5 1/2", 15.5#, K-55 PRODUCTION CASING SET AT  
7013 FT. R.K.B. 1ST STAGE CEMENT  
W/600 CU.FT. CEMENT.

P.B.T.D. - 6988 FT. R.K.B.

TOTAL DEPTH - 7015 FT. R.K.B.

SURFACE HOLE SIZE = 12-1/4"  
PRODUCTION HOLE SIZE = 7-7/8"

BEFORE EXAMINATION  
OIL CONSERVATION COMMISSION  
APPLICANT EXHIBIT NO. 36  
CASE NO. 5833

LARKIN FIG. 502, 5 1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING ACROSS GALLUP  
FROM 5742 FT. - 6136 FT. R.K.B.  
LARKIN 5 1/2" RECIPROCATING SCRATCHERS  
RUN ON 10 FT. SPACING FROM 5742 FT.  
TO 6136 FT. R.K.B.

5852 FT.

GALLUP PERFORATIONS

6048 FT.

LARKIN FIG. 502, 5 1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING AND 5 1/2"  
RECIPROCATING SCRATCHERS RUN ON  
10 FT. SPACING ACROSS DAKOTA FROM  
6750-7045 FT. R.K.B.

6934 FT.

DAKOTA PERFORATIONS

7002 FT.

SUPCO EXHIBIT NO.

WELL: JICARILLA "N" No. 2

LOCATION: 790 FEET FROM THE SOUTH LINE  
1850 FEET FROM THE WEST LINE OF  
SECTION 3, T-24N, R-5E, N.M.P.M.,  
RIO ARriba COUNTY, NEW MEXICO.

FIELD: BASIN DAKOTA-OTERO GALLUP  
DUAL COMPLETION

SURFACE CASING: 8-5/8", 24.0#, J-55 SET  
303 FT. R.K.B. CEMENTED TO  
SURFACE WITH 250 SACKS.

TOP CEMENT ON 3RD STAGE AT SURFACE

STAGE COLLAR SET AT 3583 FT. R.K.B.  
CEMENTED W/1300 CU.FT. CEMENT

TOP CEMENT ON 2ND STAGE 3583 FT. R.K.B.

STAGE COLLAR SET AT 4991 FT. R.K.B.  
CEMENTED W/375 CU.FT. OF CEMENT.

TOP CEMENT ON 1ST STAGE CEMENT 4991 FT. R.K.B.

2-1/16", 3.25#, YCO-55 TUBING SET TO GALLUP  
AT 6001 FT. R.K.B. TUBING PERFORATED  
FROM 5993-6001 FT.

BAKER 5 1/2" MODEL "D" PRODUCTION PACKER SET  
AT 6770 FT. R.K.B.

2-1/16", 3.25#, YCO-55 TUBING SET TO DAKOTA  
LANDED AT 6935 FT. R.K.B. TUBING  
PERFORATED FROM 6927-6935 FT. R.K.B.

5 1/2", 15.5#, K-55 PRODUCTION CASING SET AT  
7059 FT. R.K.B. 1ST STAGE CEMENT  
W/600 CU.FT. CEMENT.

P.B.T.D. 7022 FT. R.K.B.

TOTAL DEPTH 7060 FT. R.K.B.



# OIL CONSERVATION COMMISSION

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



DIRECTOR  
JOE D. RAMEY

LAND COMMISSIONER  
PHIL R. LUCERO  
February 10, 1977

STATE GEOLOGIST  
EMERY C. ARNOLD

Mr. Jack Campbell  
Campbell & Bingaman  
Attorneys at Law  
Post Office Box 2208  
Santa Fe, New Mexico

Re: CASE NO. 5833  
ORDER NO. R-5354-A

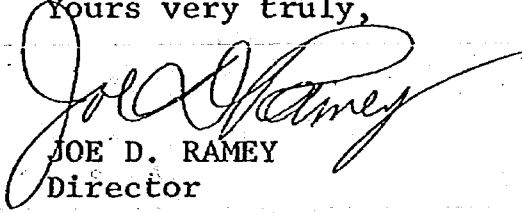
Applicant:

Southern Union Production Company

Dear Sir:

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

Yours very truly,

  
JOE D. RAMEY  
Director

JDR/fd

Copy of order also sent to:

Hobbs OCC	<u>x</u>
Artesia OCC	<u>x</u>
Aztec OCC	<u>x</u>

Other \_\_\_\_\_



BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

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

CASE NO. 5833  
Order No. R-5354-A

APPLICATION OF SOUTHERN UNION  
PRODUCTION COMPANY FOR DOWNHOLE  
COMMINGLING, RIO ARRIBA COUNTY,  
NEW MEXICO.

NUNC PRO TUNC

BY THE COMMISSION:

It appearing to the Commission that Order No. R-5354,  
dated January 17, 1977, does not correctly state the intended  
order of the Commission due to error,

IT IS THEREFORE ORDERED:

(1) That Paragraph (2) on Page 1 of Order No. R-5354,  
Case No. 5833, be and the same is hereby corrected to read in  
its entirety as follows:

"(2) That the applicant, Southern Union  
Production Company, is the owner and operator of  
the following wells in Rio Arriba County, New  
Mexico:

TOWNSHIP 24 NORTH, RANGE 5 WEST, NMPM  
Jicarilla "L" Well No. 2, Unit G Section 10  
Jicarilla "L" Well No. 3, Unit E Section 3  
Jicarilla "L" Well No. 4, Unit G Section 9  
Jicarilla "N" Well No. 1, Unit K Section 4  
Jicarilla "N" Well No. 2, Unit N Section 3

TOWNSHIP 25 NORTH, RANGE 5 WEST, NMPM  
Jicarilla "L" Well No. 5, Unit N Section 33  
Jicarilla "L" Well No. 6, Unit M Section 34"

(2) That Paragraph (1) on Page 2 of Order No. R-5354,  
Case No. 5833, be and the same is hereby corrected to read in  
its entirety as follows:

-2-

Case No. 5833

Order No. R-5354-A

"(1) That the applicant, Southern Union Production Company, is hereby authorized to commingle Gallup and Dakota production within the wellbores of the following wells in Rio Arriba County, New Mexico:

TOWNSHIP 24 NORTH, RANGE 5 WEST, NMPM

Jicarilla "L" Well No. 2, Unit G Section 10

Jicarilla "L" Well No. 3, Unit E Section 3

Jicarilla "L" Well No. 4, Unit G Section 9

Jicarilla "N" Well No. 1, Unit K Section 4

Jicarilla "N" Well No. 2, Unit N Section 3

TOWNSHIP 25 NORTH, RANGE 5 WEST, NMPM

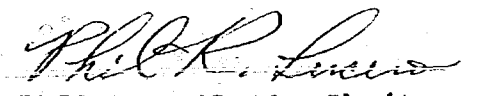
Jicarilla "L" Well No. 5, Unit N Section 33

Jicarilla "L" Well No. 6, Unit M Section 34"

(3) That the corrections set forth in this order be entered nunc pro tunc as of January 17, 1977.

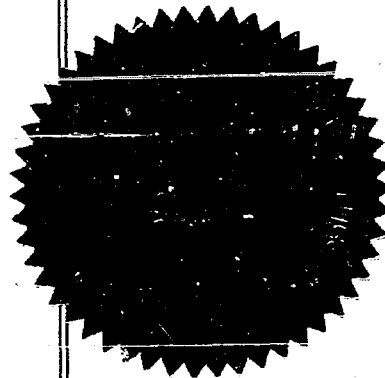
DONE at Santa Fe, New Mexico, on this 8th day of February, 1977.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
PHIL R. LUCERO, Chairman

  
EMERY C. ARNOLD, Member

  
JOE D. RAMSEY, Member & Secretary



S E A L

dr/



## OIL CONSERVATION COMMISSION

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



DIRECTOR  
JOE D. RAMEY

LAND COMMISSIONER  
PHIL R. LUCERO  
January 18, 1977

STATE GEOLOGIST  
EMERY C. ARNOLD

Mr. Jack Campbell  
Campbell & Bingaman  
Attorneys at Law  
Post Office Box 2208  
Santa Fe, New Mexico 87501

Re: CASE NO. 5933  
ORDER NO. R-5354

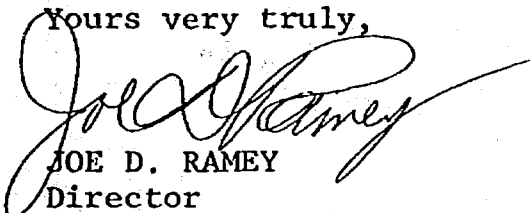
Applicant:

Southern Union Production Company

Dear Sir:

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

Yours very truly,

  
JOE D. RAMEY  
Director

JDR/fd

Copy of order also sent to:

Hobbs OCC x  
Artesia OCC x  
Aztec OCC x

Other \_\_\_\_\_  
\_\_\_\_\_

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

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

CASE NO. 5833  
Order No. R-5354

APPLICATION OF SOUTHERN UNION  
PRODUCTION COMPANY FOR DOWNHOLE  
COMINGLING, RIO ARRIBA COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on January 5, 1977,  
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 17th day of January, 1977, the Commission,  
a quorum being present, having considered the testimony, the  
record, and the recommendations of the Examiner, and being  
fully advised in the premises,

FINDS:

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

(2) That the applicant, Southern Union Production Company,  
is the owner and operator of the following wells in Rio Arriba  
County, New Mexico:

TOWNSHIP 24 NORTH, RANGE 5 WEST, NMPM  
Jicarilla "L" Well No. 5, Unit N Section 33  
Jicarilla "L" Well No. 6, Unit M Section 34

TOWNSHIP 25 NORTH, RANGE 5 WEST, NMPM  
Jicarilla "L" Well No. 2, Unit G Section 10  
Jicarilla "L" Well No. 3, Unit E Section 3  
Jicarilla "L" Well No. 4, Unit G Section 9  
Jicarilla "N" Well No. 1, Unit K Section 4  
Jicarilla "N" Well No. 2, Unit N Section 3

-2-

Case No. 5833  
Order No. R-5354

(3) That the applicant seeks authority to commingle Otero-Gallup and Basin-Dakota production within the wellbore of each of the above-described wells.

(4) That from the Gallup zone, each of the subject wells is capable of low marginal production only.

(5) That from the Dakota zone, each of the subject wells 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 none of the wells is shut-in for an extended period.

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

(9) That in order to allocate the commingled production to each of the commingled zones in each of the subject wells, applicant should consult with the Supervisor of the Aztec District Office of the Commission upon completion of the commingling workover operation on the well, and determine the allocation formula for that well.

IT IS THEREFORE ORDERED:

(1) That the applicant, Southern Union Production Company, is hereby authorized to commingle Gallup and Dakota production within the wellbores of the following wells in Rio Arriba County, New Mexico:

TOWNSHIP 24 NORTH, RANGE 5 WEST, NMPM  
Jicarilla "L" Well No. 5, Unit N Section 33  
Jicarilla "L" Well No. 6, Unit M Section 34

-3-  
Case No. 5833  
Order No. R-5354

TOWNSHIP 25 NORTH, RANGE 5 WEST, NMPM

Jicarilla "L" Well No. 2, Unit G Section 10  
Jicarilla "L" Well No. 3, Unit E Section 3  
Jicarilla "L" Well No. 4, Unit G Section 9  
Jicarilla "N" Well No. 1, Unit K Section 4  
Jicarilla "N" Well No. 2, Unit N Section 3

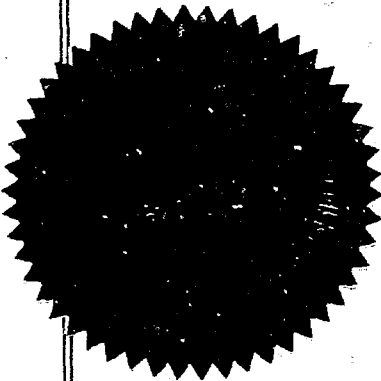
(2) That in order to allocate the commingled production to each of the commingled zones in each of the subject wells, applicant shall consult with the Supervisor of the Aztec District Office of the Commission upon completion of the commingling workover operation on the well, and determine the allocation formula for that well.

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

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

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

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

  
*Phil R. Lucero*  
PHIL R. LUCERO, Chairman

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

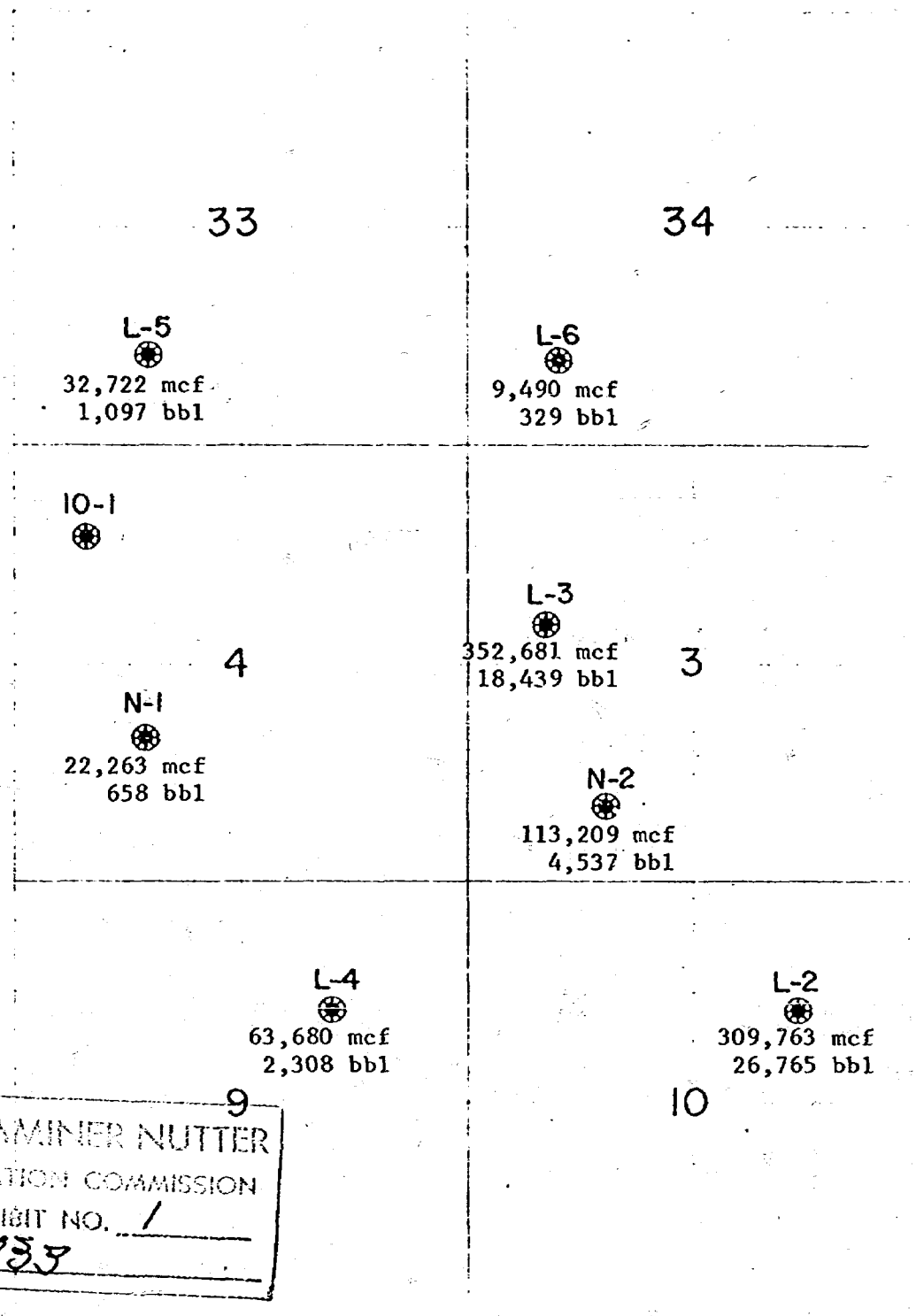
*Joe D. Ramey*  
JOE D. RAMEY, Member & Secretary

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CUMMULATIVE PRODUCTION  
OTERO GALLUP FORMATION

R-5-W



T  
25  
N

T  
24  
N

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
*Applicant* EXHIBIT NO. 1  
CASE NO. 5853

JICARILLA AREA  
TRIBAL CONTRACTS NO. 10 & 418  
RIO ARRIBA COUNTY, N.M.

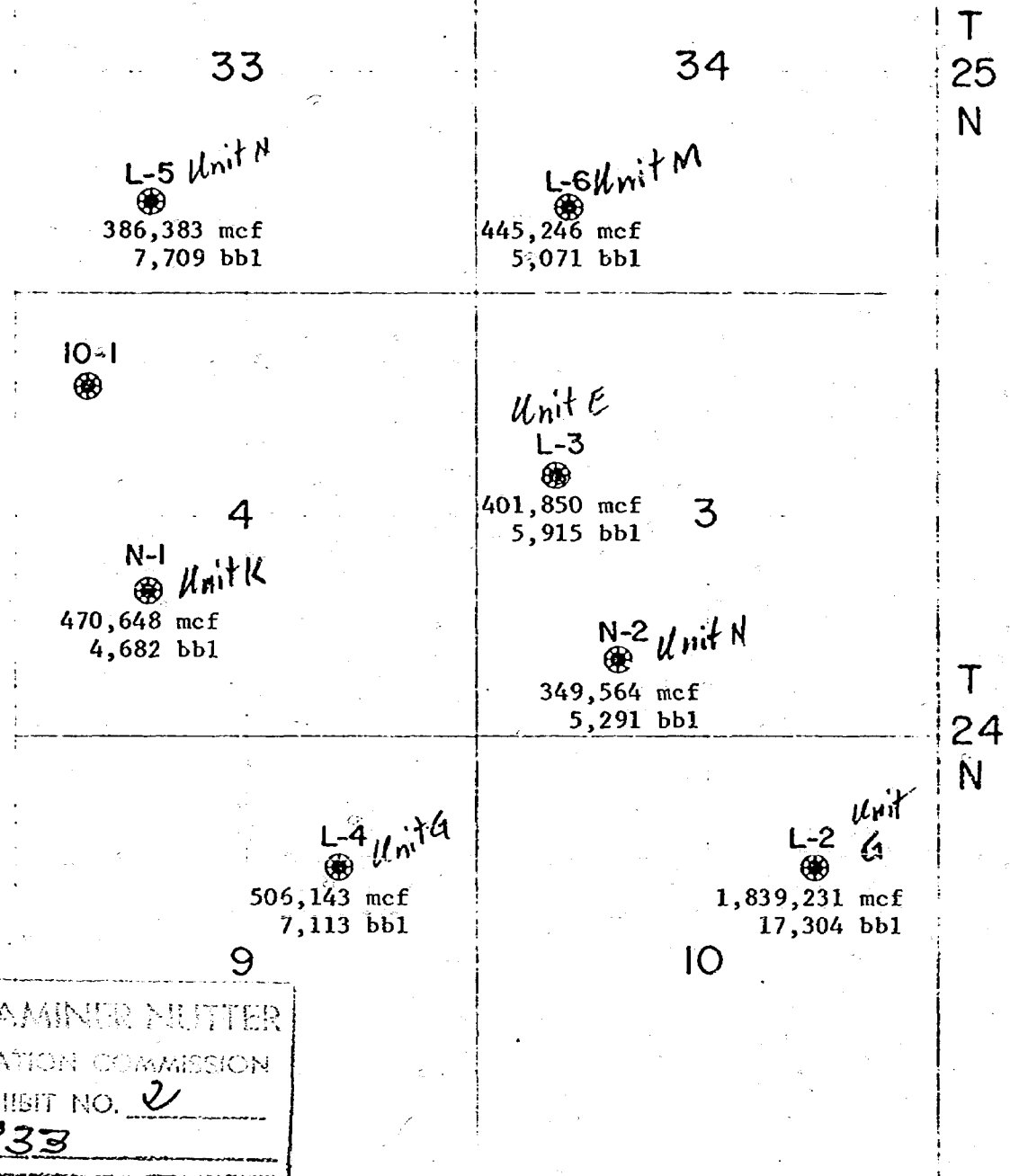
SUPCO EXHIBIT NO. \_\_\_\_\_

⊗ Dual Completion  
Otero Gallup Oil - Dakota Gas

Cummulative Gas Production - 11/30/76  
Cummulative Oil Production - 11/30/76

CUMULATIVE PRODUCTION  
BASIN DAKOTA FORMATION

R-5-W



JICARILLA AREA  
TRIBAL CONTRACTS NO. 10 & 418  
RIO ARRIBA COUNTY, N.M.

SUPCO EXHIBIT NO. \_\_\_\_\_

⊗ Dual Completion  
Otero Gallup Oil - Dakota Gas

Cumulative Gas Production - 11/30/76  
Cumulative Oil Production - 11/30/76



SURFACE HOLE SIZE 12-1/2"  
PRODUCTION HOLE SIZE 7-7/8"

BEFORE EXAMINATION

OIL CONSERVATION COMMISSION

Applicant EXHIBIT NO. 3a

CASE NO. 5833

LARKIN FIG. 502, 5-1/2"  
CENTRALIZERS RUN ON 31 FT.  
SPACING ACROSS GALLUP FROM 5700  
FT.-6103 FT. R.K.B. LARKIN  
5-1/2" RECIPROCATING SCRATCHERS  
RUN ON 10 FT. SPACING FROM  
5710-6093 FT. R.K.B.

GALLUP TUBING PERFORATED 6036-  
6040 FT. R.K.B.

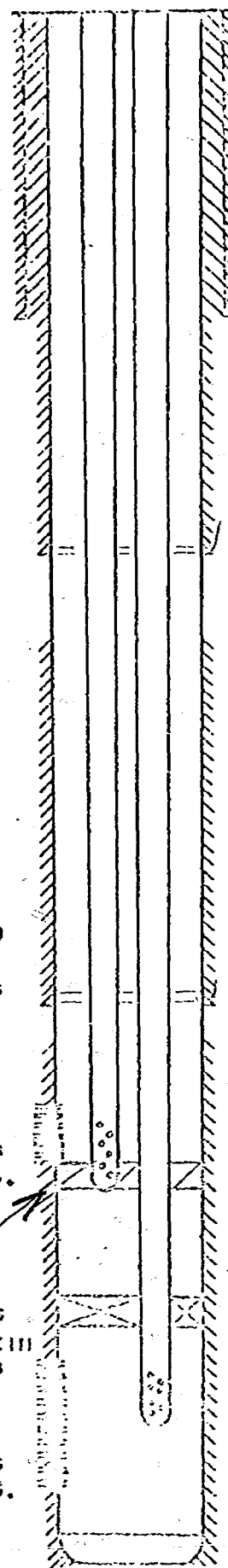
GALLUP PERFORATIONS  
5799-6020 FT. R.K.B.

BAKER PARALLEL STRIPS TUBING  
ANCHOR SET AT 6072 FT. R.K.B.

LARKIN FIG. 502, 5-1/2"  
CENTRALIZERS RUN 30 FT. SPACING  
FROM 6502-6532 FT. R.K.B. LARKIN  
5-1/2" RECIPROCATING SCRATCHERS  
RUN ON 10' SPACING FROM 6527-  
6530 FT. R.K.B.

DAKOTA PERFORATIONS  
6529-6533 FT. R.K.B.

SUPCO EXHIBIT NO.



SOUTHERN PRODUCTION COMPANY

WELL: J. ARILLA "L" #2

LOCATION: 1650 FEET FROM NORTH LINE AND  
1650 FEET FROM EAST LINE, SEC.  
TOWNSHIP 24 NORTH, RANGE 5 WEST  
N.M.P.M., RIO ARriba COUNTY,  
NEW MEXICO.

FIELD: BASIN DAKOTA - OTERO GALLUP  
DUAL COMPLETION.

SURFACE CASING: 8-5/8", 24.0#, J-55 SET AT  
305 FT. R.K.B. CEMENTED TO SURFACE 1/250

STAGE COLLAR SET AT 3545 FT. R.K.B. CEMENT  
W/1175 CU. FT. CEMENT; CEMENT CIRCULATED TO  
SURFACE.

TOP CEMENT ON 2ND STAGE CEMENT 3700 FT. R.K.B.

STAGE COLLAR SET AT 4925 FT. R.K.B. CEMENT  
W/360 CU. FT. CEMENT.

TOP CEMENT ON 1ST STAGE CEMENT 5400 FT. R.K.B.

2-1/16", 3.25#, JCN-55 TBG. SET TO GALLUP.  
LANDED AT 6072 FT. R.K.B.

BAKER MODEL "L" SLIDING SLEEVE SET IN DAKOTA  
TUBING AT 6721 FT. R.K.B.

BAKER 5-1/2" MODEL "L" PRODUCTION PACKER  
SET AT 6723 FEET R.K.B.

DAKOTA TUBING PERFORATED FROM 6859-6864 FT.  
R.K.B.

2-1/16", 3.25#, JCN-55 TUBING SET TO DAKOTA  
LANDED AT 6965 FT. R.K.B.

PRODUCTION CASING: 5-1/2", 15.50#, J-55 C  
SET AT 6997 FT. R.K.B. FIRST STAGE CEMENT  
W/550 CU. FT. OF CEMENT.

P.B.T.D. 6963 FEET.

TOTAL DEPTH 7000 FT.

SURFACE HOLE SIZE = 12-1/4"  
PRODUCTION HOLE SIZE = 7-7/8"

BEFORE EXAMINING MUTTER  
OIL CONSERVATION DIVISION  
*Applicant* EXHIBIT NO. 36  
CASE NO. 5833

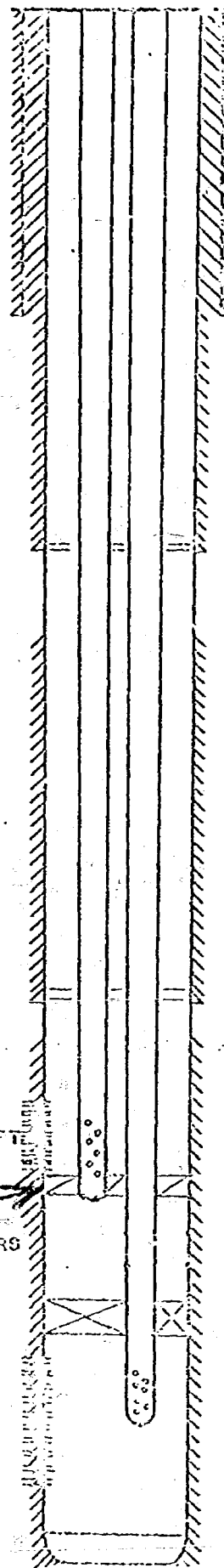
LARKIN FIG 502, 5-1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING ACROSS  
GALLUP FROM 5800 FT. - 6180 FT.  
R.K.B. LARKIN 5-1/2"  
RECIPROCATING SCRATCHERS RUN  
ON 10 FT. SPACING FROM 5810 FT. -  
6170 FT. R.K.B.

GALLUP PERFORATIONS  
5900 - 6130 FT. R.K.B.  
GALLUP T&G, PERF. FROM 6107-6111 FT.  
BAKER PARALLEL STRING TUBING  
ANCHOR SET AT 6174 FT. R.K.B.

LARKIN FIG 502, 5-1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING AND 5-1/2"  
RECIPROCATING SCRATCHERS RUN ON  
10 FT. SPACING ACROSS DAKOTA FROM  
6724 FT. - 7033 FT. R.K.B.

DAKOTA PERFORATIONS  
6926 - 6984 FT. R.K.B.

SUPCO EXHIBIT NO. \_\_\_\_\_



WELL: JICARILLA #1 #3  
LOCATION: 2259 FEET FROM THE NORTH LINE  
750 FEET FROM THE WEST LINE OF  
SEC. 3, T-24N, R-5E, N.M.P.M.  
RIO ARriba COUNTY, NEW MEXICO

FIELD: BASIN DAKOTA - OTERO GALLUP  
DUAL COMPLETION.

SURFACE CASING: 8-5/8", 24.0#, J-55 SET AT  
341 FT. R.K.B. CEMENTED TO SURFACE  
W/250 SACKS.

STAGE COLLAR SET AT 3602 FT. R.K.B.  
CEMENTED W/1200 CU. FT. CEMENT; CEMENT  
CIRCULATED TO SURFACE.

TOP CEMENT ON 2ND STAGE CEMENT AT 4220 FT.  
R.K.B.

STAGE COLLAR SET AT 4993 FT. R.K.B.  
CEMENTED W/375 CU. FT. OF CEMENT.  
TOP CEMENT ON 1ST STAGE CEMENT 5030 FT.  
R.K.B.

2-1/16", 3.25#, JCI-55 T&G. SET TO GALLUP AT  
6144 FT. R.K.B.

BAKER MODEL "L" SLIDING SLEEVE SET IN  
DAKOTA TUBING AT 6743 FT. R.K.B.  
BAKER 5-1/2" MODEL 657 PRODUCTION PACKER  
SET AT 6733 FT. R.K.B.

DAKOTA TUBING PERFORATED FROM 6961-6975 FT.

2-1/16", 3.25#, JCI-55 T&G. SET TO DAKOTA  
LANDED AT 6975 FT. R.K.B.

5-1/2" PRODUCTION CASING 15.50#, J-55 SET  
7004 FT. R.K.B. 1ST STAGE CEMENTED W/500  
CU. FT. CEMENT.  
P.B.T.D. 7043 FT. R.K.B.  
TOTAL DEPTH 7035 FT. R.K.B.

SOUTHERN UNION PRODUCTION COMPANY

SURFACE HOLE SIZE = 12-1/4"

PRODUCTION HOLE SIZE = 7-7/8"

BEFORE EXAMINATION  
OIL CONSERVATION COMMISSION  
*Applicant* EXHIBIT NO. 3c  
CASE NO. 5833

LARKIN FIG. 502, 5 1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING ACROSS  
GALLUP FROM 5573 FT. - 5960 FT.  
R.K.B. LARKIN 5 1/2" RECIPROCATING  
SCRATCHERS RUN ON 10 FT. SPACING  
FROM 5573 FT. - 5960 FT. R.K.B.

5884 FT.

GALLUP PERFORATIONS

5874 FT.

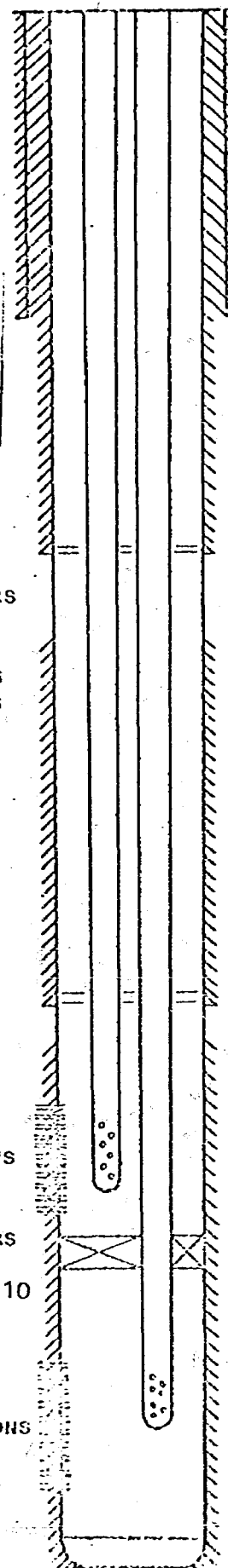
LARKIN FIG. 502, 5 1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING AND 5 1/2"  
RECIPROCATING SCRATCHERS RUN ON 10  
FT. SPACING ACROSS DAKOTA FROM  
6565 FT. - 6920 FT. R.K.B.

6804 FT.

DAKOTA PERFORATIONS

6880 FT.

SUPCI EXHIBIT NO. \_\_\_\_\_



WELL: JICARILLA "L" No. 4

LOCATION: 1650 FT. FROM THE NORTH LINE &  
1700 FT. FROM THE EAST LINE OF  
SECTION 9, TOWNSHIP 24 NORTH,  
RANGE 5 WEST, N.M.P.M., RIO ARRI  
COUNTY, NEW MEXICO.

FIELD: BASIN DAKOTA-OTERO GALLUP  
DUAL COMPLETION

SURFACE CASING: 8-5/8", 24.0#, J-55 SET AT  
303 FT. R.K.B. CEMENTED TO  
SURFACE W/250 SACKS

TOP CEMENT ON 3RD STAGE AT SURFACE

STAGE COLLAR SET AT 3506 FT. R.K.B.

CEMENTED W/1300 CU.FT. CEMENT.

TOP CEMENT ON 2ND STAGE 3506 FT. R.K.B.

STAGE COLLAR SET AT 4864 FT. R.K.B.

CEMENTED W/375 CU. FT. CEMENT

TOP CEMENT ON 1ST STAGE 5100 FT. R.K.B.

2-1/16", 3.25#, YCO-55 TBG. SET TO GALLUP  
AT 5782 FT. R.K.B. TBG. PERFORA  
AT 5774 TO 5782 FT. R.K.B.

BAKER 5 1/2" MODEL "D" PRODUCTION PACKER SET  
6595 FT. R.K.B.

2-1/16", 3.25#, YCO-55 TBG. SET TO DAKOTA.  
LANDED AT 6831 FT. R.K.B. TBG.  
PERFORATED FROM 6823-6831 FT. R.K.B.

5 1/2", 15.5#, K-55 PRODUCTION CSG. SET AT 6924  
R.K.B. 1ST STAGE CEMENTED W/600  
CU. FT. CEMENT

P.B.T.D. 6897 FT. R.K.B.

TOTAL DEPTH 6925 FT. R.K.B.

SURFACE HOLE SIZE: 12-1/4"  
PRODUCTION HOLE SIZE: 7-7/8"

BEFORE EXAMINATION  
OIL CONSERVATION COMMISSION  
*Applicant* EXHIBIT NO. 3d  
CASE NO. 5833

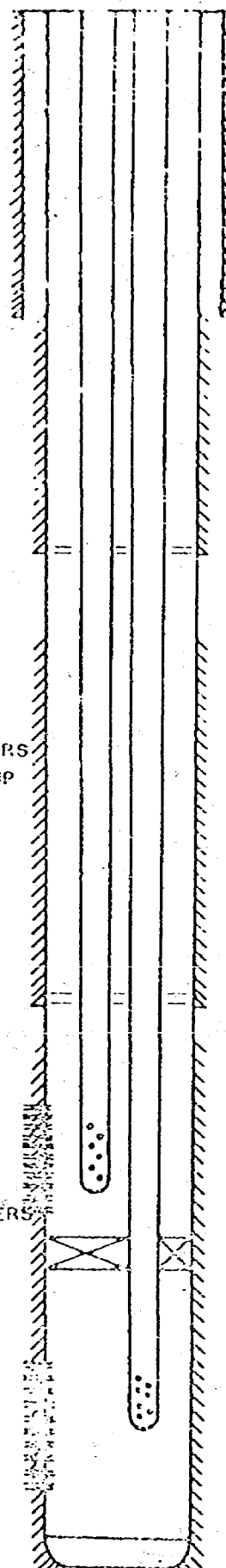
LARKIN FIG. 502, 5-1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING ACROSS GALLUP  
FROM 5950 FT. TO 6432 FT. R.K.B.  
LARKIN 5-1/2" RECIPROCATING  
SCRATCHERS RUN ON 10 FT. SPACING  
FROM 5950 FT. TO 6432 FT. R.K.B.

GALLUP PERFORATIONS:  
6050 FT. - 6332 FT. R.K.B.

LARKIN FIG. 502, 5-1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING AND 5-1/2"  
RECIPROCATING SCRATCHERS RUN ON  
10 FT. SPACING ACROSS DAKOTA  
FROM 6770 FT. TO 7154 FT. R.K.B.

DAKOTA PERFORATIONS:  
7056 FT. - 7114 FT. R.K.B.

SUPCO EXHIBIT NO. \_\_\_\_\_



SOUTHERN UNION PRODUCTION COMPANY  
JICARILL "L" No. 5 940 FT. FROM THE  
SOUTH LINE AND 1850 FEET FROM THE WEST  
LINE OF SECTION 33, TOWNSHIP 25 NORTH,  
RANGE 5 WEST, T.M.P.M., RIO ARriba COUNTY,  
NEW MEXICO.

BASIN DAKOTA - Otero GALLUP DUAL  
COMPLETION.

SURFACE CASING: 8-5/8", 22.0%, K-55  
SET AT 339 FT. R.K.B.  
CEMENTED TO SURFACE WITH  
250 SACKS.

TOP CEMENT ON 3RD STAGE AT 700 FT. R.K.B.  
CEMENTED WITH 1300 CU. FT. CEMENT.

STAGE COLLAR SET AT 3810 FT. R.K.B.

TOP CEMENT ON 2ND STAGE AT 4250 FT. R.K.B.  
CEMENTED WITH 375 CU. FT. CEMENT.

STAGE COLLAR SET AT 5165 FT. R.K.B.

TOP CEMENT ON 1ST STAGE AT 5400 FT.  
CEMENTED W/600 CU. FT. CEMENT.

2-1/16", 3.25#, YCO-55 TBG. SET TO  
GALLUP AT 6279 FT. R.K.B.

BAKER MODEL "D" 5-1/2" PRODUCTION PACKER  
SET AT 6890 FT. R.K.B.

2-1/16", 3.25#, YCO-55 TBG. SET TO DAKOTA  
BOTTOM OF TBG. AT 7056 FT. R.K.B.

PRODUCTION CASING: 5-1/2", 15.5%, K-55  
CASING, LANDED @ 7154 FT. R.K.B.

P.B.T.D. 7135 FT. R.K.B.

TOTAL DEPTH: 7172 FT. R.K.B.

SURFACE HOLE SIZE: 12-1/4"  
PRODUCTION HOLE SIZE: 7-7/8"

BEFORE EXAMINED NUTTER  
OIL CONSERVATION COMMISSION  
*Applied* EXHIBIT NO. 3e  
CASE NO. 5833

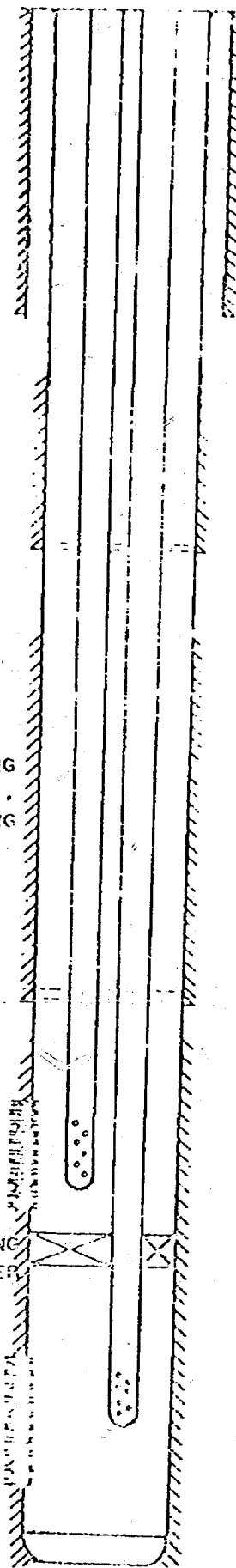
LARKIN FIG. 502, 5-1/2"  
CENTRALIZERS RUN ON 32 FT. SPACING  
ACROSS GALLUP FROM 5944 - 6456 FT.  
R.K.B. LARKIN 5-1/2" RECIPROCATING  
SCRATCHERS RUN ON 10 FT. SPACING  
FROM 5944 FT. TO 6456 FT. R.K.B.

GALLUP PERFORATIONS:  
6066 - 6356 FT. R.K.B.

LARKIN FIG. 502, 5-1/2"  
CENTRALIZERS RUN ON 32 FT. SPACING  
AND 5-1/2" RECIPROCATING SCRATCHER  
RUN ON 10 FT. SPACING FROM  
6325 FT. TO 7209 FT. R.K.B.

DAKOTA PERFORATIONS:  
7084 - 7156 FT. R.K.B.

SUPCO EXHIBIT NO. \_\_\_\_\_



SOUTHERN UNION PRODUCTION COMPANY  
JICARIL "U" No. 6  
LOCATED 830 FT. SOUTH LINE AND 790 FT. W.  
LINE OF SEC. 34, T-25N, R-5W, N.M.P.M.,  
RIO ARRIPEA COUNTY, NEW MEXICO.

LARKIN DAKOTA - OTTAWA GALLUP  
DUAL COMPLETION.

SURFACE CASING: 8-1/8", 24.0#, K-55 G.  
LANDED AT 303 FT. R.K.B. CEMENTED  
SURFACE W/250 SACKS CEMENT.

TOP CEMENT ON 3RD STAGE AT 1100 FT.  
CEMENTED W/1300 CU. FT. CEMENT.

STAGE COLLAR SET AT 3807 FT. R.K.B.

TOP CEMENT ON 2ND STAGE AT 4200 FT.  
CEMENTED W/400 CU. FT. CEMENT.

STAGE COLLAR SET AT 5173 FT. R.K.B.

TOP CEMENT ON 3RD STAGE AT 5400 FT.  
CEMENTED W/600 CU. FT. CEMENT.

2-1/16", 3.25#, YCO-55, I.J. TUG. SET  
GALLUP AT 6176 FT. R.K.B.

BAKER MODEL "D" 5-1/2" PRODUCTION  
PACKER SET AT 6000 FT. R.K.B.

2-1/16", 3.25#, YCO-55, I.J. TUG. SET  
DAKOTA. BOTTOM OF TUG. AT 7070 FT. R.K.B.

PRODUCTION CASING: 5-1/2", 15.50#, K-  
CASING. LANDED AT 7209 FT. R.K.B.

P.B.T.D. 7173 FT. R.K.B.

TOTAL DEPTH: 7210 FT. R.K.B.

SURFACE HOLE SIZE = 12-1/4"  
 PRODUCTION HOLE SIZE = 7-7/8"

BEFORE EXAMINER NUTTER  
 OIL CONSERVATION COMMISSION  
*Implicant* EXHIBIT NO. 3f  
 CASE NO. 5833

LARKIN FIG. 502, 5 1/2" CENTRALIZERS  
 RUN ON 32 FT. SPACING ACROSS  
 GALLUP FROM 5692-6108 FT. R.K.B.

LARKIN 5 1/2" RECIPROCATING  
 SCRATCHERS RUN ON 10 FT. SPACING  
 FROM 5700 FT. TO 6100 FT. R.K.B.

5802 FT.  
 GALLUP PERFS.

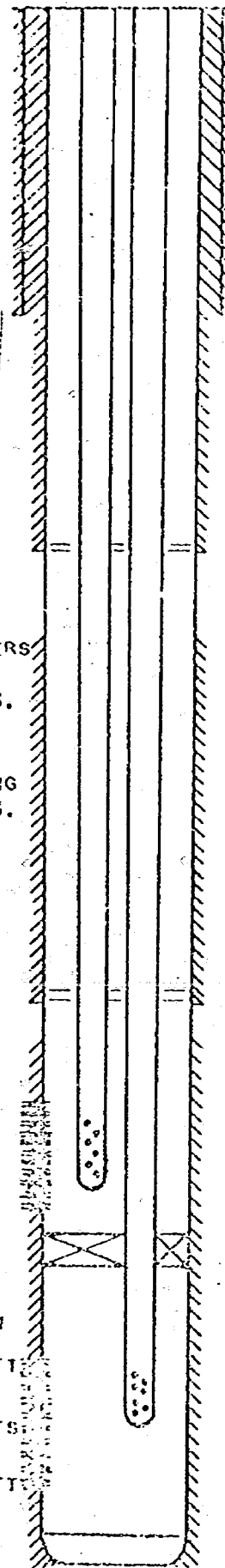
6002 FT.

LARKIN FIG. 502, 5 1/2" CENTRALIZERS  
 RUN ON 32 FT. SPACING AND 5 1/2"  
 RECIPROCATING SCRATCHERS RUN ON  
 10 FT. SPACING ACROSS 6892 FT.  
 DAKOTA FROM 6695 FT TO  
 7005 FT. R.K.B.

DAKOTA PERFS.

SUPCO EXHIBIT NO. \_\_\_\_\_

6968 FT.



WELL: JICARILLA "W" No. 1

LOCATION: 1850 FEET FROM THE SOUTH LINE &  
 1850 FEET FROM THE WEST LINE OF  
 SECTION 4, TOWNSHIP 24 NORTH,  
 RANGE 5 WEST, N.M.P.M., RIO ARRA  
 COUNTY, NEW MEXICO.

FIELD: BASIN DAKOTA-OTERO GALLUP  
 DUAL COMPLETION

SURFACE CASING: 8-5/8", 24.0#, J-55 SET AT  
 339 FT. R.K.B. CEMENTED TO SURFACE  
 W/250 SACKS.

TOP CEMENT ON 3RD STAGE AT 500 FT.

STAGE COLLAR SET AT 3569 FT. R.K.B.  
 CEMENTED W/1200 CU. FT. CEMENT.

TOP CEMENT ON 2ND STAGE 4200 FT. R.K.B.

STAGE COLLAR SET AT 4979 FT. R.K.B.  
 CEMENTED W/375 CU. FT. OF CEMENT.  
 TOP CEMENT ON 1ST STAGE CEMENT 4930 FT. R.K.B.

2-1/16", 3.25#, YCO-55 TUBING SET TO GALLUP  
 5982 FT. R.K.B. TBG. PERFORATED  
 5982 FT. - 5974 FT.

BAKER 5 1/2" MODEL "D" PRODUCTION PACKER SET  
 6735 FT. R.K.B.

2-1/16", 3.25#, YCO-55 TUBING SET TO DAKOTA  
 LANDED AT 6907 FT. R.K.B. TUBING PERFORATED  
 FROM 6899 FT. - 6907 FT. R.K.B.

5 1/2", 15.5#, K-55 PRODUCTION CASING SET AT  
 7013 FT. R.K.B. 1ST STAGE CEMENT  
 W/100 CU. FT. CEMENT.

P.B.T.D. - 6988 FT. R.K.B.

TOTAL DEPTH - 7015 FT. R.K.B.

SURFACE HOLE SIZE = 12-1/4"  
PRODUCTION HOLE SIZE = 7-7/8"

BEFORE EXAMINER MUTTER  
OIL CONSERVATION COMMISSION  
*Applicant* EXHIBIT NO. 39  
CASE NO. 5833

LARKIN FIG. 502, 5 1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING ACROSS GALLUP  
FROM 5742 FT. - 6136 FT. R.K.B.  
LARKIN 5 1/2" RECIPROCATING SCRATCHERS  
RUN ON 10 FT. SPACING FROM 5742 FT.  
TO 6136 FT. R.K.B.

5852 FT.

GALLUP PERFORATION

6048 FT.

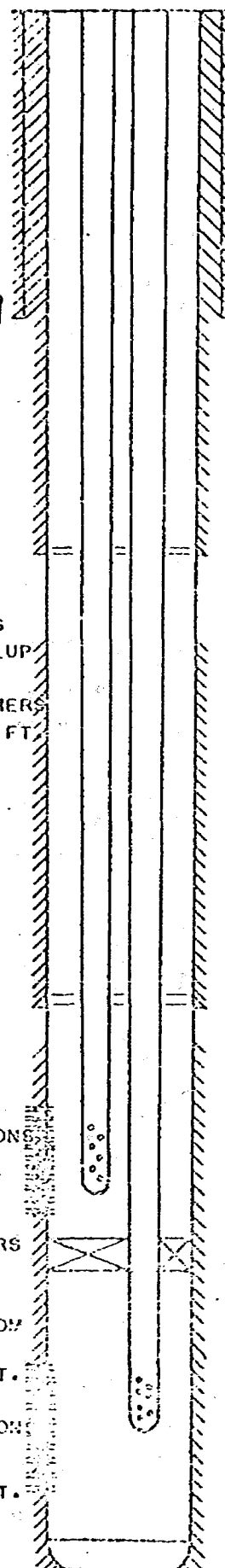
LARKIN FIG. 502, 5 1/2" CENTRALIZERS  
RUN ON 32 FT. SPACING AND 5 1/2"  
RECIPROCATING SCRATCHERS RUN ON  
10 FT. SPACING ACROSS DAKOTA FROM  
6750-7045 FT. R.K.B.

6934 FT.

DAKOTA PERFORATION

7002 FT.

SUPCO EXHIBIT NO. \_\_\_\_\_



WELL: JICARILLA "W" No. 2

LOCATION: 790 FEET FROM THE SOUTH LINE  
1850 FEET FROM THE WEST LINE OF  
SECTION 3, T-24N, R-54, N.M.P.M.,  
RIO ARRIBA COUNTY, NEW MEXICO.

FIELD: BASIN DAKOTA-OTERO GALLUP  
DUAL COMPLETION

SURFACE CASING: 8-5/8", 24.0#, J-55 SET  
303 FT. R.K.B. CEMENTED TO  
SURFACE WITH 250 SACKS.

TOP CEMENT ON 3RD STAGE AT SURFACE

STAGE COLLAR SET AT 3593 FT. R.K.B.  
CEMENTED W/1300 CU.FT. CEMENT

TOP CEMENT ON 2ND STAGE 3583 FT. R.K.B.

STAGE COLLAR SET AT 4991 FT. R.K.B.  
CEMENTED W/375 CU.FT. OF CEMENT.

TOP CEMENT ON 1ST STAGE CEMENT 4991 FT. R.K.B.

2-1/16", 3.25#, YCO-55 TUBING SET TO GALLUP  
AT 6001 FT. R.K.B. TUBING PERFOR-  
ATED FROM 5993-6001 FT.

BAKER 5 1/2" MODEL "D" PRODUCTION PACKER SET  
AT 6770 FT. R.K.B.

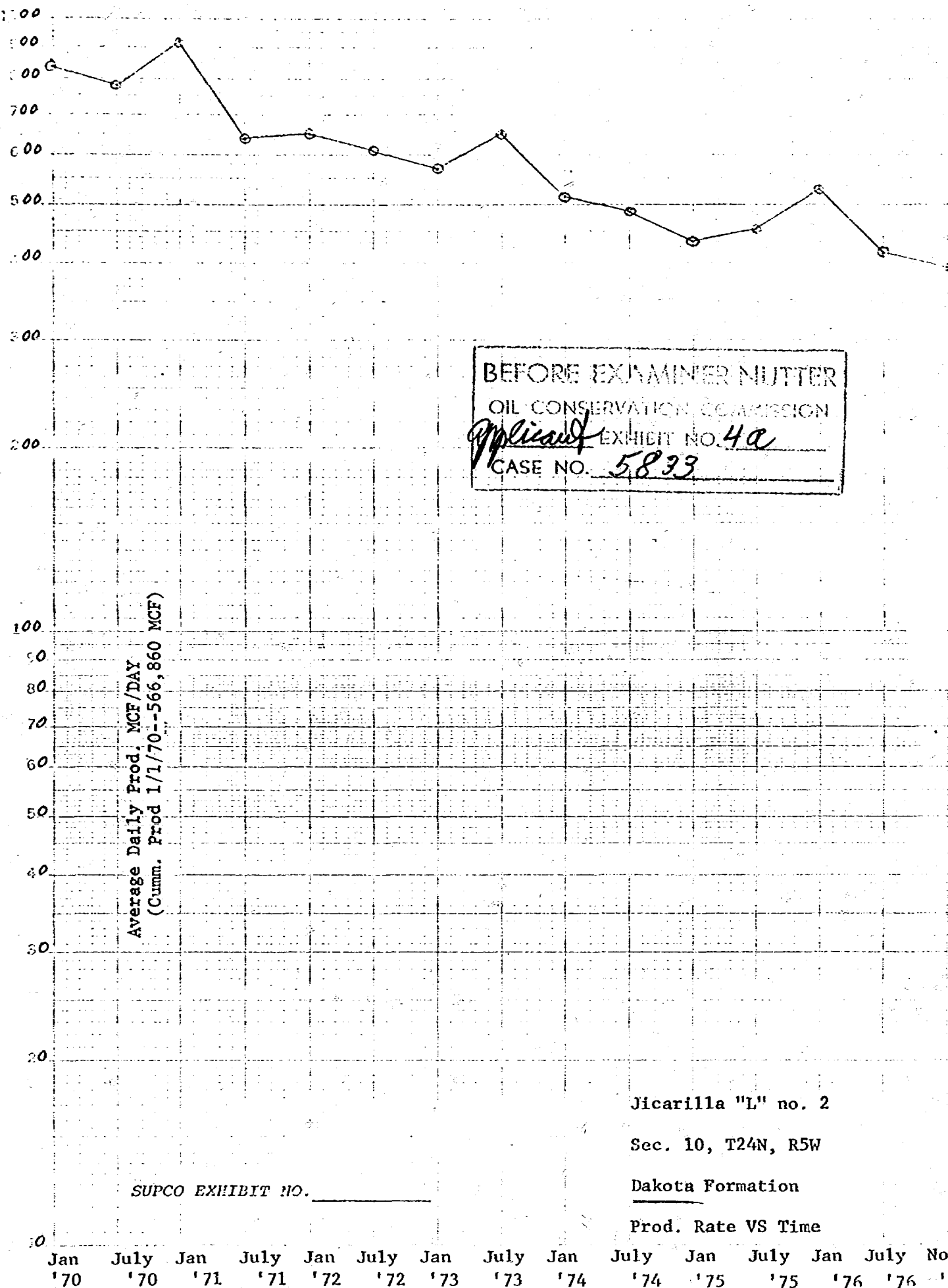
2-1/16", 3.25#, YCO-55 TUBING SET TO DAKOTA  
LANDED AT 6935 FT. R.K.B. TUBING  
PERFORATED FROM 6927-6935 FT. R.K.B.

5 1/2", 15.5#, K-55 PRODUCTION CASING SET AT  
7059 FT. R.K.B. 1ST STAGE CEMENT  
W/600 CU.FT. CEMENT.

P.B.T.D. 7022 FT. R.K.B.

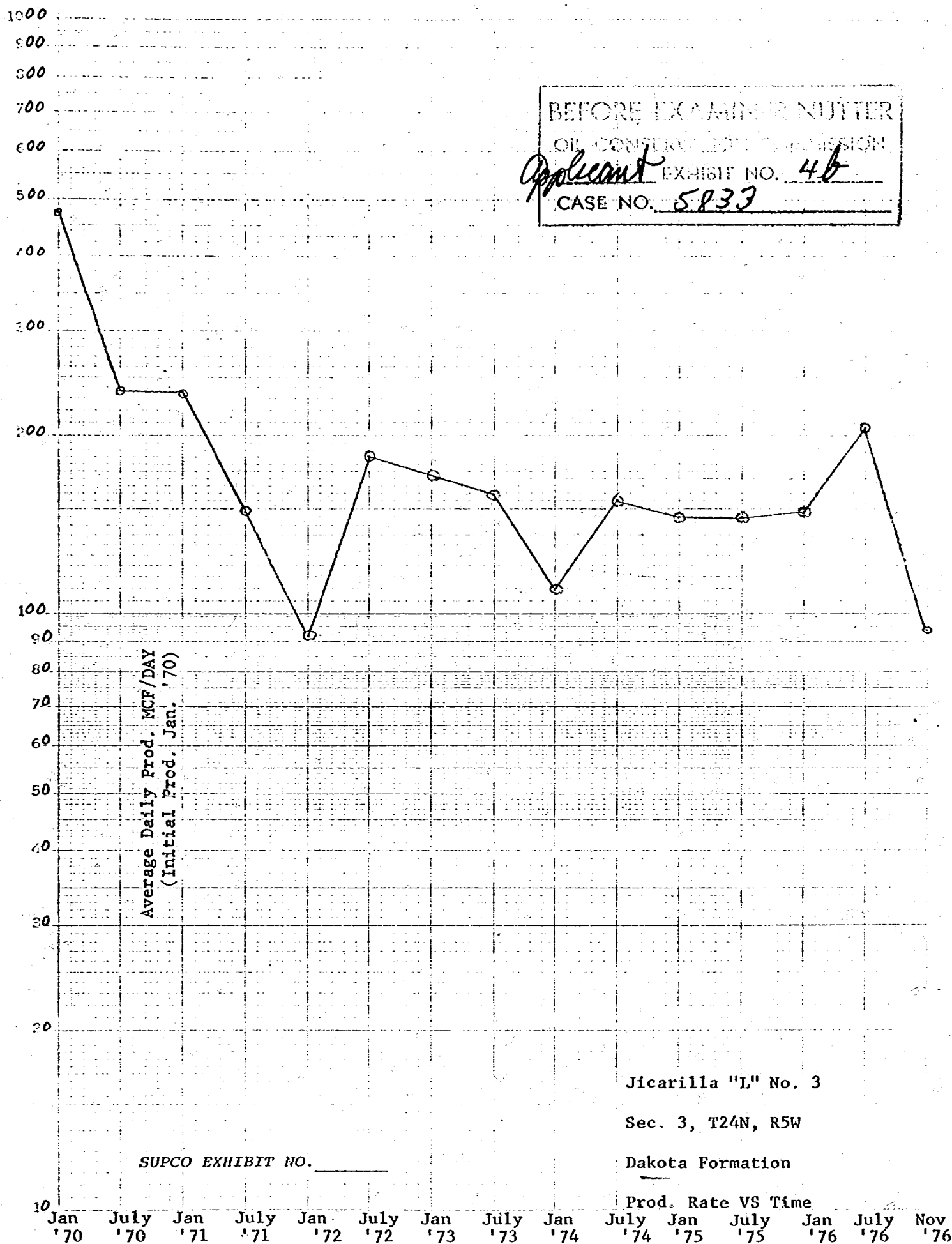
TOTAL DEPTH 7060 FT. R.K.B.

HILDERICK POST COMPANY  
3117H270 2 5" CYCLES



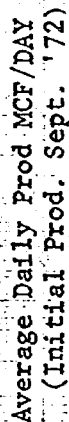


FREDERICK POINT COMPANY  
3111R270 SEMI-LOG-ARITHMIC 2 1/2" CYCLES



OIL CONSERVATION COMMISSION

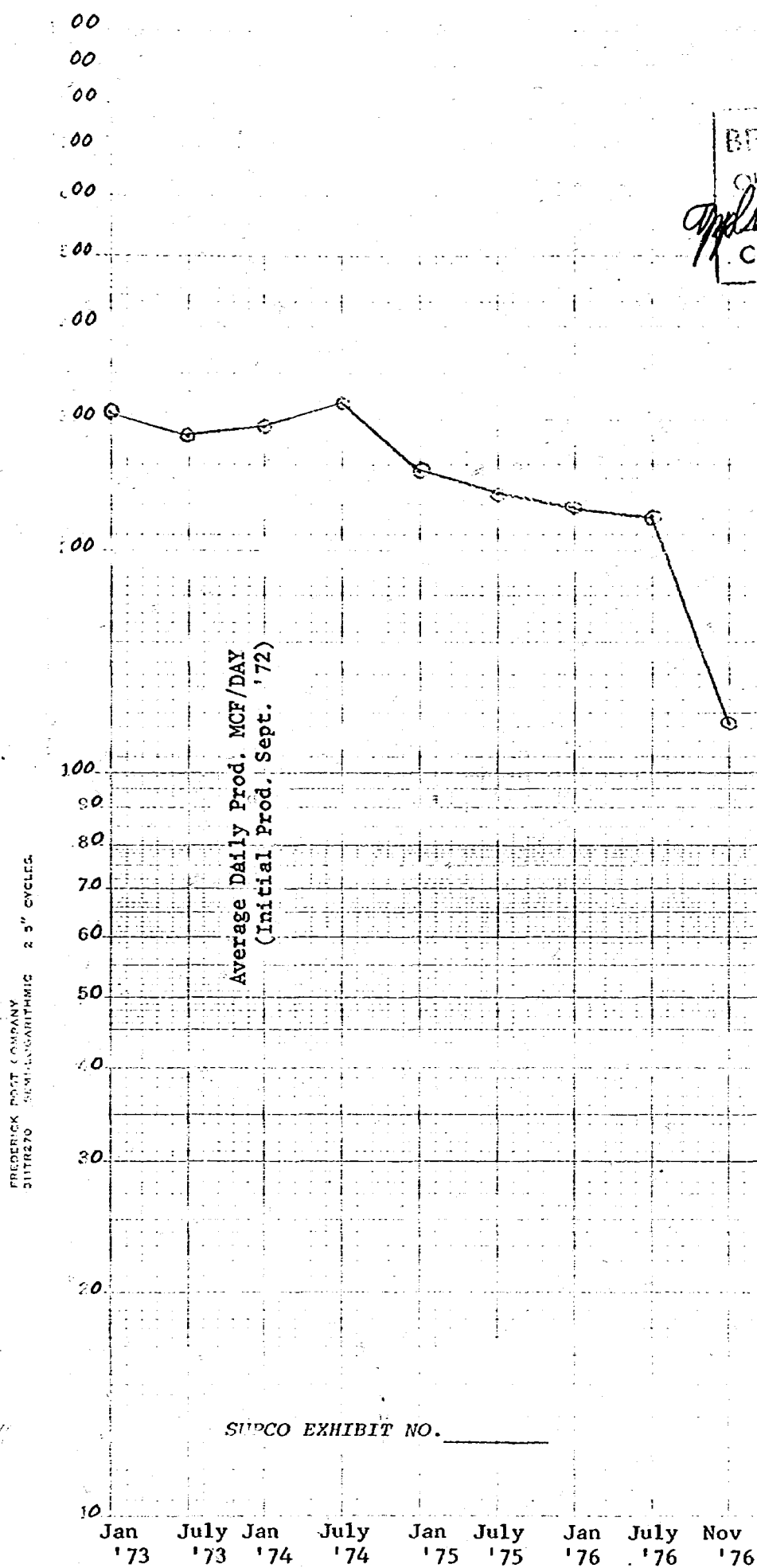
CASE NO. 5833



SUPCO EXHIBIT NO.

### Prod. Rate VS Time

BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
*Applicant* EXHIBIT NO. 4d  
CASE NO. 5833



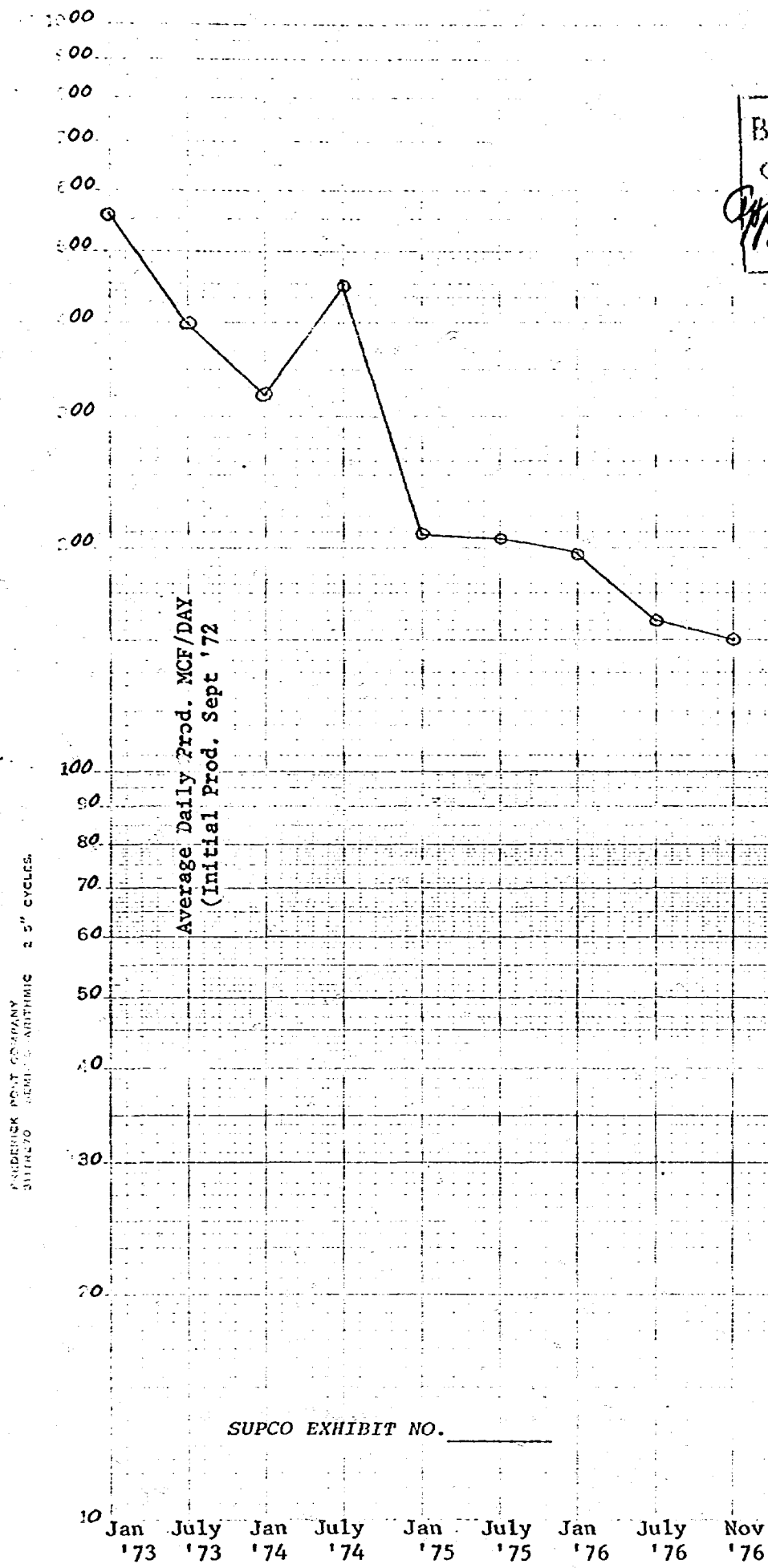
Jicarilla "L" No. 5

Sec. 33, T25N, R5W

Dakota Formation

Prod. Rate VS Time

BEFORE EXAMINER NUTTER  
 OIL CONSERVATION COMMISSION  
*Applicant* EXHIBIT NO. 42  
 CASE NO. 5873

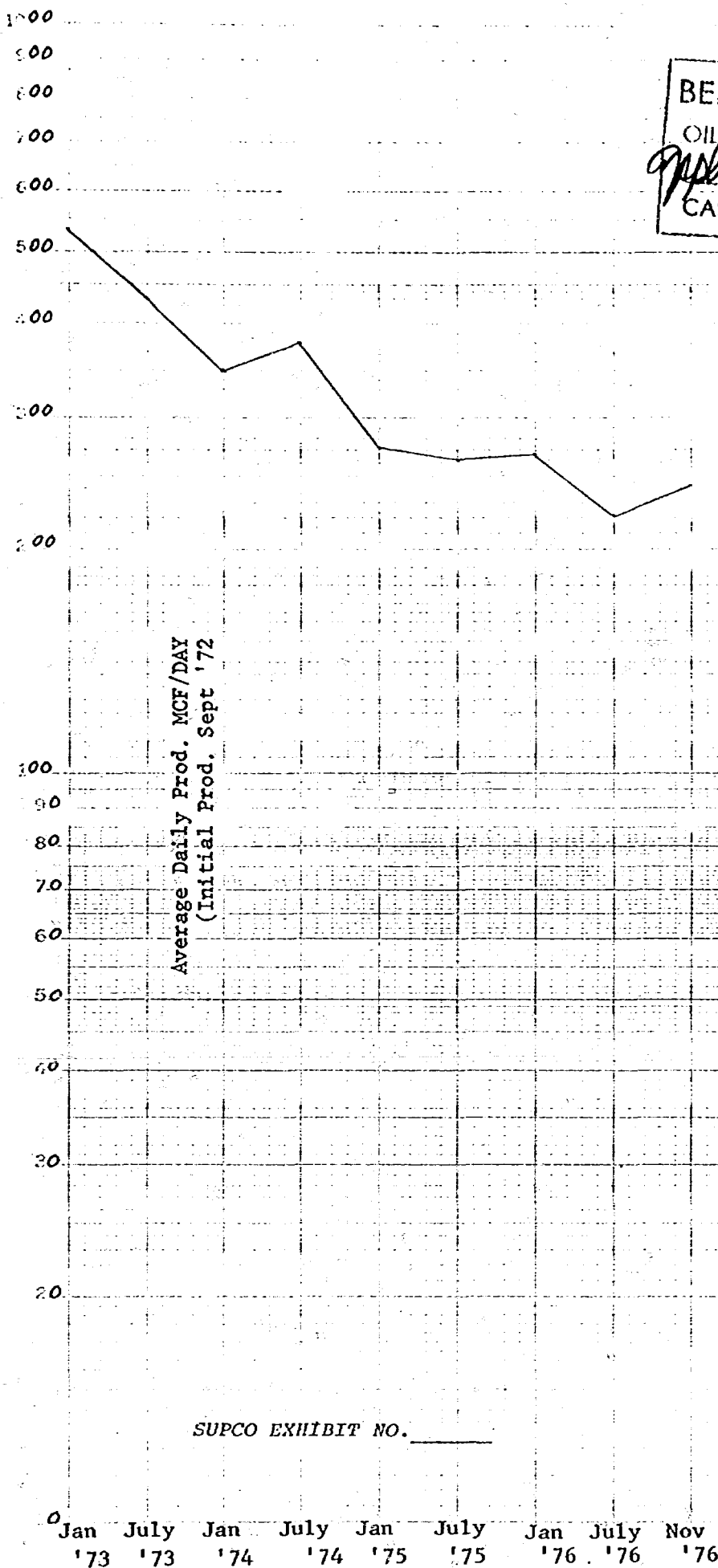


SUPCO EXHIBIT NO. \_\_\_\_\_

Jicarilla "L" No. 6  
 Sec. 34, T25N, R5W  
 Prod. Rate VS Time

BEFORE EXAMINER NUTTER  
 OIL CONSERVATION COMMISSION  
*Applicant* EXHIBIT NO. 4f  
 CASE NO. 5833

FREDERICK POST COMPANY  
 3115R270 SUPERLOGRAPHIC 2 1/2" CYCLES



SUPCO EXHIBIT NO. \_\_\_\_\_

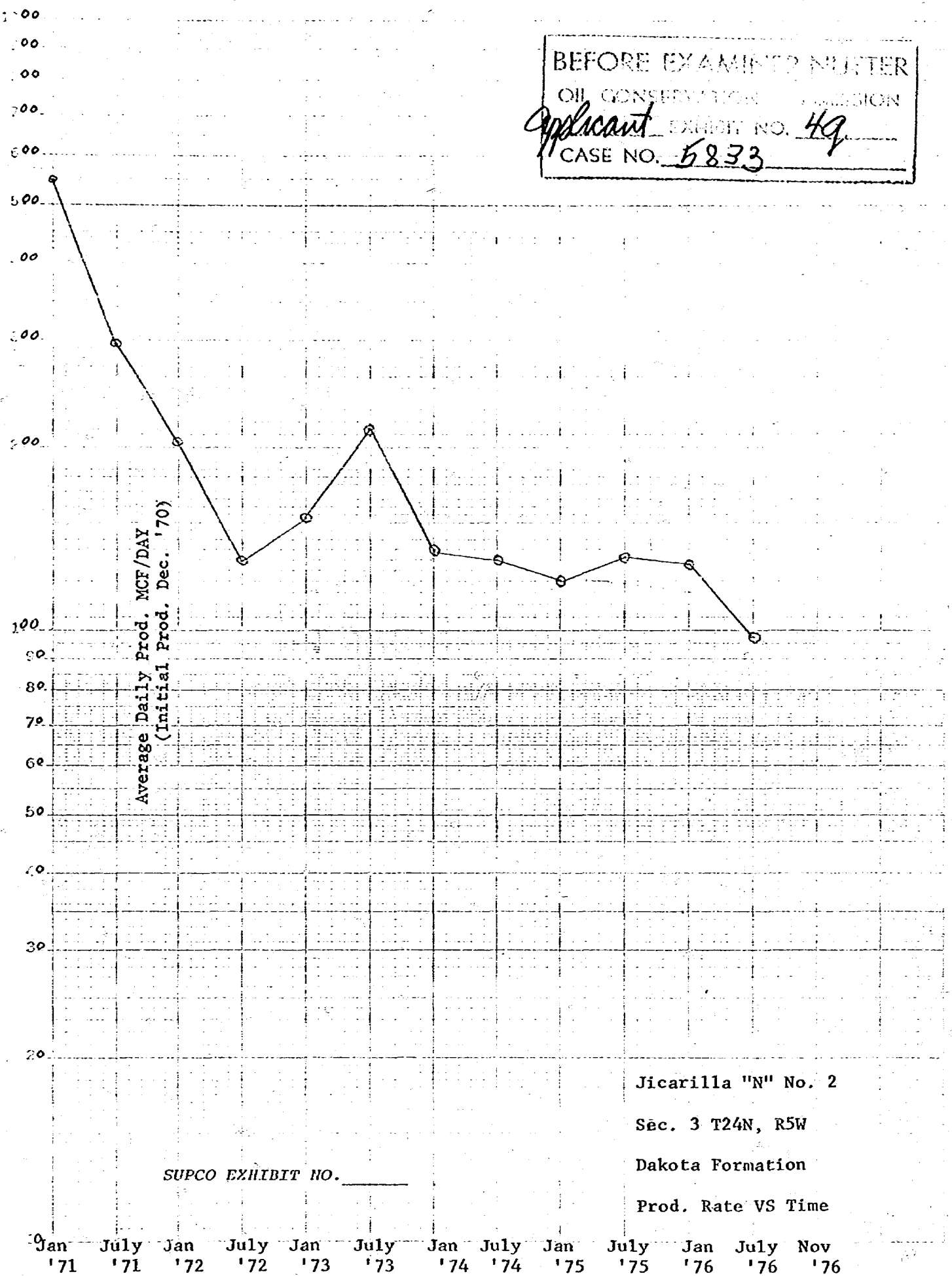
Jicarilla "N" No. 1  
 Sec. 4, T24N, R5W  
 Dakota Formation  
 Prod. Rate VS Time

BEFORE EXAMINED NUTTER

OIL CONSERVATION COMMISSION

Applicant EXHIBIT NO. 49  
CASE NO. 5833

FREDERICK ROOF COMPANY  
51111279 50111279 ARITHMIC 2 5" CYCLES



BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
*Applicant* EXHIBIT NO. 5  
CASE NO. 5833

PRODUCTION DATA - 1976

SOUTHERN UNION PRODUCTION COMPANY

JICARILLA "L" & "N" LEASES

WELL NAME & NO.	GALLUP FORMATION			DAKOTA FORMATION		
	1976 SHUT-IN PRESS. PSI	AVG. DAILY OIL PROD. BBLs.	AVG. DAILY GAS PROD. MCF	1976 SHUT-IN PRESS. PSI	AVG. DAILY OIL PROD. BBLs.	AVG. DAILY GAS PROD. MCF
JICARILLA "L" #2	<u>822</u>	5.2	65	<u>501</u>	2.9	411
JICARILLA "L" #3	<u>648</u>	3.3	94	<u>664</u>	3.4	134
JICARILLA "L" #4	<u>480</u>	-0-	31	<u>585</u>	4.2	240
JICARILLA "L" #5	<u>448</u>	1.8	35	<u>717</u>	4.1	209
JICARILLA "L" #6	<u>213</u>	-0-	1.2	<u>720</u>	2.8	167
JICARILLA "N" #1	<u>246</u>	-0-	6	<u>648</u>	2.2	216
JICARILLA "N" #2	<u>513</u>	3.7	53	<u>867</u>	1.4	104

*X*  
*not*  
*prod*

*X*  
*not*  
*prod*

SUPCO EXHIBIT NO. \_\_\_\_\_

- CASE 5829: Application of Elk Oil Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp and Pennsylvanian formations underlying the W/2 of Section 36, Township 11 South, Range 32 East, Lea County, New Mexico, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof, as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.
- CASE 5830: Application of Northwest Production Corporation for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Tapacito-Pictured Cliffs and Blanco Mesaverde production in the wellbore of its Jicarilla 117E Well No. 2 located in Unit H of Section 33, Township 26 North, Range 3 West, Rio Arriba County, New Mexico.
- CASE 5831: Application of El Paso Natural Gas Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle South Blanco-Pictured Cliffs and Otero-Chacara production in the wellbore of its Jicarilla 67 Well No. 6 located in Unit H of Section 19, Township 25 North, Range 5 West, Rio Arriba County, New Mexico.
- CASE 5832: Application of El Paso Natural Gas Company for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle South Blanco-Pictured Cliffs and Blanco Mesaverde production in the wellbore of its Storey C Well No. 10 located in Unit N of Section 35, Township 28 North, Range 9 West, San Juan County, New Mexico.
- CASE 5833: Application of Southern Union Production Company for downhole commingling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Gallup and Dakota production in the wellbores of the following wells:

Jicarilla "L" Wells Nos. 2, 3, and 4, and Jicarilla "N" Wells Nos. 1 and 2, located respectively in Unit G of Section 10, Unit E of Section 3, Unit G of Section 9, Unit K of Section 4, and Unit N of Section 3, all in Township 24 North, Range 5 West, and Jicarilla "L" Wells Nos. 5 and 6, located respectively in Units N of Section 33 and M of Section 34, both in Township 25 North, Range 5 West, all in Rio Arriba County, New Mexico.

- CASE 5834: Application of Sun Oil Company for directional drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to re-enter its Dessie Sawyer Well No. 2, the surface location of which is 2310 feet from the South and West lines of Section 27, Township 9 South, Range 36 East, Crossroads Siluro-Devonian Pool, Lea County, New Mexico, and to directionally drill said well in such a manner as to bottom it in the Siluro-Devonian formation within 50 feet of a point 2540 feet from the South and West lines of said Section 27.
- CASE 5835: Application of Palmer Oil Company for non-standard proration units, unorthodox locations, and dual completions, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the following non-standard proration units in Township 31 North, Range 7 West, Rio Arriba County, New Mexico: a 310.48-acre Basin-Dakota unit comprising Lots 5, 6, 7, and 8 and the E/2 SW/4 and SE/4 of Section 2; the following Blanco Mesaverde and Basin-Dakota Units: 323.39 acres comprising Lots 5, 6, 7, and 8 and W/2 SW/4 of Section 3 and Lot 5 and the E/2 SE/4 and SW/4 SE/4 of Section 4; 320 acres comprising the E/2 SW/4 and S/2 SE/4 of Section 3 and NW/4 of Section 10; and 320 acres comprising the W/2 SW/4 of Section 2, N/2 SE/4 of Section 3, and NE/4 of Section 10; the following Fruitland and Pictured Cliffs Units: 150.48 acres comprising Lots 5, 6, 7, and 8 and the E/2 SW/4 of Section 2; 175.76 acres comprising Lots 5, 6, 7, and 8 and W/2 SW/4 of Section 3; 160 acres comprising the W/2 SW/4 of Section 2 and N/2 NE/4 of Section 3; 160 acres comprising the E/2 SW/4 and S/2 SE/4 of Section 3; and 147.63 acres comprising Lot 5 and the SW/4 SE/4 and E/2 SE/4 of Section 4.

Applicant proposes to dedicate the above lands to various wells to be drilled at orthodox and unorthodox locations as follows: Section 2: 2200 feet from South and 800 feet from East lines, and 800 feet from South and 1675 feet from West lines; Section 3: 800 feet from North and West lines, 800 feet from South and 1850 feet from West lines, and 1400 feet from South and 1110 feet from East lines; Section 4: 800 feet from South and East lines; Section 10: 1800 feet from North and 850 feet from West lines, and 1525 feet from North and 1850 feet from East lines.

Applicant further proposes the dual completion of any of the aforesaid wells in any combination of two of the Fruitland, Pictured Cliffs, Mesaverde, or Dakota formations.



CAMPBELL AND BINGAMAN, P. A.  
LAWYERS

JACK M. CAMPBELL  
JEFF BINGAMAN  
BRUCE D. BLACK  
MICHAEL B. CAMPBELL

OF COUNSEL  
ANNE K. BINGAMAN

DEC 10 1976  
OIL CONSERVATION COMMISSION

POST OFFICE BOX 2208  
JEFFERSON PLACE  
SANTA FE, NEW MEXICO 87501  
TELEPHONE (505) 988-4421

December 9, 1976

Ms. Lynn Teschendorf  
Legal Department  
Oil Conservation Commission  
State of New Mexico  
P.O. Box 2088  
Santa Fe, New Mexico 87501

Case 5833

Re: Southern Union Production Company  
Application Before Oil Conservation  
Commission for Downhole Commingling  
Of Oil and Gas Wells, Rio Arriba County

Dear Ms. ~~Teschendorf~~ *Teschendorf*:

Enclosed for filing is the original, with two copies, of  
the Application in the above-styled matter. Will you please  
advise us when a number has been assigned to the Application.

Very truly yours,

*Michael Campbell*

Michael Campbell

MC:bf  
Enclosures - 3  
cc: William Jameson

RECEIVED  
DEC 10 1945  
OIL CONSERVATION COMMISSION

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION  
OF SOUTHERN UNION PRODUCTION COM-  
PANY FOR DOWNHOLE COMMINGLING IN  
TOWNSHIPS 24 and 25 NORTH, RANGE  
5 WEST, RIO ARRIBA COUNTY, NEW MEX-  
ICO.

No. 5833

APPLICATION

COMES NOW Applicant, Southern Union Production Company, and for  
its Application in this matter states:

1. It is the sole owner and operator of the following wells  
located upon the Jicarilla Apache Reservation in Rio Arriba County,  
New Mexico:

<u>Well Name and Number</u>		<u>Location</u>
Jicarilla "L" #2	G	NE1/4 Sec. 10, T24N, R5W
Jicarilla "L" #3	E	NW1/4 Sec. 3, T24N, R5W
Jicarilla "L" #4	G	NE1/4 Sec. 9, T24N, R5W
Jicarilla "L" #5	N	SW1/4 Sec. 33, T25N, R5W
Jicarilla "L" #6	M	SW1/4 Sec. 34, T25N, R5W
Jicarilla "N" #1	K	SW1/4 Sec. 4, T24N, R5W
Jicarilla "N" #2	N	SW1/4 Sec. 3, T24N, R5W

2. All of said wells are dually completed, under authority of  
this Commission, so as to produce oil from the Gallup formation and  
gas from the Dakota formation.

3. That both the Gallup formation and the Dakota gas formation  
under said wells are capable of low marginal production only.

4. That downhole commingling of production from said formations  
with such wells may result in the recovery of additional hydrocarbons  
from one or both of said formations and pools, thereby preventing  
waste, without violating correlative rights.

WHEREFORE, Applicant, after hearing, prays for an Order of this Commission providing as follows:

1. An exception to Commission Order 303(B) permitting downhole commingling of oil from the Gallup formation and gas from the Dakota formation underlying the wells described herein.

2. A method of allocation of the commingled production based upon evidence presented at the hearing.

3. Any other provisions or requirements that the Commission may consider appropriate.

Applicant further requests the Commission to set this matter down for hearing before an Examiner for the Commission and to publish notice thereof as provided by law.

Respectfully submitted,

JACK M. CAMPBELL  
CAMPBELL AND BINGAMAN, P.A.  
P.O. Box 2208, Santa Fe,  
New Mexico 87501

For

SOUTHERN UNION PRODUCTION  
COMPANY

DATED: December 9, 1976

RECEIVED  
DEC 10 1976  
OIL CONSERVATION COMMISSION

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION  
OF SOUTHERN UNION PRODUCTION COM-  
PANY FOR DOWNHOLE COMMINGLING IN  
TOWNSHIPS 24 and 25 NORTH, RANGE  
5 WEST, RIO ARriba COUNTY, NEW MEX-  
ICO.

No. 5833

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New Mexico:

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Jicarilla "L" #3	NW1/4 Sec. 3, T24N, R5W
Jicarilla "L" #4	NE1/4 Sec. 19, T24N, R5W
Jicarilla "L" #5	SW1/4 Sec. 33, T25N, R5W
Jicarilla "L" #6	SW1/4 Sec. 34, T25N, R5W
Jicarilla "N" #1	SW1/4 Sec. 4, T24N, R5W
Jicarilla "N" #2	SW1/4 Sec. 3, T24N, R5W

2. All of said wells are dually completed, under authority of  
this Commission, so as to produce oil from the Gallup formation and  
gas from the Dakota formation.

3. That both the Gallup formation and the Dakota gas formation  
under said wells are capable of low marginal production only.

4. That downhole commingling of production from said formations  
with such wells may result in the recovery of additional hydrocarbons  
from one or both of said formations and pools, thereby preventing  
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CAMPBELL AND BINGAMAN, P.A.  
P.O. Box 2208, Santa Fe,  
New Mexico 87501

For

SOUTHERN UNION PRODUCTION  
COMPANY

DATED: December 9, 1976

DEC 10 1946

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION  
OF SOUTHERN UNION PRODUCTION COM-  
PANY FOR DOWNHOLE COMMINGLING IN  
TOWNSHIPS 24 and 25 NORTH, RANGE  
5 WEST, RIO ARriba COUNTY, NEW MEX-  
ICO.

No. 5833

APPLICATION

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New Mexico:

<u>Well Name and Number</u>	<u>Location</u>
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Jicarilla "L" #3	NW1/4 Sec. 3, T24N, R5W
Jicarilla "L" #4	NE1/4 Sec. 19, T24N, R5W
Jicarilla "L" #5	SW1/4 Sec. 33, T25N, R5W
Jicarilla "L" #6	SW1/4 Sec. 34, T25N, R5W
Jicarilla "N" #1	SW1/4 Sec. 4, T24N, R5W
Jicarilla "N" #2	SW1/4 Sec. 3, T24N, R5W

2. All of said wells are dually completed, under authority of  
this Commission, so as to produce oil from the Gallup formation and  
gas from the Dakota formation.

3. That both the Gallup formation and the Dakota gas formation  
under said wells are capable of low marginal production only.

4. That downhole commingling of production from said formations  
with such wells may result in the recovery of additional hydrocarbons  
from one or both of said formations and pools, thereby preventing  
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WHEREFORE, Applicant, after hearing, prays for an Order of this Commission providing as follows:

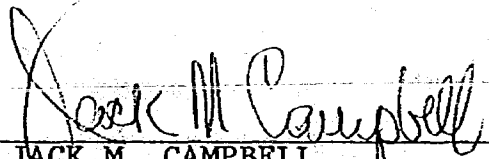
1. An exception to Commission Order 303(B) permitting downhole commingling of oil from the Gallup formation and gas from the Dakota formation underlying the wells described herein.

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Respectfully submitted,

  
JACK M. CAMPBELL  
CAMPBELL AND BINGAMAN, P.A.  
P.O. Box 2208, Santa Fe,  
New Mexico 87501

For

SOUTHERN UNION PRODUCTION  
COMPANY

DATED: December 9, 1976

ROUGH

dr/

(Dr)

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

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

Case No. 5833  
Order No. R-5354-A

APPLICATION OF SOUTHERN UNION  
PRODUCTION COMPANY FOR DOWNHOLE  
COMMINGLING, RIO ARriba COUNTY,  
NEW MEXICO.

NUNC PRO TUNC

BY THE COMMISSION:

It appearing to the Commission that Order No. R-5354,  
dated January 17, 1977, does not correctly state the intended  
order of the Commission due to error,

IT IS THEREFORE ORDERED:

(1) That Paragraph (2) on Page 1 of Order No. R-5354,  
Case No. 5833, be and the same is hereby corrected to read in  
its entirety as follows:

see under  
↓

"(2) That the applicant, Southern Union Production  
Company, is the owner and operator of the following  
wells in Rio Arriba County, New Mexico:

TOWNSHIP 23 NORTH, RANGE 5 WEST, NMPM  
Jicarilla "L" Well No. 5, Unit N Section 33  
Jicarilla "L" Well No. 6, Unit M Section 34"

(2) That Paragraph (1) on Page 2 of Order No. R-5354,  
Case No. 5833, be and the same is hereby corrected to read in  
its entirety as follows:

"(1) That the applicant, Southern Union Production  
Company, is hereby authorized to commingle Gallup and  
Dakota production within the wellbores of the  
following wells in Rio Arriba County, New Mexico:

TOWNSHIP 24 NORTH, RANGE 5 WEST, NMPM  
Jicarilla "L" Well No. 2, Unit G Section 10  
Jicarilla "L" Well No. 3, Unit E Section 3  
Jicarilla "L" Well No. 4, Unit G Section 9  
Jicarilla "N" Well No. 1, Unit K Section 4  
Jicarilla "N" Well No. 2, Unit N Section 3



-2-

Case No. 5833

Order No. R-5354-A

TOWNSHIP 25 NORTH, RANGE 5 WEST, NMPM  
Jicarilla "L" Well No. 5, Unit N Section 33  
Jicarilla "L" Well No. 6, Unit M Section 34"

(3) That the corrections set forth in this order be entered nunc pro tunc as of January 17, 1977.

DONE at Santa Fe, New Mexico, on this \_\_\_\_\_ day of February, 1977.

-3-

Case No. 5833  
Order No. R-

(2) That in order to allocate the commingled production to each of the commingled zones in each of the subject wells, applicant shall consult with the Supervisor of the Aztec District Office of the Commission upon completion of the commingling work-over operation on the well, and determine the allocation formula for that well.

(3) That the operator of the subject wells shall immediately <sup>that any of the aforesaid</sup> notify the Commission's Aztec district office any time the wells has been shut-in for 7 consecutive days and shall concurrently present, to the Commission, a plan for remedial action.

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

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