

INFILL DRILLING FINDINGS AND WELL-SPACING WAIVER  
MADE PURSUANT TO SECTION 271.305(b) OF THE  
FEDERAL ENERGY REGULATORY COMMISSION REGULATIONS,  
NATURAL GAS POLICY ACT OF 1978 AND OIL CONSERVATION DIVISION  
ORDER NO. R-6013

I.

Operator Southland Royalty Co. Well Name and No. Frontier "C" Well 2 R  
Location: Unit P Sec. 5 Twp. 27N Rng. 11W Cty. San Juan

II.

THE DIVISION FINDS:

(1) That Section 271.305(b) of the Federal Energy Regulatory Commission Interim Regulations promulgated pursuant to the Natural Gas Policy Act of 1978 provides that, in order for an infill well to qualify as a new onshore production well under Section 103 of said Act, the Division must find, prior to the commencement of drilling, that the well is necessary to effectively and efficiently drain a portion of the reservoir covered by the proration unit which cannot be so drained by any existing well within that unit, and must grant a waiver of existing well-spacing requirements.

(2) That by Order No. R-6013, dated June 7, 1979, the Division established an administrative procedure whereby the Division Director and the Division Examiners are empowered to act for the Division and find that an infill well is necessary.

(3) That the well for which a finding is sought is to be completed in the Basin-Dakota Pool, and the standard spacing unit in said pool is 320 acres.

(4) That a 320-acre proration unit comprising the E/2 of Sec. 5, Twp. 27N, Rng. 11W, is currently dedicated to the Frontier "C" Well No. 2 located in Unit H of said section.

(5) That this proration unit is (X) standard ( ) nonstandard; if nonstandard, said unit was previously approved by Order No. \_\_\_\_\_.

(6) That said proration unit is not being effectively and efficiently drained by the existing well(s) on the unit.

(7) That the drilling and completion of the well for which a finding is sought should result in the production of an additional 689,937 MCF of gas from the proration unit which would not otherwise be recovered.

(8) That all the requirements of Order No. R-6013 have been complied with, and that the well for which a finding is sought is necessary to effectively and efficiently drain a portion of the reservoir covered by said proration unit which cannot be so drained by any existing well within the unit.

(9) That in order to permit effective and efficient drainage of said proration unit, the subject application should be approved as an exception to the standard well spacing requirements for the pool.

IT IS THEREFORE ORDERED:

(1) That the applicant is hereby authorized to drill the well described in Section I above as an infill well on the existing proration unit described in Section II(4) above. The authorization for infill drilling granted by this order is an exception to applicable well spacing requirements and is necessary to permit the drainage of a portion of the reservoir covered by said proration unit which cannot be effectively and efficiently drained by any existing well thereon.

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

DONE at Santa Fe, New Mexico, on this 8th day of August, 19 79.

  
DIVISION DIRECTOR — EXAMINER —

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION  
P. O. Box 2088  
SANTA FE, NEW MEXICO  
87501

Aug 8, 1979  
ADMINISTRATIVE ORDER  
NFL 2

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(3) That the well for which a finding is sought is to be completed in the Basin - Dakota Pool, and the standard spacing unit in said pool is 320 acres.

(4) That a 320 -acre proration unit comprising the E/2 of Sec. 5, Twp. 27 N, Rng. 11 W, is currently dedicated to the Frontier "C" well No 2 located in Unit H of said section.

(5) That this proration unit is (☒) standard ( ) nonstandard; if nonstandard, said unit was previously approved by Order No. \_\_\_\_\_.

(6) That said proration unit is not being effectively and efficiently drained by the existing well(s) on the unit.

(7) That the drilling and completion of the well for which a finding is sought should result in the production of an additional 689937 MCF of gas from the proration unit which would not otherwise be recovered.

(8) That all the requirements of Order No. R-6013 have been complied with, and that the well for which a finding is sought is necessary to effectively and efficiently drain a portion of the reservoir covered by said proration unit which cannot be so drained by any existing well within the unit.

(9) That in order to permit effective and efficient drainage of said proration unit, the subject application should be approved as an exception to the standard well spacing requirements for the pool.

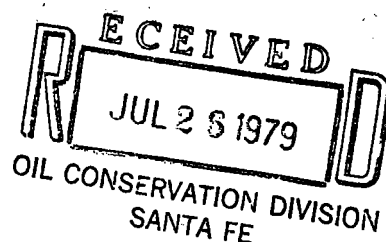
IT IS THEREFORE ORDERED:

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

DONE at Santa Fe, New Mexico, on this 8th day of Aug, 19 79.

DIVISION DIRECTOR \_\_\_\_\_ EXAMINER \_\_\_\_\_



**Southland Royalty Company**

July 23, 1979

Dick Stamets  
New Mexico Department of Energy & Minerals  
Oil & Gas Division  
P. O. Box 2088  
Santa Fe, NM 87501

RE: Frontier C-2  
Sec. 5, T27N, R11W

Dear Sir:

In response to your inquiry about the possibility of repairing the Frontier C-2, the following information is provided.

The well was drilled and completed in 1959 by El Paso Products Company. A schematic diagram is attached. Tubing was pulled in 1961 and rerun to original depths. In March 1978, a rig was moved on location to repair a leak in the Dakota tubing string. The rod string in the Gallup side and both strings of tubing were stuck. Stretch tests on both tubing strings showed them to be stuck at 3900'. A free point survey in the Dakota tubing indicated the free point at 3800'. Attempts to pull the rods were not successful. Several manual back-offs were attempted but rod string would not break below 1100'. The hole was loaded with water and circulation was established by pumping down the Dakota tubing. Alternately circulated and worked tubing strings for two days with no success.

The casing appears to be collapsed at about 3900'. The only way to repair the well would be to begin cutting off the tubing as deep as possible and pulling it out of the hole a piece at a time. The rods in the Gallup string would prevent the use of jet cutters and outside mechanical cutters would have to be used on this string. If both strings of tubing could be removed below the 3900' level, the next step would be to try and roll out or swage the 7" casing. This would more than likely drop some junk on top of the 7" parallel string anchor making it difficult if not impossible to pull.

The procedure could be described further, but I believe it should be apparent that repair of this well is not practical and may not even be possible regardless of the amount of money and effort expended. I trust that this answers your questions with regard to the subject well.

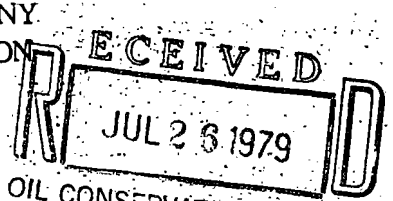
Respectfully,

*C. C. Parsons*  
Curtis C. Parsons  
District Engineer

CCP/kde

Attachment

DUAL STRING  
XMAS TREE



10-3/4", 32.75#, J-55, ST & C Surface Casing (J-55) set at 176' with 100 sacks cement circulated to surface.

Gallup Production Tubing 2-3/8", 4.70#, J-55, (5921') set at 5931' with Latching Sub Set in Baker Model 699 Parallel String Anchor. 5911' Integral Joint (Hardy-Griffin) EUE Tbg. with 10' Accessories. 3/4" - 5/8" tapered rod string and 2" X 1 1/2" X 16' pump. Seating nipple @ 5905'.

Baker Model "J" Stage Cementing Collar Set at 2176'. Cemented with 100 sacks Cement. Top of Cement by Temperature Survey at 1700'.

7", 23.00# Production Casing (Lower 971' N-80, Upper 5627' J-55); set at 6610' with 200 sacks cement. Top of Cement by Radioactive Logging at 4430'.

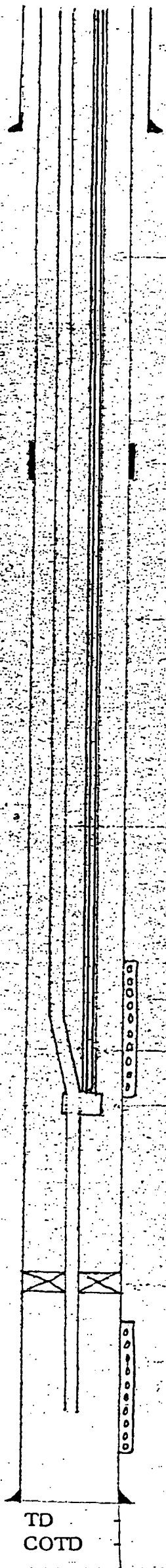
Dakota Production Tubing 2-3/8" OD; 4.70#, J-55 (6434') set at 6445'. 10' Accessories; 6421' J-55 EUE Tbg.

Gallup Formation Perforated 5834'-5861' (4 sh./ft.) Sandoil Fractured with 37,100 Gals. Oil & 37,000# Sand. Perforated 5913'-5930' (4 sh./ft.). Sandoil Fractured with 46,200 Gals. Oil & 48,000# Sand.  
Pump Seating Nipple (1-25/32" ID) @ 5924'.

Baker Model 699 Parallel String Anchor set in Dakota Production Tubing at 5932'.

Baker Model "D" Permanent Type Completion Packer Set at 6440'.

Dakota Formation Perforated 6506'-6548' (4 sh./ft.) Sandoil Fractured with 32,970 Gals. Oil & 31,000# Sand.





**Southland Royalty Company**

July 16, 1979

New Mexico Department of Energy & Minerals  
Oil and Gas Division  
Mr. Joe D. Ramey  
P. O. Box 2088  
Santa Fe, NM 87501

RE: Frontier "C" #2R  
SE Sec. 5, T27N, R11W

Dear Sir:

Southland Royalty Company proposes to drill the Frontier "C" #2R Dakota well and requests an administrative ruling that this well is a "necessary infill well" as defined in Order #R-6013.

The acreage dedicated to the well is the E/2 of Section 5, T27N, R11W, San Juan County, New Mexico. The only other well on this acreage which has been completed in the Dakota is the Frontier "C" #2 which is no longer capable of production. A well history and mechanical description of this well are enclosed (A).

Also enclosed are the following:

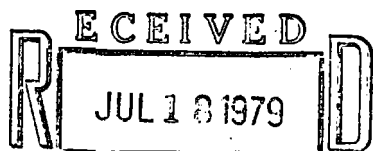
- \* Nine Section Production Map (B)
- \* Nine Section Structure Map (C)
- \* Nine Section Isopach of the Dakota Zone (D)
- \* Production Decline Graph for Frontier "C" #2 (E)
- \* Reserve Estimate for the proposed new well (F)  
(It should be noted that the Frontier "C" #2 is not capable of any further production. Therefore, all reserves should be considered "additional reserves" in the proposed new well.)
- \* State Form C-102 (G)
- \* U.S.G.S. Form 9-331 (H)
- \* Copy of Administrative Order #NSL-1018 authorizing a non-standard location (I)

The proposed well has not yet been spudded. All offset operators have been notified of this application by registered mail.

Yours truly,

*Curtis C. Parsons*

Curtis C. Parsons  
District Engineer



CCP/ide  
OIL CONSERVATION DIVISION

SANTA FE

P.O. DRAWER 570 (505) 325-1841 FARMINGTON, NEW MEXICO 87401

SOUTHLAND ROYALTY COMPANY - PERTINENT DATAFRONTIER "C" # 2Location: 1750' FSL & 890' FEL, Section 5, T27N, R11W, San Juan County, New MexicoField: Kutz Gallup - Basin Dakota      Elevation: 6114' GR

<u>Casing Size</u>	<u>Wt. &amp; Grade</u>	<u>Depth</u>	<u>Hole Size</u>	<u>Cement</u>
10 3/4"	28.60#	176'	13 3/4"	100 sx
7"	23# J-55 & N-80	6610'	8 3/4"	200 sx (1st stage)
(SEE ATTACHED SCHEMATIC)				100 sx (2nd stage)

Top of Cement: 1700' by Temperature Survey

<u>Tubing Size</u>	<u>Wt. &amp; Grade</u>	<u>Depth</u>
2 3/8"	4.7#, J-55, IJ	5931' (stung in parallel string anchor)
2 3/8"	4.7#, J-55, EUE	6445' (stung thru parallel anchor and into model "D" packer at 6440')

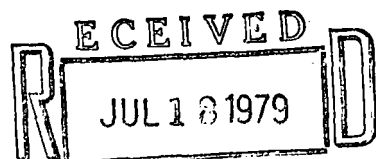
Wellhead Equipment: OCT - 3000# dual wellheadCompletion:

Dakota - Perfd 6506' - 6548' w/4 SPF. Fracd w/32,970 gals. oil &amp; 31,000# sand

Gallup - Perfd 5913' - 5930' w/4 SPF. Fracd w/46,200 gals. oil & 48,000# sand  
Perfd 5834' - 5861' w/4 SPF. Fracd w/37,000 gals. oil & 37,000# sandWorkover History:

March, 1978: MOL. Tried to unseat pump. Could not. Backed off 44 rods. Tried unsuccessfully to pull both strings of tubing. Casing appears to be collapsed above parallel string anchor at about 3900'. Put wellhead back on and rigged down.

IT DOES NOT APPEAR POSSIBLE TO RETURN THIS WELL TO PRODUCTION DUE TO SEVERE MECHANICAL PROBLEMS.

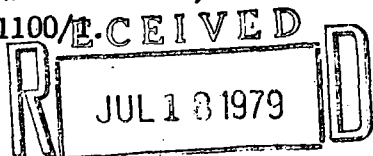
OIL CONSERVATION DIVISION  
SANTA FE

Frontier No. 2-C (GD)

- 2 -

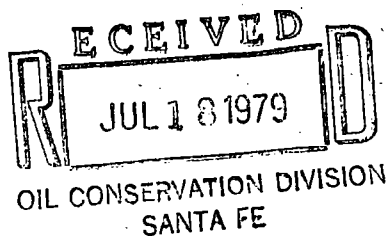
SF-080382-A

- 5-22-59 Move on San Juan Drilling Rig No. 3. Spud Well at 8:00 P.M.
- 5-23-59 Total Depth 180'. Ran 4 joints, 10-3/4", 28.60#, S.W. Csg. ( 161' ) set at 176' with 100 sacks regular cement, 2% CaCl<sub>2</sub> circulated to surface. Held 500#/30 Minutes.
- 6-2-59 Pull Core #1. 5770'-5830'. Recovered 60'.
- 6-3-59 Pull Core #2. 5850'-5865'. Recovered 13'.
- 6-6-59 Pull Core #3. 6475'-6535'. Recovered 60'.
- 6-7-59 Pull Core #4. 6535'-6555'. Recovered 19.5'.
- 6-9-59 Pull Core #5. 6570'-6610'. Recovered 40'.
- 6-11-59 TD 6616'. Ran ES-IND 180'-6606'; Sonic 5400'-6606'; ML 5400'-6606'.
- 6-12-59 Ran DST 5900'-5950'. Tool open 5 min. Initial SIP after 60 min. 1627. Open tool 2' - 5". Good blow, gas to surface in 4 min. Gas estimated at 20-40 mcf. FP--114-313. Second SIP in 45 min. - 1524#. Recovered 800' free oil.
- 6-13-59 Ran 173 joints 7", 23.00# (Lower 971' N-80; upper 5627' J-55) N-80 & J-55 Csg. ( 6598' ) set at 6610' with 200 sacks 50/50 Pozmix, 2% gel., 25#/sk. Floccle. Two-stage collar at 2176' cemented with 100 sacks neat cement. Held 1000#/30 Min. Top of upper stage cement at 1700' by temperature survey.
- 6-16-59 Move on J. P. Gibbins Rig No. 202.
- 6-17-59 COTD--6570'. Spotted 400 gals. 7-1/2% BDA on bottom.
- 6-18-59 Ran GR-CL & Cemotron log 4200-6570 & 1400-2800. Top of cement on lower stage logged at 4430. Upper stage ~~top~~ logged at 1740'. Perf. 4 shots/foot 6506-6548. Sandoil fracture perfs. with 32,970 gals. oil & 31,000# sand. Flush with 21,000 gals. oil. IR: 57.2 bpm. MTP--2400#, BDP--2200#, ATP--2300#. Dropped 84 rubber balls one time.
- 6-19-59 Flow Dakota 15 hours. Flowing 5,500 MCFPD; 800# CP; 275# spr. pres.
- 6-20-59 Flow Dakota 24 hours. Flowing 5,000 MCFPD; CP--120#. Kill well with 400 bbls. water. Set Baker Model "D" prod. packer at 6440'. Went in hole with Model "D" seal assembly and 2" tbg. Swab in Dakota and flow thru 2" tbg. to clean off water.
- 6-21-59 Flowing 2,300 MCFPD thru 3/4" choke. Pull tbg. and seal assembly. Go in with modified "DR" plug. Set plug in Model "D" prod. pkr. Held 1200# O.K. Spotted 400 gals. 7-1/2% BDA 5925'-5700'. Perf. 4 shots/foot 5913'-5930'.
- 6-22-59 Sandoil fracture perfs. 5913'-5930' with 46,200 gals. oil and 48,000# sand; flush with 9,828 gals. oil. Injection Rate: 57.7 bpm. MTP--2150#, BDP--2100#, ATP--2000#. Went in with 2" tbg. and Baker Fulbore pkr. Set pkr. at 5794'. Swab Gallup Zone to test.
- 6-23-59 Flow for 6 hours. Recovered 144 bbls. oil. 1422 bbls. load oil remaining. FPT--25#, 3/4" choke.
- 6-24-59 Flow for 22 hours. Recovered 480 bbls. oil. GOR 400/1; FPT-145#; 3/4" choke; 120# spr. pres. 1042 bbls. load oil in hole.
- 6-25-59 Flow for 22 hours; recovered 587 bbls. FPT--220#; FP spr.-110#; 3/4" choke. Load oil to be recovered--455 bbls.
- 6-26-59 Flow for 23 hrs.; recovered 455 bbls. load oil; 148 bbls. new oil at rate of 25 bbls./hr. GOR 1050/1. FPT--200#; FP spr. 160#; 3/4" choke.
- 6-27-59 Flow well 24 hours; recovered 483 bbls. oil; FPT-110#; FP-spr. 10-50#; 3/4" choke.
- 6-28-59 Flow well 24 hours; recovered 508 bbls. FPT--90-130#; FP spr. 10-40#; 3/4" choke; GOR 1100/



OIL CONSERVATION DIVISION  
SANTA FE

- 6-29-59 Flow well 24 hours; recovered 463 bbls. oil. FPT-60-125#; FP spr. 20-35#; 3/4" choke; GOR 1250/1. Pulled pkr. and tbg. Perf. 4 shots/foot 5834'-5861'. Set Baker Retrievable Bridge Plug at 5868'. Spot 250 gals. 7-1/2% BDA.
- 6-30-59 Sandoll fracture perfs. with 37,100 gals. oil and 37,000# sand; flush with 10,060 gals. oil; Injection Rate: 56.4bpm; MTP--3600#; BDP--2675#; ATP-2600#. Dropped 54 rubber balls one time.
- 7-1-59 Found 93 bbls. salt water in casing while cleaning out sand. Also found shale cavings mixed with sand cleaned out.
- 7-2-59 Went in hole with Baker Retrievable Bridge Plug and Fulbore pkr. Set BP at 5813'. Tested with 2000#. Came up the hole with Fulbore testing for leak. Found split casing at 4000'. Cemented with 200 sacks neat cement. Held no squeeze pressure. WOC 12 hours. Resqueezed with 100 sacks neat cement. Final pressure 3000#. Left 100' cement in casing.
- 7-5-59 Drilled out cement in casing. Test casing with 1600#. Pull retrievable bridge plug.
- 7-6-59 Go in with Fulbore and 2" tbg. to test perfs. 5834'-5861'. Set Fulbore at 5812'. Swab 88 bbls. oil in 5-1/2 hours. 1328 bbls. load oil remaining.
- 7-7-59 Swab and flow 24 hours for 424 bbls. recovery. FPT--50# thru 3/4" choke. 904 bbls. load oil in hole.
- 7-8-59 Swab and flow 301 bbls. in 20 hours. GOR 1100/1. 603 bbls. load oil in hole.
- 7-9-59 Flow 218 bbls. oil in 19 hours. GOR 500/1; FPT--45#; FP Spr. 45#. 235 bbls. load oil in hole.
- 7-10-59 Flow 404 bbls. oil in 24 hours; GOR 760/1; made 16 bbls./hour; FPT--50#; FP Spr. 50#.
- 7-11-59 Flow 279 bbls. new oil in 16 hours. 3/4" choke; flow pressure as before. Pulled Fulbore packer. Pulled retrievable bridge plug and mod. "DR" plug.
- 7-12-59 Ran 202 joints, 2-3/8", 4.70#, J-55 EUE tbg. ( 6435' ); landed at 6445'; latched into Model "D" at 6440'. 20,000# strain placed in Dakota tbg. string. Baker Mod. 699 dual string latching sub located at 5931'. Ran 193 joints, 2-3/8", 4.70#, J-55 EUE thd'd with Hardy-Griffin pins and boxes ( 5921' ); landed at 5931' and latched into dual string sub; this string has 14,000# strain on it; seating nipple is at 5924'.
- 7-14-59 Swab in Gallup zone. Flowing 10 bbls./hour when shut-in.
- 7-22-59 Potential Test on Dakota zone -- 3 hour open flow thru 3/4" choke -- SIPT -- 2069# (D); FPT--239# (D); choke volume - 2,850 MCF; CAOF - 2,990 MCFPD.
- 7-23-59 Potential Test on Gallup Zone - 216 bbls. oil per 24 hours; 260 mcf gas; oil gravity 39.3° API; GOR - 1202/1; flowing thru 2" tbg. and 24/64" choke; FPT--150; FPC--400.





App. for Multiple Comp.

Casing failure report

Big A Well Service

Contractor & Rig Number

(A-#4)

San Juan County, New Mexico

WORKOVER

3-29-78

MIRU-Big A Well Service @ 9:30 AM 3-29-78. Work pump could not unseat, backed off

44 rods. PU on short string, could not get out parallel string anchor. Stripped

off tbg head, removed donuts. Worked w/short string again, could not work free pt,

indicated free pt on short string by stretch 3900'. GO ran free pt. survey on long

string, indicated free pt 3800'.

3-30-78

Pumped in annulus. Hole loaded @ 49 bbls. Circ. long string w/100 bbls. Pumped

total 150 bbls. Tried working short string free, could not. Reran 44 rods, screwed

bk onto rod string. Working rod string, no pump action. Pumped dwn annulus. Hole

loaded again @ 50 bbls. Circ short string. Circ. out approx 50 bbls of oil and thic

paraffin. Worked pump again, could not free. Pumped 150 gals acid down annulus,

spot @ parallel string anchor. Circ. out approx. 200 bbls, drlg mud. Let acid set

30 minutes, worked rod string and short tbg string, no luck. Circ. hole thru short

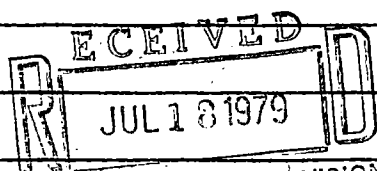
string. Trying to back off rods.

3-31-78

Tried backing rods off deeper could not. Rods strings would not stay

together. Pulled and laid dwn 44 rods. Stacked out both tbg string.

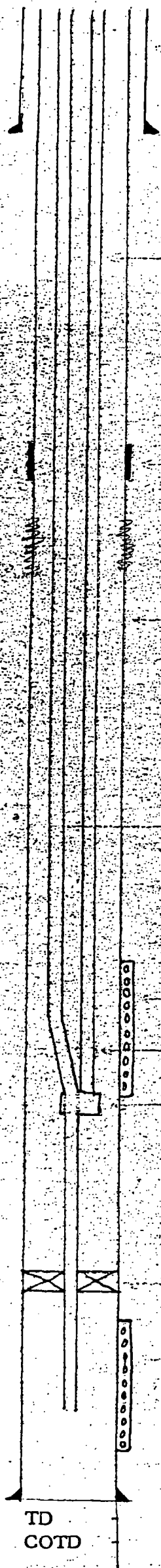
NU wellhead. Rel rig @ 1:30 3-31-78.



OIL CONSERVATION DIVISION  
SANTA FE

DUAL STRING  
XMAS TREE

NE SE Section 5, Township 27N, Range 11W



10-3/4", 32.75#, J-55, ST & C Surface Casing (161') set at 176' with 100 sacks cement circulated to surface.

Gallup Production Tubing 2-3/8", 4.70#, J-55, (5921') set at 5931' with Latching Sub Set in Baker Model 699 Parallel String Anchor. 5911' Integral Joint (Hardy-Griffin) EUE Tbg. with 10' Accessories.

Baker Model "J" Stage Cementing Collar Set at 2176'. Cemented with 100 sacks Cement. Top of Cement by Temperature Survey at 1700'.

\* Casing appears to be collapsed at about 3800'.

7", 23.00# Production Casing (Lower 971' N-80, Upper 5627' J-55); set at 6610' with 200 sacks cement. Top of Cement by Radioactive Logging at 4430'.

Dakota Production Tubing 2-3/8" OD; 4.70#, J-55 (6434') set at 6445'. 10' Accessories; 6421' J-55 EUE Tbg.

Gallup Formation Perforated 5834'-5861' (4 sh./ft.) Sandoil Fractured with 37,100 Gals. Oil & 37,000# Sand. Perforated 5913'-5930' (4 sh./ft.). Sandoil Fractured with 46,200 Gals. Oil & 48,000# Sand.  
Pump Seating Nipple (1-25/32" ID) @ 5924'.

Baker Model 699 Parallel String Anchor set in Dakota Production Tubing at 5932'.

Baker Model "D" Permanent Type Completion Packer Set at 6440'.

Dakota Formation Perforated 6506'-6548' (4 sh./ft.) Sandoil Fractured with 32,970 Gals. Oil & 31,000# Sand.

TD  
COTD

6616'  
6570'

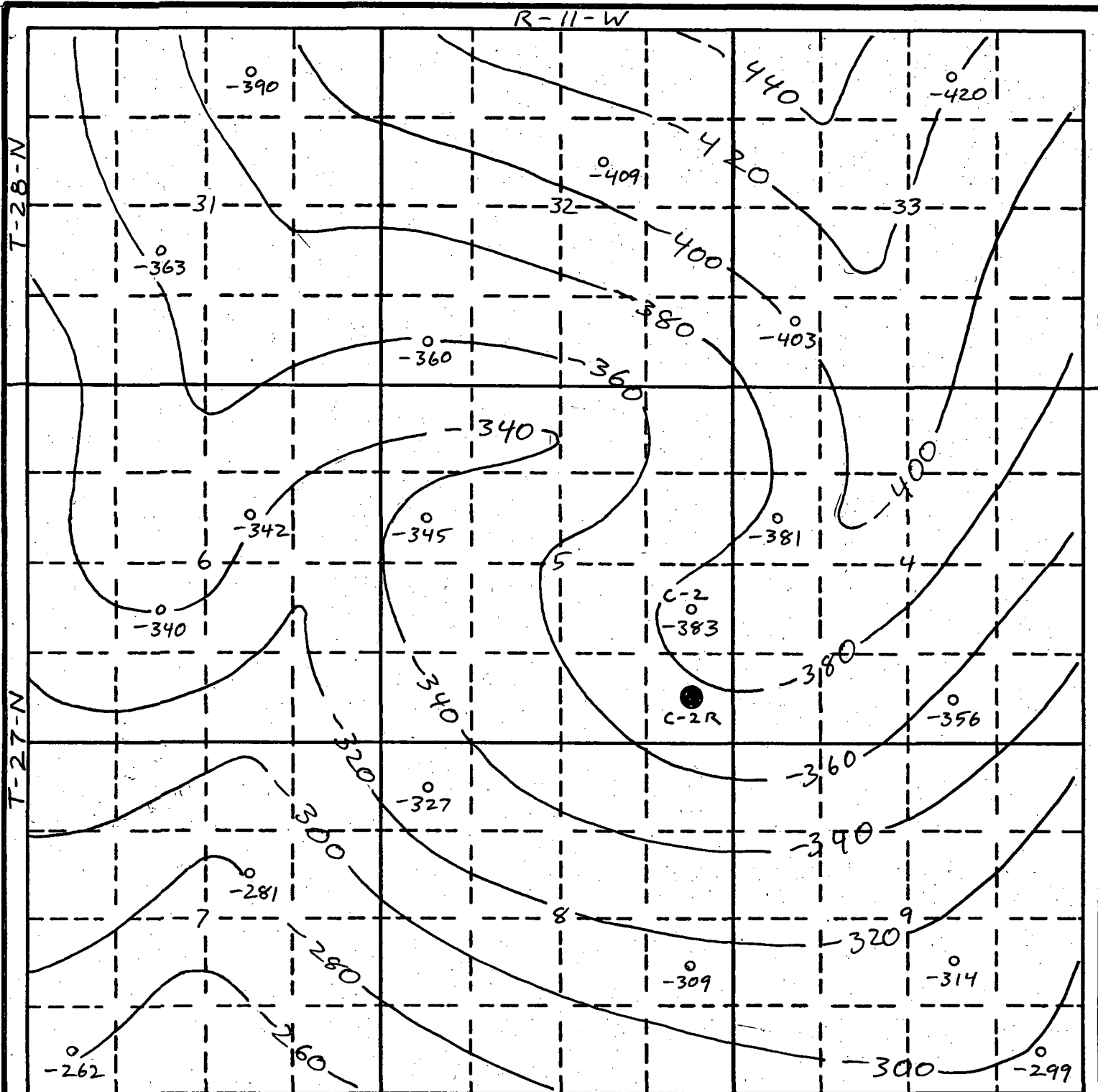
		$\frac{34}{764}$						$\frac{71}{3011}$	
					$\frac{61}{2224}$				
		$\frac{27}{671}$							
				$\frac{50}{1915}$			$\frac{119}{3274}$		
		$\frac{90}{2922}$		$\frac{70}{2487}$			$\frac{63}{2789}$		
		$\frac{22}{856}$				$\frac{0}{1520}$			
								$\frac{42}{1037}$	
				$\frac{59}{1622}$			$\frac{60}{2160}$		
		$\frac{50}{1275}$							
						$\frac{20}{640}$		$\frac{68}{988}$	
$\frac{46}{1534}$									PEA $\frac{0}{534}$

R-11-W

S.R.C.

XXX MMCF - 1978  
 XXXX MMCF Cum. - 12/78

SOUTHLAND ROYALTY COMPANY					
AREA					
Basin Dakota - Frontier C2R					
LOCATION					
600' FSL 900' FEL Sec 5, T27N, R5W					
TYPE OF MAP					
Gas Production					
CONTOURED				C.I.	
BY	DATE	REVISED BY	DATE	REFERENCE	DATE
CCP					6-25-79
NOTES					



S.R.C.

SOUTHLAND ROYALTY COMPANY

AREA

LOCATION

T-27, 28-N, R-11-W

TYPE OF MAP

DAKOTA STRUCTURE

CONTOURED

C.I. 20'

BY

DATE

REVISED BY

DATE

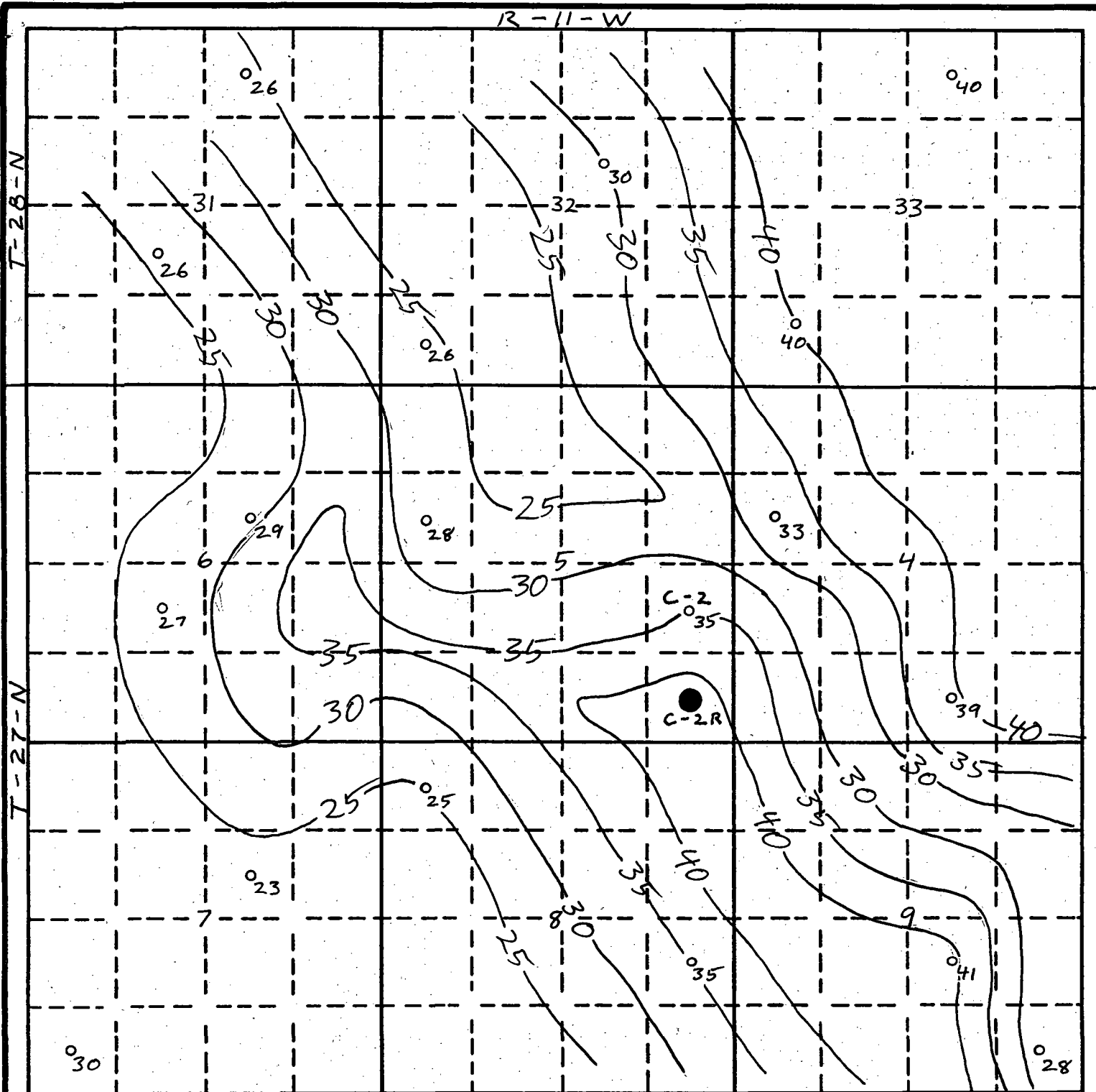
REFERENCE

DATE

R.U.P.

6-28-79

NOTES



S.R.C.

## SOUTHLAND ROYALTY COMPANY

AREA

LOCATION

T-27, 28-N, R-11-W

TYPE OF MAP

DAKOTA ISOPACH

CONTOURED

C.I. 5'

BY

DATE

REVISED BY

DATE

REFERENCE

DATE

R.U.P.

6-28-79

NOTES



## Southland Royalty Company

### INTER OFFICE CORRESPONDENCE

FROM: J. F. Berry

DATE: July 2, 1979

TO: Curt Parsons

SUBJECT: Frontier "C" No. 2 Reserves  
Section 5-27N-11W

Listed below are the reserves for the subject well effective  
1-1-77:

	<u>Barrels</u>	<u>MCF</u>
Gross	3,365	1,115,049
Net	2,082	689,937

These came from a 1-1-77 Gruy report which gave Aztec a working interest of .75000 and a net interest of .61875. They were calculated by a pressure depletion method.

  
J. F. Berry

JFB/nm

**NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION . LAT**

(G)

Form C-102  
Supersedes C-128  
Effective 1-1-65

All distances must be from the outer boundaries of the Section.

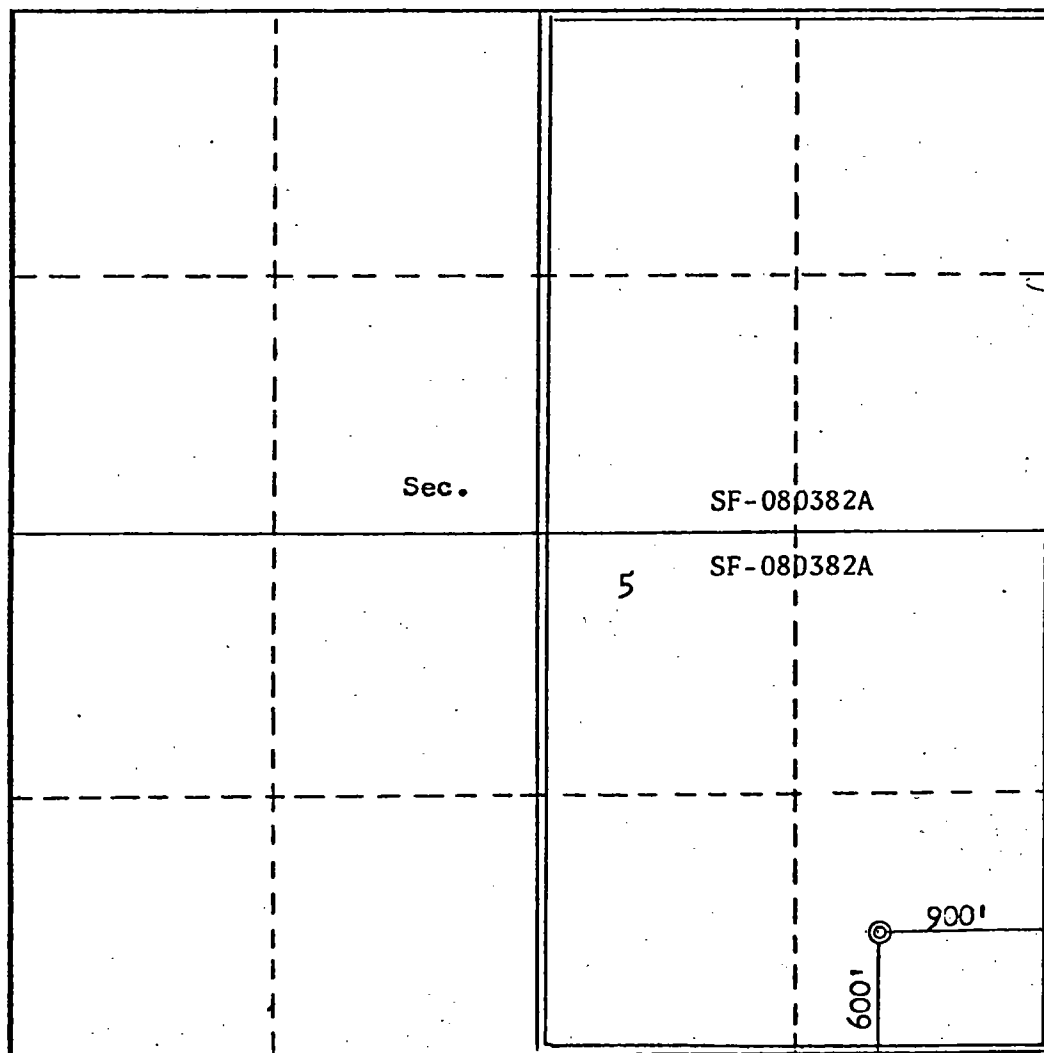
Operator <b>SOUTHLAND ROYALTY COMPANY</b>			Lease <b>FRONTIER "C"</b>		Well No. <b>2R</b>
Unit Letter <b>P</b>	Section <b>5</b>	Township <b>27N</b>	Range <b>11W</b>	County <b>San Juan</b>	
Actual Footage Location of Well: <b>600</b> feet from the <b>South</b> line and <b>900</b> feet from the <b>East</b> line					
Ground Level Elev. <b>6127</b>	Producing Formation <b>Dakota</b>		Pool <b>Basin</b>		Dedicated Acreage: <b>320</b> Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes    ☐ No    If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



**CERTIFICATION**

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

Name \_\_\_\_\_

Position  
**District Production Manager**

Company  
**Southland Royalty Company**

Date  
**March 5, 1979**

*I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.*

Date Surveyed  
**February 12, 1979**

Registered Professional Engineer and/or Land Surveyor

**Fred B. Kerr**

Certificate No. **3950**

0 330 660 990 1320 1650 1980 2310 2640 2970 3300 3630 3960 4290 4620 4950 5280 5610 5940 6270 6600

(H)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

## 1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

## b. TYPE OF WELL

OIL  
WELL ☐GAS  
WELL ☒

OTHER

SINGLE  
ZONE ☒MULTIPLE  
ZONE ☐

## 2. NAME OF OPERATOR

Southland Royalty Company

## 3. ADDRESS OF OPERATOR

P. O. Drawer 570, Farmington, New Mexico

## 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)\*

At surface

600' FSL &amp; 900' FEL

At proposed prod. zone

## 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

7 miles south/southwest of Bloomfield, New Mexico

## 15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drig. unit line, if any)

## 16. NO. OF ACRES IN LEASE

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

320

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

## 19. PROPOSED DEPTH

6650'

## 20. ROTARY OR CABLE TOOLS

Rotary

## 21. ELEVATIONS (Show whether DF, RT, GR, etc.)

6127'

## 22. APPROX. DATE WORK WILL START\*

## 23.

## PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	8-5/8"	24#	200'	140 sxs
7-7/8"	4-1/2"	10.5#	6650'	220 sxs (1st Stage)
				275 sxs (2nd Stage)
				240 sxs (3rd Stage)

Top of Ojo Alamo sand is at 1130';

Top of Pictured Cliffs sand is at 1888';

Top of Mesa Verde sand is at 3492';

Fresh water mud will be used to drill from surface to total depth.

It is anticipated that an IES and a GR-Density log will be run at total depth.

No abnormal pressures or poisonous gases are anticipated in this well,

It is expected that this well will be drilled before June 15, 1979. This depends  
on time required for approvals, rig availability and the weather,

Gas is dedicated.

This is an unorthodox location. Application is being made to N.M.O.C.C. for  
approval.RECEIVED  
MAR 7 1979

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface geologic formations and measured and true vertical depths. Give blowout preventer program, if any.

## 24.

SIGNED

TITLE

District Production Manager DATE March 5, 1979

(This space for Federal or State Office use)

APPROVED

PERMIT NO.

MAR 27 1979

APPROVAL DATE

DATE

APPROVED BY

CONDITIONS OF APPROVAL

DISTRICT ENGINEER

"APPROVAL TO FLARE GRANTED  
WHILE DRILLING AND TESTING."

\*See Instructions On Reverse Side

OPERATOR





STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

(I)

BRUCE KING  
GOVERNOR

LARRY KEHOE  
SECRETARY

April 3, 1979

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

Southland Royalty Company  
P. O. Drawer 570  
Farmington, New Mexico 87401

Attention: Curtis C. Parsons

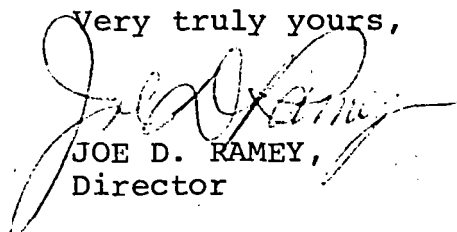
Administrative Order NSL-1018

Gentlemen:

Reference is made to your application for a non-standard location for your Frontier "C" Well No. 2-R to be located 600 feet from the South line and 900 feet from the East line of Section 5, Township 27 North, Range 11 West, NMPM, San Juan County, New Mexico.

By authority granted me under the provisions of Rule 3 of Order No. R-1670-C, the above-described unorthodox location is hereby approved.

Very truly yours,



JOE D. RAMEY,  
Director

JDR/RLS/dr

cc: Oil Conservation Division - Aztec  
Oil & Gas Engineering Committee - Hobbs  
U. S. Geological Survey - Farmington

RECEIVED  
APR 06 1979  
FARMINGTON DISTRICT



**Southland Royalty Company**

July 16, 1979

New Mexico Department of Energy & Minerals  
Oil and Gas Division  
Mr. Joe D. Ramey  
P. O. Box 2088  
Santa Fe, NM 87501

RE: Frontier "C" #2R  
SE Sec. 5, T27N, R11W

Dear Sir:

Southland Royalty Company proposes to drill the Frontier "C" #2R Dakota well and requests an administrative ruling that this well is a "necessary infill well" as defined in Order #R-6013.

The acreage dedicated to the well is the E/2 of Section 5, T27N, R11W, San Juan County, New Mexico. The only other well on this acreage which has been completed in the Dakota is the Frontier "C" #2 which is no longer capable of production. A well history and mechanical description of this well are enclosed (A).

Also enclosed are the following:

- \* Nine Section Production Map (B)
- \* Nine Section Structure Map (C)
- \* Nine Section Isopach of the Dakota Zone (D)
- \* Production Decline Graph for Frontier "C" #2 (E)
- \* Reserve Estimate for the proposed new well (F)  
(It should be noted that the Frontier "C" #2 is not capable of any further production. Therefore, all reserves should be considered "additional reserves" in the proposed new well.)
- \* State Form C-102 (G)
- \* U.S.G.S. Form 9-331 (H)
- \* Copy of Administrative Order #NSL-1018 authorizing a non-standard location (I)

The proposed well has not yet been spudded. All offset operators have been notified of this application by registered mail.

Yours truly,

Curtis C. Parsons  
District Engineer

CCP/kde

SOUTHLAND ROYALTY COMPANY - PERTINENT DATAF R O N T I E R " C " # 2Location: 1750' FSL & 890' FEL, Section 5, T27N, R11W, San Juan County, New MexicoField: Kutz Gallup - Basin Dakota      Elevation: 6114' GR

<u>Casing Size</u>	<u>Wt. &amp; Grade</u>	<u>Depth</u>	<u>Hole Size</u>	<u>Cement</u>
10 3/4"	28.60#	176'	13 3/4"	100 sx
7"	23# J-55 & N-80	6610'	8 3/4"	200 sx (1st stage)
(SEE ATTACHED SCHEMATIC)				100 sx (2nd stage)

Top of Cement: 1700' by Temperature Survey

<u>Tubing Size</u>	<u>Wt. &amp; Grade</u>	<u>Depth</u>
2 3/8"	4.7#, J-55, IJ	5931' (stung in parallel string anchor)
2 3/8"	4.7#, J-55, EUE	6445' (stung thru parallel anchor and into model "D" packer at 6440')

Wellhead Equipment: OCT - 3000# dual wellheadCompletion:

Dakota - Perfd 6506' - 6548' w/4 SPF. Fracd w/32,970 gals. oil &amp; 31,000# sand

Gallup - Perfd 5913' - 5930' w/4 SPF. Fracd w/46,200 gals. oil &amp; 48,000# sand

Perfd 5834' - 5861' w/4 SPF. Fracd w/37,000 gals. oil &amp; 37,000# sand

Workover History:

March, 1978: MOL. Tried to unseat pump. Could not. Backed off 44 rods. Tried unsuccessfully to pull both strings of tubing. Casing appears to be collapsed above parallel string anchor at about 3900'. Put wellhead back on and rigged down.

IT DOES NOT APPEAR POSSIBLE TO RETURN THIS WELL TO PRODUCTION DUE TO SEVERE MECHANICAL PROBLEMS.

- 5-22-59 Move on San Juan Drilling Rig No. 3. Spud Well at 8:00 P.M.
- 5-23-59 Total Depth 180'. Ran 4 joints, 10-3/4", 28.60#, S.W. Csg. (161') set at 176' with 100 sacks regular cement, 2% CaCl<sub>2</sub> circulated to surface. Held 500#/30 Minutes.
- 6-2-59 Pull Core #1. 5770'-5830'. Recovered 60'.
- 6-3-59 Pull Core #2. 5850'-5865'. Recovered 13'.
- 6-6-59 Pull Core #3. 6475'-6535'. Recovered 60'.
- 6-7-59 Pull Core #4. 6535'-6555'. Recovered 19.5'.
- 6-9-59 Pull Core #5. 6570'-6610'. Recovered 40'.
- 6-11-59 TD 6616'. Ran ES-IND 180'-6606'; Sonic 5400'-6606'; ML 5400'-6606'.
- 6-12-59 Ran DST 5900'-5950'. Tool open 5 min. Initial SIP after 60 min. 1627. Open tool 2' - 5". Good blow, gas to surface in 4 min. Gas estimated at 20-40 mcf. FP--114-313. Second SIP in 45 min. - 1524#. Recovered 800' free oil.
- 6-13-59 Ran 173 joints 7", 23.00# (Lower 971' N-80; upper 5627' J-55) N-80 & J-55 Csg. (6598') set at 6610' with 200 sacks 50/50 Pozmix, 2% gel., 25#/sk. Flocele. Two-stage collar at 2176' cemented with 100 sacks neat cement. Held 1000#/30 Min. Top of upper stage cement at 1700' by temperature survey.
- 6-16-59 Move on J. P. Gibbins Rig No. 202.
- 6-17-59 COTD--6570'. Spotted 400 gals. 7-1/2% BDA on bottom.
- 6-18-59 Ran GR-CL & Cemotron log 4200-6570 & 1400-2800. Top of cement on lower stage logged at 4430. Upper stage top logged at 1740'. Perf. 4 shots/foot 6506-6548. Sandoil fracture perfs. with 32,970 gals. oil & 31,000# sand. Flush with 21,000 gals. oil. IR: 57.2 bpm. MTP--2400#, BDP--2200#, ATP--2300#. Dropped 84 rubber balls one time.
- 6-19-59 Flow Dakota 15 hours. Flowing 5,500 MCFPD; 800# CP; 275# spr. pres.
- 6-20-59 Flow Dakota 24 hours. Flowing 5,000 MCFPD; CP--120#. Kill well with 400 bbls. water. Set Baker Model "D" prod. packer at 6440'. Went in hole with Model "D" seal assembly and 2" tbg. Swab in Dakota and flow thru 2" tbg. to clean off water.
- 6-21-59 Flowing 2,300 MCFPD thru 3/4" choke. Pull tbg. and seal assembly. Go in with modified "DR" plug. Set plug in Model "D" prod. pkr. Held 1200# O.K. Spotted 400 gals. 7-1/2% BDA 5925'-5700'. Perf. 4 shots/foot 5913'-5930'.
- 6-22-59 Sandoil fracture perfs. 5913'-5930' with 46,200 gals. oil and 48,000# sand; flush with 9,828 gals. oil. Injection Rate: 57.7 bpm. MTP--2150#, BDP--2100#, ATP--2000#. Went in with 2" tbg. and Baker Fulbore pkr. Set pkr. at 5794'. Swab Gallup Zone to test.
- 6-23-59 Flow for 6 hours. Recovered 144 bbls. oil. 1422 bbls. load oil remaining. FPT--25#; 3/4" choke.
- 6-24-59 Flow for 22 hours. Recovered 480 bbls. oil. GOR 400/1; FPT-145#; 3/4" choke; 120# spr. pres. 1042 bbls. load oil in hole.
- 6-25-59 Flow for 22 hours; recovered 587 bbls. FPT--220#; FP spr.-110#; 3/4" choke. Load oil to be recovered--455 bbls.
- 6-26-59 Flow for 23 hrs.; recovered 455 bbls. load oil; 148 bbls. new oil at rate of 25 bbls./hr. GOR 1050/1. FPT--200#; FP spr. 160#; 3/4" choke.
- 6-27-59 Flow well 24 hours; recovered 483 bbls. oil; FPT-110#; FP-spr. 10-50#; 3/4" choke.
- 6-28-59 Flow well 24 hours; recovered 508 bbls. FPT--90-130#; FP spr. 10-40#; 3/4" choke; GOR 1100/1.

- 6-29-59 Flow well 24 hours; recovered 463 bbls. oil. FPT-60-125#; FP spr. 20-35#; 3/4" choke; GOR 1250/1. Pulled pkr. and tbg. Perf. 4 shots/foot 5834'-5861'. Set Baker Retrievable Bridge Plug at 5868'. Spot 250 gals. 7-1/2% BDA.
- 6-30-59 Sandoil fracture perfs. with 37,100 gals. oil and 37,000# sand; flush with 10,060 gals. oil; Injection Rate: 56.4bpm; MTP--3600#; BDP--2675#; ATP-2600#. Dropped 54 rubber balls one time.
- 7-1-59 Found 93 bbls. salt water in casing while cleaning out sand. Also found shale cavings mixed with sand cleaned out.
- 7-2-59 Went in hole with Baker Retrievable Bridge Plug and Fulbore pkr. Set BP at 5813'. Tested with 2000#. Came up the hole with Fulbore testing for leak. Found split casing at 4000'. Cemented with 200 sacks neat cement. Held no squeeze pressure. WOC 12 hours. Resqueezed with 100 sacks neat cement. Final pressure 3000#. Left 100' cement in casing.
- 7-5-59 Drilled out cement in casing. Test casing with 1600#. Pull retrievable bridge plug.
- 7-6-59 Go in with Fulbore and 2" tbg. to test perfs. 5834'-5861'. Set Fulbore at 5812'. Swab 88 bbls. oil in 5-1/2 hours. 1328 bbls. load oil remaining.
- 7-7-59 Swab and flow 24 hours for 424 bbls. recovery. FPT--50# thru 3/4" choke. 904 bbls. load oil in hole.
- 7-8-59 Swab and flow 301 bbls. in 20 hours. GOR 1100/1. 603 bbls. load oil in hole.
- 7-9-59 Flow 218 bbls. oil in 19 hours. GOR 500/1; FPT--45#; FP Spr. 45#. 235 bbls. load oil in hole.
- 7-10-59 Flow 404 bbls. oil in 24 hours; GOR 760/1; made 16 bbls./hour; FPT--50#; FP Spr. 50#.
- 7-11-59 Flow 279 bbls. new oil in 16 hours. 3/4" choke; flow pressure as before. Pulled Fulbore packer. Pulled retrievable bridge plug and mod. "DR" plug.
- 7-12-59 Ran 202 joints, 2-3/8", 4.70#, J-55 EUE tbg. ( 6435' ); landed at 6445'; latched into Model "D" at 6440'. 20,000# strain placed in Dakota tbg. string. Baker Mod. 699 dual string latching sub located at 5931'. Ran 193 joints, 2-3/8", 4.70#, J-55 EUE thd'd with Hardy-Griffin pins and boxes ( 5921' ); landed at 5931' and latched into dual string sub; this string has 14,000# strain on it; seating nipple is at 5924'.
- 7-14-59 Swab in Gallup zone. Flowing 10 bbls./hour when shut-in.
- 7-22-59 Potential Test on Dakota zone -- 3 hour open flow thru 3/4" choke -- SIPT -- 2069# (D); FPT--239# (D); choke volume - 2,850 MCF; CAOF - 2,990 MCFPD.
- 7-23-59 Potential Test on Gallup Zone - 216 bbls. oil per 24 hours; 260 mcf gas; oil gravity 39.3° API; GOR - 1202/1; flowing thru 2" tbg. and 24/64" choke; FPT--150; FPC--400.

3-31-78	Tried backing rods off deeper could not. Rods strings would not stay together. Pulled and laid dwn 44 rods. Stacked out both tbg string.
	NU wellhead. Rel rig @ 1:30 3-31-78.

DUAL STRING  
XMAS TREE

SCHEMATIC DIAGRAM OF DUAL COMPLETION  
FRONTIER NO. 2-C (GD) ( )  
NE SE Section 5, Township 27N, Range 11W

(A-#5)

10-3/4", 32.75#, J-55, ST & C Surface Casing (161') set  
at 176' with 100 sacks cement circulated to surface.

Gallup Production Tubing 2-3/8", 4.70#, J-55, (5921') set  
at 5931' with Latching Sub Set in Baker Model 699 Parallel  
String Anchor. 5911' Integral Joint (Hardy-Griffin) EUE Tbg.  
with 10' Accessories.

Baker Model "J" Stage Cementing Collar Set at 2176'. Cemented  
with 100 sacks Cement. Top of Cement by Temperature Survey  
at 1700'.

\* Casing appears to be collapsed at about 3800'.

7", 23.00# Production Casing (Lower 971' N-80, Upper 5627'  
J-55); set at 6610' with 200 sacks cement. Top of Cement by  
Radioactive Logging at 4430'.

Dakota Production Tubing 2-3/8" OD; 4.70#, J-55 (6434') set  
at 6445'. 10' Accessories; 6421' J-55 EUE Tbg.

Gallup Formation Perforated 5834'-5861' (4 sh./ft.) Sandoil  
Fractured with 37,100 Gals. Oil & 37,000# Sand. Perforated  
5913'-5930' (4 sh./ft.). Sandoil Fractured with 46,200 Gals.  
Oil & 48,000# Sand.

Pump Seating Nipple (1-25/32" ID) @ 5924'.

Baker Model 699 Parallel String Anchor set in Dakota Production  
Tubing at 5932'.

Baker Model "D" Permanent Type Completion Packer Set  
at 6440'.

Dakota Formation Perforated 6506'-6548' (4 sh./ft.) Sandoil  
Fractured with 32,970 Gals. Oil & 31,000# Sand.

TD  
COTD

6616'  
6570'

		$\frac{34}{764}$						$\frac{71}{3011}$	
					$\frac{61}{2224}$				
	31	$\frac{27}{671}$							33
				$\frac{50}{1915}$			$\frac{119}{3274}$		
		$\frac{90}{2922}$		$\frac{70}{2487}$			$\frac{63}{2789}$		
	6	$\frac{22}{856}$			5		$\frac{0}{1520}$		4
								$\frac{42}{1037}$	
				$\frac{59}{1622}$			$\frac{60}{2160}$		
		$\frac{50}{1275}$							
	7				8		$\frac{20}{640}$		9
								$\frac{68}{988}$	
$\frac{46}{1534}$									PEA $\frac{0}{534}$

R-11-W

S.R.C.

xxx MMCF - 1978  
xxxx MMCF Cum. - 12/78

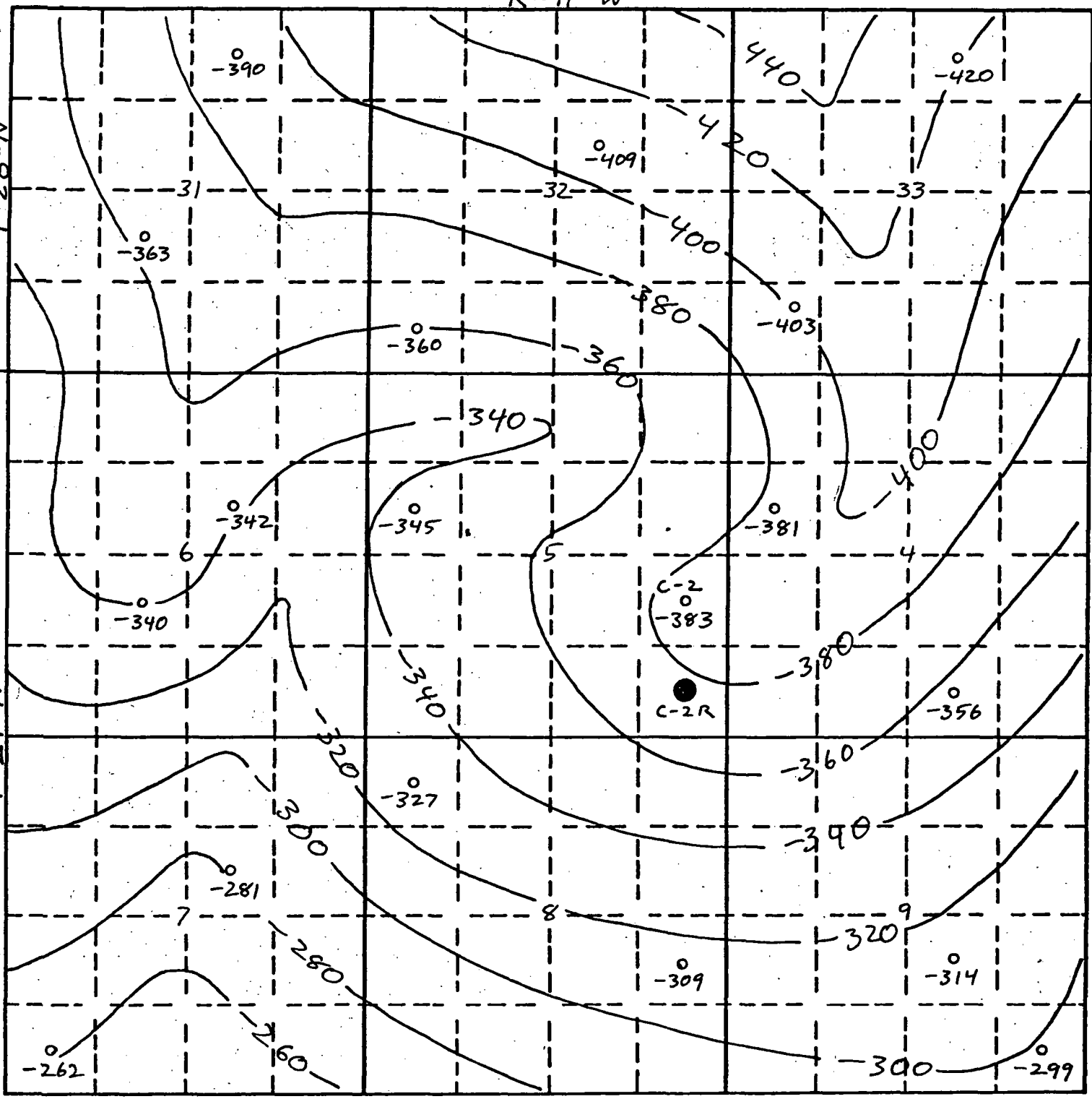
SOUTHLAND ROYALTY COMPANY					
AREA Basin Dakota - Frontier C2R					
LOCATION 600'ESL 900'FEL Sec 5, T27N, R5W					
TYPE OF MAP Gas Production					
CONTOURED					C.I.
BY CCP	DATE	REVISED BY	DATE	REFERENCE	DATE 6-25-79
NOTES					



T-28-N

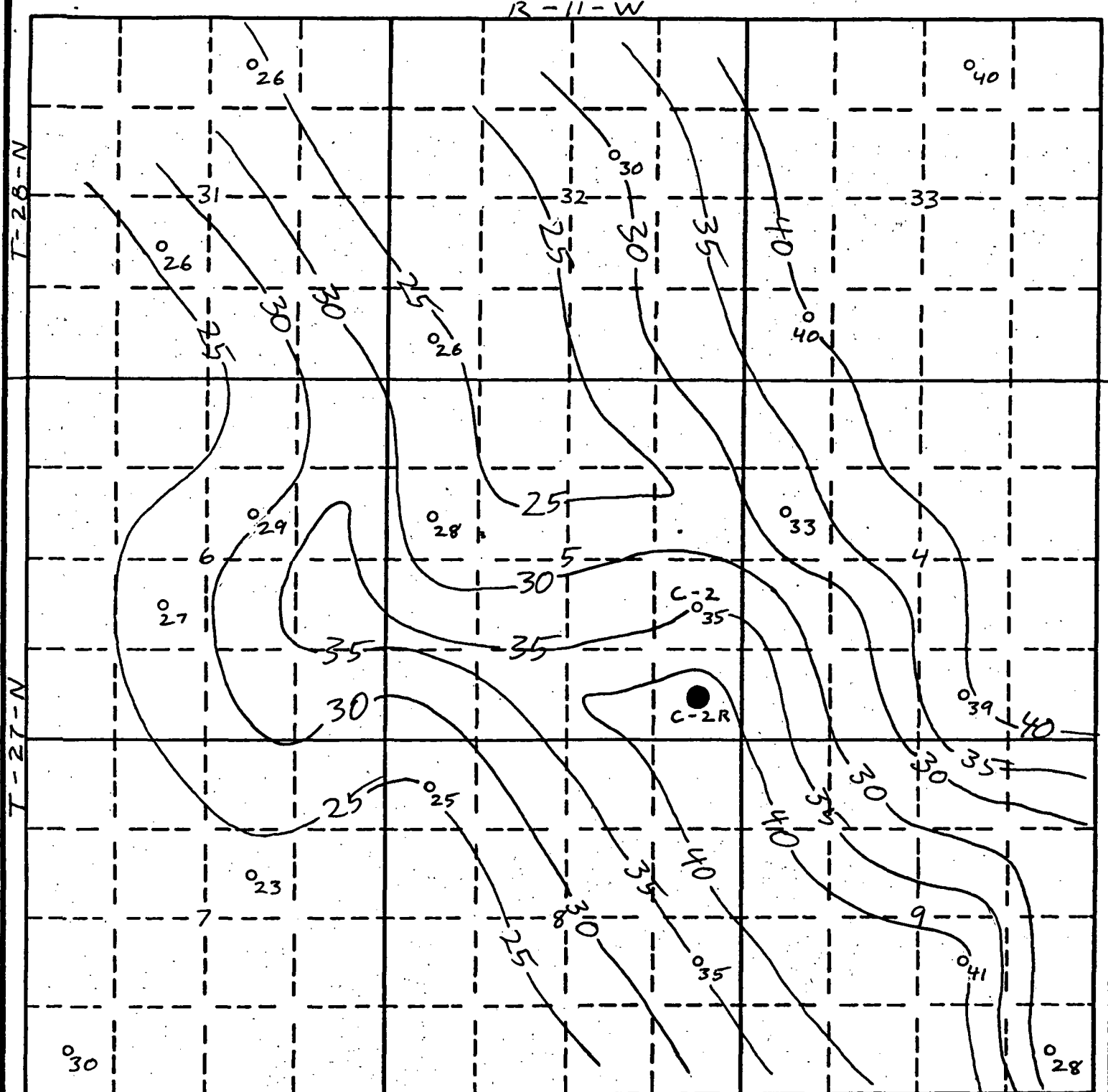
T-27-N

R-11-W



S.R.C.


SOUTHLAND ROYALTY COMPANY					
AREA					
LOCATION T-27, 28-N, R-11-W					
TYPE OF MAP DAKOTA STRUCTURE					
CONTOURED		CL 20'		DATE	
BY R.U.P.	DATE	REVISED BY	DATE	REFERENCE	DATE 6-28-79
NOTES					



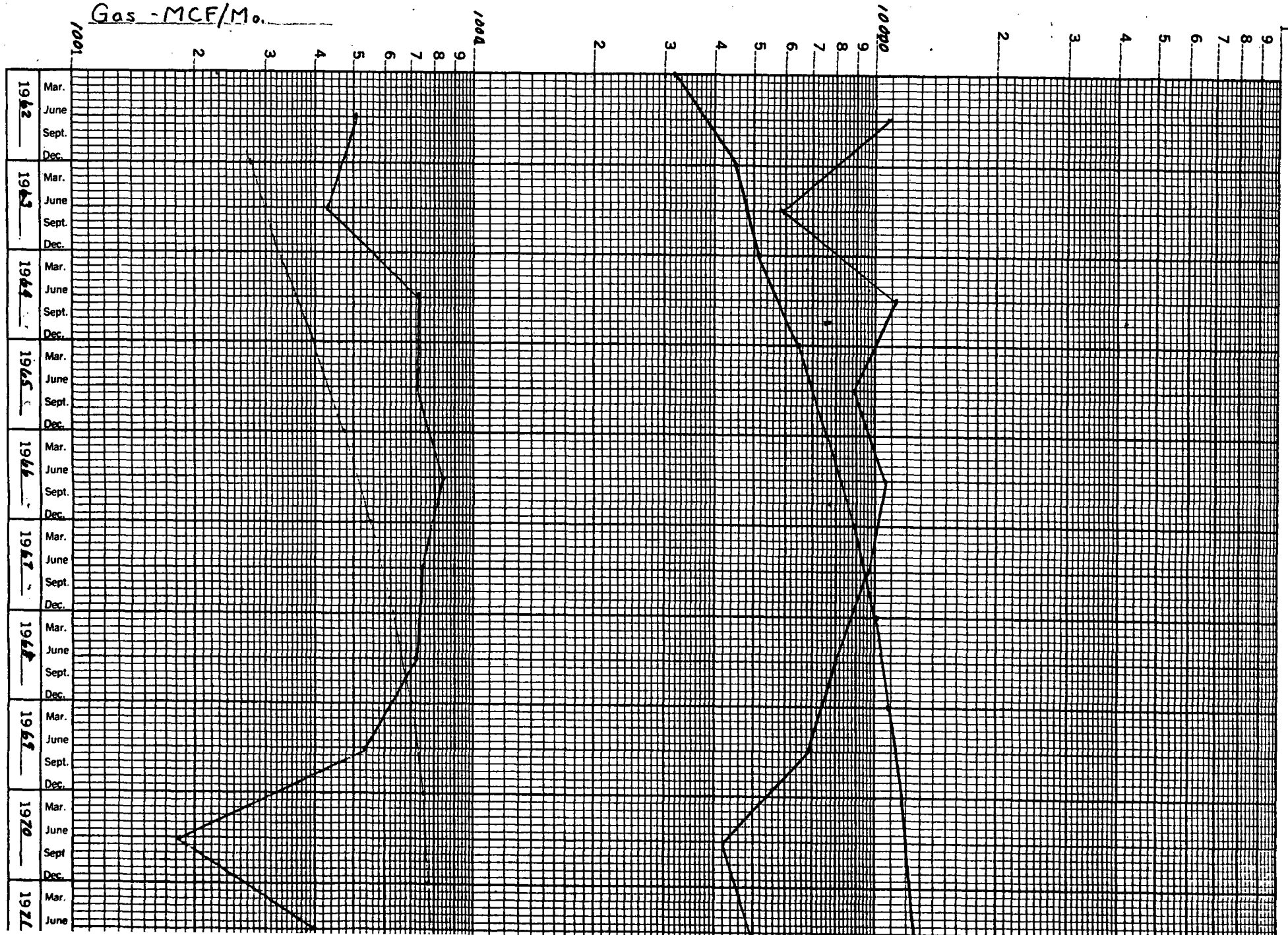
S.R.C.


SOUTHLAND ROYALTY COMPANY					
AREA					
LOCATION T-27, 28-N, R-11-W					
TYPE OF MAP DAKOTA ISOPACH					
CONTOURED					CL 5'
BY R.U.P.	DATE	REVISED BY	DATE	REFERENCE	DATE 6-28-79
NOTES					

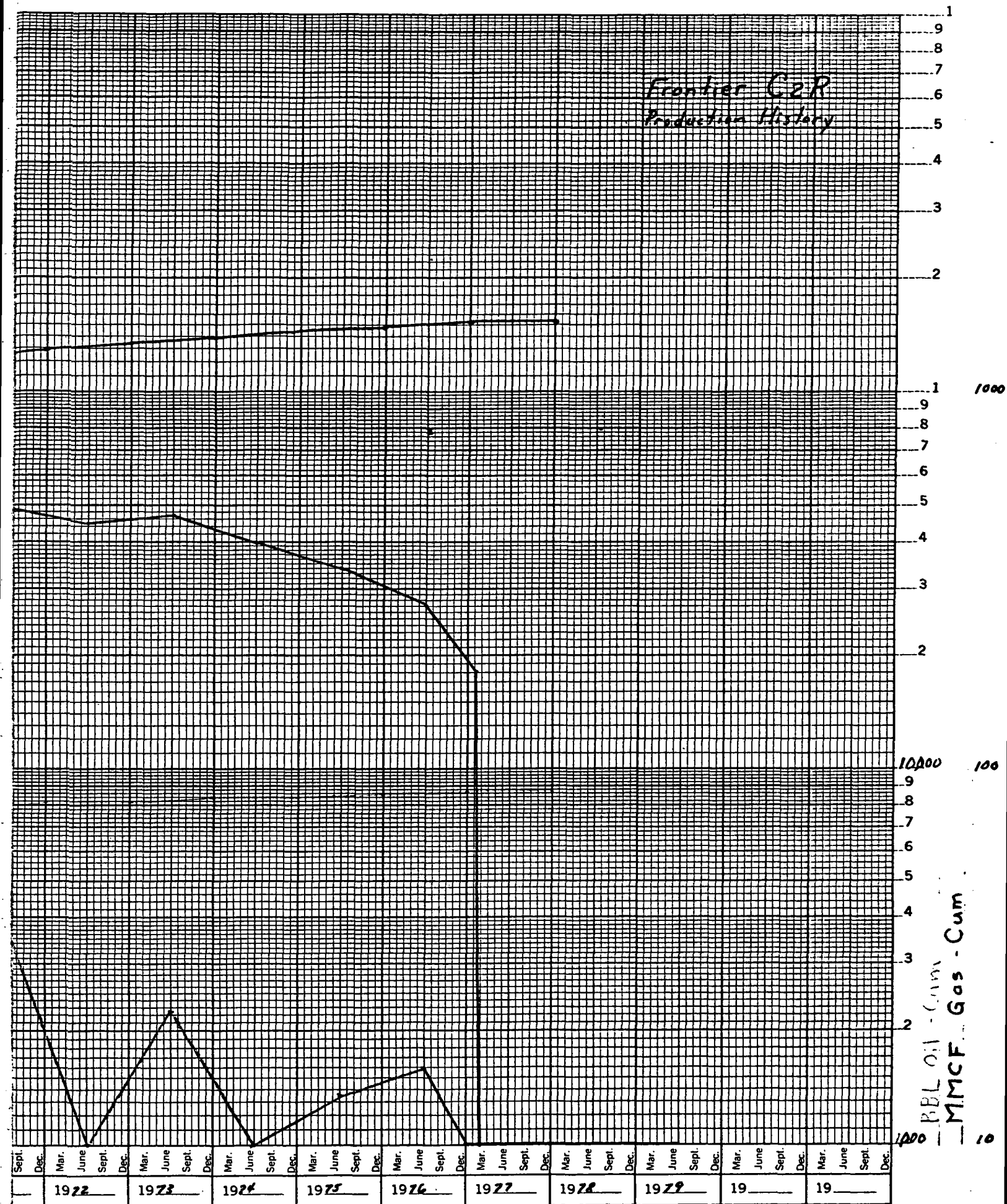
15-

Oil - BOPY

Gas - MCF/Mo.



# Frontier C2R Production History





# Southland Royalty Company

## INTER OFFICE CORRESPONDENCE

FROM: J. F. Berry

DATE: July 2, 1979

TO: Curt Parsons

SUBJECT: Frontier "C" No. 2 Reserves  
Section 5-27N-11W

1-1-77: Listed below are the reserves for the subject well effective

	<u>Barrels</u>	<u>MCF</u>
Gross	3,365	1,115,049
Net	2,082	689,937

These came from a 1-1-77 Gruy report which gave Aztec a working interest of .75000 and a net interest of .61875. They were calculated by a pressure depletion method.

  
J. F. Berry

JFB/nm

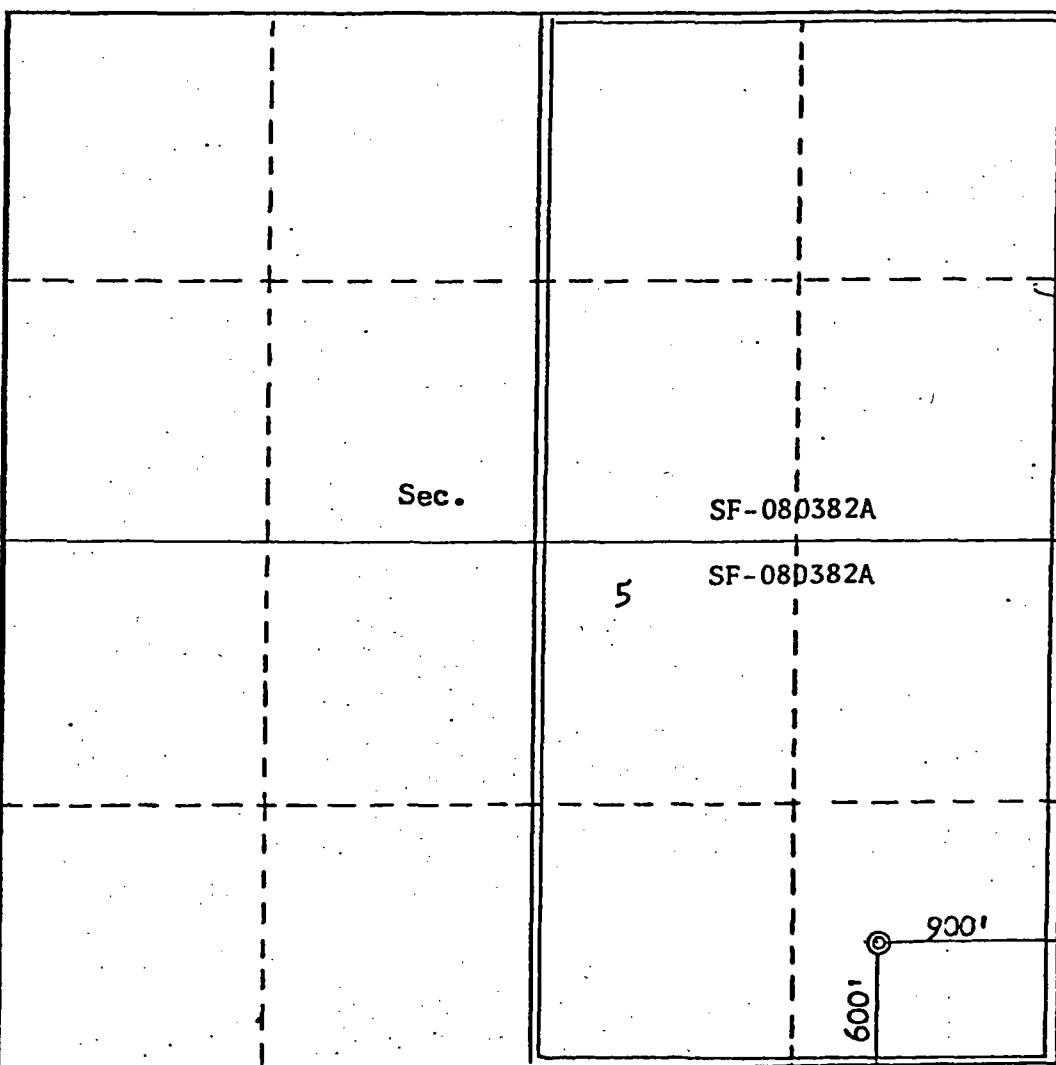
Operator <b>SOUTHLAND ROYALTY COMPANY</b>			Lease <b>FRONTIER "C"</b>		Well No. <b>2R</b>
Unit Letter <b>P</b>	Section <b>5</b>	Township <b>27N</b>	Range <b>11W</b>	County <b>San Juan</b>	
Actual Footage Location of Well: <b>600</b> feet from the <b>South</b> line and <b>900</b> feet from the <b>East</b> line					
Ground Level Elev. <b>6127</b>	Producing Formation <b>Dakota</b>		Pool <b>Basin</b>	Dedicated Acreage: <b>320</b> Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
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3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



#### CERTIFICATION

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

Name [Signature]  
 Position **District Production Manager**  
 Company **Southland Royalty Company**  
 Date **March 5, 1979**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed **February 12, 1979**  
 Registered Professional Engineer and/or Land Surveyor of **NEW MEXICO**  
[Signature]  
**Fred B. Kerr, Jr.**  
 Certificate No. **3950**

**DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY**

5. LEASE DESIGNATION AND SERIAL NO.

SF-080382A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Frontier "C"

9. WELL NO.

#2R

10. FIELD AND POOL, OR WILDCAT

Basin Dakota

11. SEC., T., R., M., OR BLK.  
AND SURVEY OR AREA

Section 5, T27N, R11W

12. COUNTY OR PARISH 13. STATE

San Juan

New Mexico

**APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK**

1a. TYPE OF WORK

DRILL ☒

DEEPEN ☐

PLUG BACK ☐

b. TYPE OF WELL

OIL WELL ☐

GAS WELL ☒

OTHER

SINGLE ZONE ☒

MULTIPLE ZONE ☐

2. NAME OF OPERATOR

Southland Royalty Company

3. ADDRESS OF OPERATOR

P. O. Drawer 570, Farmington, New Mexico

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)

At surface

600' FSL & 900' FEL

At proposed prod. zone

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

7 miles south/southwest of Bloomfield, New Mexico

10. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drlg. unit line, if any)

16. NO. OF ACRES IN LEASE

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

320

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

19. PROPOSED DEPTH

6650'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

6127'

22. APPROX. DATE WORK WILL START\*

**23. PROPOSED CASING AND CEMENTING PROGRAM**

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	8-5/8"	24#	200'	140 sxs
7-7/8"	4-1/2"	10.5#	6650'	220 sxs (1st Stage)
				275 sxs (2nd Stage)
				240 sxs (3rd Stage)

Top of Ojo Alamo sand is at 1130';

Top of Pictured Cliffs sand is at 1888';

Top of Mesa Verde sand is at 3492';

Fresh water mud will be used to drill from surface to total depth.

It is anticipated that an IES and a GR-Density log will be run at total depth.

No abnormal pressures or poisonous gases are anticipated in this well.

It is expected that this well will be drilled before June 15, 1979. This depends on time required for approvals, rig availability and the weather.

Gas is dedicated.

This is an unorthodox location. Application is being made to N.M.O.C.C. for approval.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface allocations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

TITLE

District Production Manager

DATE March 5, 1979

(This space for Department or State Office Use)

PERMIT NO.

APPROVAL DATE

APPROVED BY

DATE

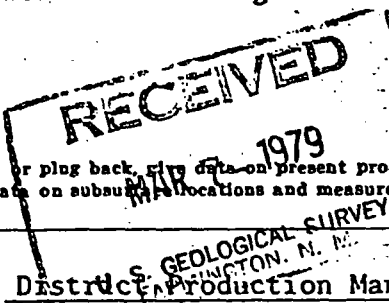
CONDITIONS OF

DISTRICT ENGINEER

"APPROVAL TO FLARE GRANTED  
WHILE DRILLING AND TESTING."

\*See Instructions On Reverse Side

**OPERATOR**



**APPROVED**

MAR 27 1979

E. J. McGRATH



ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

BRUCE KING  
GOVERNOR

LARRY KEHOE  
SECRETARY

April 3, 1979

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

Southland Royalty Company  
P. O. Drawer 570  
Farmington, New Mexico 87401

Attention: Curtis C. Parsons

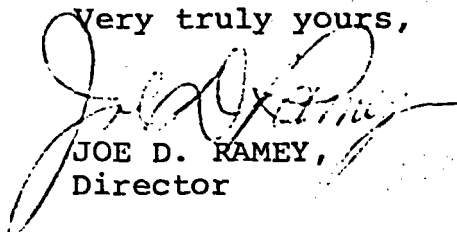
Administrative Order NSL-1018

Gentlemen:

Reference is made to your application for a non-standard location for your Frontier "C" Well No. 2-R to be located 600 feet from the South line and 900 feet from the East line of Section 5, Township 27 North, Range 11 West, NMPM, San Juan County, New Mexico.

By authority granted me under the provisions of Rule 3 of Order No. R-1670-C, the above-described unorthodox location is hereby approved.

Very truly yours,



JOE D. RAMEY,  
Director

JDR/RLS/dr

cc: Oil Conservation Division - Aztec  
Oil & Gas Engineering Committee - Hobbs  
U. S. Geological Survey - Farmington

RECEIVED  
APR 06 1979  
FARMINGTON DISTRICT





**Southland Royalty Company**

July 16, 1979

New Mexico Department of Energy & Minerals  
Oil and Gas Division  
Mr. Joe D. Ramey  
P. O. Box 2088  
Santa Fe, NM 87501

RE: Frontier "C" #2R  
SE Sec. 5, T27N, R11W

Dear Sir:

Southland Royalty Company proposes to drill the Frontier "C" #2R Dakota well and requests an administrative ruling that this well is a "necessary infill well" as defined in Order #R-6013.

The acreage dedicated to the well is the E/2 of Section 5, T27N, R11W, San Juan County, New Mexico. The only other well on this acreage which has been completed in the Dakota is the Frontier "C" #2 which is no longer capable of production. A well history and mechanical description of this well are enclosed (A).

Also enclosed are the following:

- \* Nine Section Production Map (B)
- \* Nine Section Structure Map (C)
- \* Nine Section Isopach of the Dakota Zone (D)
- \* Production Decline Graph for Frontier "C" #2 (E)
- \* Reserve Estimate for the proposed new well (F)  
(It should be noted that the Frontier "C" #2 is not capable of any further production. Therefore, all reserves should be considered "additional reserves" in the proposed new well.)
- \* State Form C-102 (G)
- \* U.S.G.S. Form 9-331 (H)
- \* Copy of Administrative Order #NSL-1018 authorizing a non-standard location (I)

The proposed well has not yet been spudded. All offset operators have been notified of this application by registered mail.

Yours truly,

Curtis C. Parsons  
District Engineer

CCP/kde

SOUTHLAND ROYALTY COMPANY - PERTINENT DATAF R O N T I E R " C " # 2Location: 1750' FSL & 890' FEL, Section 5, T27N, R11W, San Juan County, New MexicoField: Kutz Gallup - Basin Dakota      Elevation: 6114' GR

<u>Casing Size</u>	<u>Wt. &amp; Grade</u>	<u>Depth</u>	<u>Hole Size</u>	<u>Cement</u>
10 3/4"	28.60#	176'	13 3/4"	100 sx
7"	23# J-55 & N-80	6610'	8 3/4"	200 sx (1st stage)
(SEE ATTACHED SCHEMATIC)				100 sx (2nd stage)

Top of Cement: 1700' by Temperature Survey

<u>Tubing Size</u>	<u>Wt. &amp; Grade</u>	<u>Depth</u>
2 3/8"	4.7#, J-55, LJ	5931' (stung in parallel string anchor)
2 3/8"	4.7#, J-55, EUE	6445' (stung thru parallel anchor and into model "D" packer at 6440')

Wellhead Equipment: OCT - 3000# dual wellheadCompletion:

Dakota - Perfd 6506' - 6548' w/4 SPF. Fracd w/32,970 gals. oil &amp; 31,000# sand

Gallup - Perfd 5913' - 5930' w/4 SPF. Fracd w/46,200 gals. oil & 48,000# sand  
 Perfd 5834' - 5861' w/4 SPF. Fracd w/37,000 gals. oil & 37,000# sand

Workover History:

March, 1978: MOL. Tried to unseat pump. Could not. Backed off 44 rods. Tried unsuccessfully to pull both strings of tubing. Casing appears to be collapsed above parallel string anchor at about 3900'. Put wellhead back on and rigged down.

IT DOES NOT APPEAR POSSIBLE TO RETURN THIS WELL TO PRODUCTION DUE TO SEVERE MECHANICAL PROBLEMS.

- 5-22-59 Move on San Juan Drilling Rig No. 3. Spud Well at 8:00 P.M.
- 5-23-59 Total Depth 180'. Ran 4 joints, 10-3/4", 28.60#, S.W. Csg. (161') set at 176' with 100 sacks regular cement, 2% CaCl<sub>2</sub>, circulated to surface. Held 500#/30 Minutes.
- 6-2-59 Pull Core #1. 5770'-5830'. Recovered 60'.
- 6-3-59 Pull Core #2. 5850'-5865'. Recovered 13'.
- 6-6-59 Pull Core #3. 6475'-6535'. Recovered 60'.
- 6-7-59 Pull Core #4. 6535'-6555'. Recovered 19.5'.
- 6-9-59 Pull Core #5. 6570'-6610'. Recovered 40'.
- 6-11-59 TD 6616'. Ran ES-IND 180'-6606'; Sonic 5400'-6606'; ML 5400'-6606'.
- 6-12-59 Ran DST 5900'-5950'. Tool open 5 min. Initial SIP after 60 min. 1627. Open tool 2' - 5". Good blow, gas to surface in 4 min. Gas estimated at 20-40 mcf. FP--114-313. Second SIP in 45 min. - 1524#. Recovered 800' free oil.
- 6-13-59 Ran 173 joints 7", 23.00# (Lower 971' N-80; upper 5627' J-55) N-80 & J-55 Csg. (6598') set at 6610' with 200 sacks 50/50 Pozmix, 2% gel., 25#/sk. Flocele. Two-stage collar at 2176' cemented with 100 sacks neat cement. Held 1000#/30 Min. Top of upper stage cement at 1700' by temperature survey.
- 6-16-59 Move on J. P. Gibbins Rig No. 202.
- 6-17-59 COTD--6570'. Spotted 400 gals. 7-1/2% BDA on bottom.
- 6-18-59 Ran GR-CL & Cemotron log 4200-6570 & 1400-2800. Top of cement on lower stage logged at 4430. Upper stage top logged at 1740'. Perf. 4 shots/foot 6506-6548. Sandoil fracture perfs. with 32,970 gals. oil & 31,000# sand. Flush with 21,000 gals. oil. IR: 57.2 bpm. MTP--2400#, BDP--2200#, ATP--2300#. Dropped 84 rubber balls one time.
- 6-19-59 Flow Dakota 15 hours. Flowing 5,500 MCFPD; 800# CP; 275# spr. pres.
- 6-20-59 Flow Dakota 24 hours. Flowing 5,000 MCFPD; CP--120#. Kill well with 400 bbls. water. Set Baker Model "D" prod. packer at 6440'. Went in hole with Model "D" seal assembly and 2" tbg. Swab in Dakota and flow thru 2" tbg. to clean off water.
- 6-21-59 Flowing 2,300 MCFPD thru 3/4" choke. Pull tbg. and seal assembly. Go in with modified "DR" plug. Set plug in Model "D" prod. pkr. Held 1200# O.K. Spotted 400 gals. 7-1/2% BDA 5925'-5700'. Perf. 4 shots/foot 5913'-5930'.
- 6-22-59 Sandoil fracture perfs. 5913'-5930' with 46,200 gals. oil and 48,000# sand; flush with 9,828 gals. oil. Injection Rate: 57.7 bpm. MTP--2150#, BDP--2100#, ATP--2000#. Went in with 2" tbg. and Baker Fulbore pkr. Set pkr. at 5794'. Swab Gallup Zone to test.
- 6-23-59 Flow for 6 hours. Recovered 144 bbls. oil. 1422 bbls. load oil remaining. FPT--25#, 3/4" choke.
- 6-24-59 Flow for 22 hours. Recovered 480 bbls. oil. GOR 400/1; FPT-145#; 3/4" choke; 120# spr. pres. 1042 bbls. load oil in hole.
- 6-25-59 Flow for 22 hours; recovered 587 bbls. FPT--220#, FP spr.-110#; 3/4" choke. Load oil to be recovered--455 bbls.
- 6-26-59 Flow for 23 hrs.; recovered 455 bbls. load oil; 148 bbls. new oil at rate of 25 bbls./hr. GOR 1050/1. FPT--200#; FP spr. 160#; 3/4" choke.
- 6-27-59 Flow well 24 hours; recovered 483 bbls. oil; FPT-110#, FP-spr. 10-50#; 3/4" choke.
- 6-28-59 Flow well 24 hours; recovered 508 bbls. FPT--90-130#; FP spr. 10-40#; 3/4" choke; GOR 1100/1.

- 6-29-59 Flow well 24 hours; recovered 463 bbls. oil. FPT-60-125#; FP spr. 20-35#; 3/4" choke; GOR 1250/1. Pulled pkr. and tbg. Perf. 4 shots/foot 5834'-5861'. Set Baker Retrievable Bridge Plug at 5868'. Spot 250 gals. 7-1/2% BDA.
- 6-30-59 Sandoil fracture perfs. with 37,100 gals. oil and 37,000# sand; flush with 10,060 gals. oil; Injection Rate: 56.4bpm; MTP--3600#; BDP--2675#; ATP-2600#. Dropped 54 rubber balls one time.
- 7-1-59 Found 93 bbls. salt water in casing while cleaning out sand. Also found shale cavings mixed with sand cleaned out.
- 7-2-59 Went in hole with Baker Retrievable Bridge Plug and Fulbore pkr. Set BP at 5813'. Tested with 2000#. Came up the hole with Fulbore testing for leak. Found split casing at 4000'. Cemented with 200 sacks neat cement. Held no squeeze pressure. WOC 12 hours. Resqueezed with 100 sacks neat cement. Final pressure 3000#. Left 100' cement in casing.
- 7-5-59 Drilled out cement in casing. Test casing with 1600#. Pull retrievable bridge plug.
- 7-6-59 Go in with Fulbore and 2" tbg. to test perfs. 5834'-5861'. Set Fulbore at 5812'. Swab 88 bbls. oil in 5-1/2 hours. 1328 bbls. load oil remaining.
- 7-7-59 Swab and flow 24 hours for 424 bbls. recovery. FPT--50# thru 3/4" choke. 904 bbls. load oil in hole.
- 7-8-59 Swab and flow 301 bbls. in 20 hours. GOR 1100/1. 603 bbls. load oil in hole.
- 7-9-59 Flow 218 bbls. oil in 19 hours. GOR 500/1; FPT--45#; FP Spr. 45#. 235 bbls. load oil in hole.
- 7-10-59 Flow 404 bbls. oil in 24 hours; GOR 760/1; made 16 bbls./hour; FPT--50#; FP Spr. 50#.
- 7-11-59 Flow 279 bbls. new oil in 16 hours. 3/4" choke; flow pressure as before. Pulled Fulbore packer. Pulled retrievable bridge plug and mod. "DR" plug.
- 7-12-59 Ran 202 joints, 2-3/8", 4.70#, J-55 EUE tbg. ( 6435' ); landed at 6445'; latched into Model "D" at 6440'. 20,000# strain placed in Dakota tbg. string. Baker Mod. 699 dual string latching sub located at 5931'. Ran 193 joints, 2-3/8", 4.70#, J-55 EUE thd'd with Hardy-Griffin pins and boxes ( 5921' ); landed at 5931' and latched into dual string sub; this string has 14,000# strain on it; seating nipple is at 5924'.
- 7-14-59 Swab in Gallup zone. Flowing 10 bbls./hour when shut-in.
- 7-22-59 Potential Test on Dakota zone -- 3 hour open flow thru 3/4" choke -- SIPT -- 2069# (D); FPT--239# (D); choke volume - 2,850 MCF; CAOF - 2,990 MCFPD.
- 7-23-59 Potential Test on Gallup Zone - 216 bbls. oil per 24 hours; 260 mcf gas; oil gravity 39.3° API; GOR - 1202/1; flowing thru 2" tbg. and 24/64" choke; FPT--150; FPC--400.

3-29-78	MIRU-Big A Well Service @ 9:30 AM 3-29-78. Work pump could not unseat, backed off
	44 rods. PU on short string, could not get out parallel string anchor. Stripped
	off tbg head, removed donuts. Worked w/short string again, could not work free pt,
	indicated free pt on short string by stretch 3900'. GO ran free pt. survey on long
	string, indicated free pt 3800'.
3-30-78	Pumped in annulus. Hole loaded @ 49 bbls. Circ. long string w/100 bbls. Pumped
	total 150 bbls. Tried working short string free, could not. Reran 44 rods, screwed
	bk onto rod string. Working rod string, no pump action. Pumped dwn annulus. Hole
	loaded again @ 50 bbls. Circ short string. Circ. out approx 50 bbls of oil and thi
	paraffin. Worked pump again, could not free.. Pumped 150 gals acid down annulus,
	spot @ parallel string anchor. Circ. out approx. 200 bbls, drlg mud. Let acid set
	30 minutes, worked rod string and short tbg string, no luck. Circ. hole thru short
	string. Trying to back off rods.
3-31-78	Tried backing rods off deeper could not. Rods strings would not stay
	together. Pulled and laid dwn 44 rods. Stacked out both tbg string.
	NU wellhead. Rel rig @ 1:30 3-31-78.

DUAL STRING  
XMAS TREE

NE SE Section 5, Township 27N, Range 11W

10-3/4", 32.75#, J-55, ST & C Surface Casing (161') set at 176' with 100 sacks cement circulated to surface.

Gallup Production Tubing 2-3/8", 4.70#, J-55, (5921') set at 5931' with Latching Sub Set in Baker Model 699 Parallel String Anchor. 5911' Integral Joint (Hardy-Griffin) EUE Tbg. with 10' Accessories.

Baker Model "J" Stage Cementing Collar Set at 2176'. Cemented with 100 sacks Cement. Top of Cement by Temperature Survey at 1700'.

\* Casing appears to be collapsed at about 3800'.

7", 23.00# Production Casing (Lower 971' N-80, Upper 5627' J-55); set at 6610' with 200 sacks cement. Top of Cement by Radioactive Logging at 4430'.

Dakota Production Tubing 2-3/8" OD; 4.70#, J-55 (6434') set at 6445'. 10' Accessories; 6421' J-55 EUE Tbg.

Gallup Formation Perforated 5834'-5861' (4 sh./ft.) Sandoil Fractured with 37,100 Gals. Oil & 37,000# Sand. Perforated 5913'-5930' (4 sh./ft.). Sandoil Fractured with 46,200 Gals. Oil & 48,000# Sand.

Pump Seating Nipple (1-25/32" ID) @ 5924'.

Baker Model 699 Parallel String Anchor set in Dakota Production Tubing at 5932'.

Baker Model "D" Permanent Type Completion Packer Set at 6440'.

Dakota Formation Perforated 6506'-6548' (4 sh./ft.) Sandoil Fractured with 32,970 Gals. Oil & 31,000# Sand.

TD  
COTD

6616'  
6570'

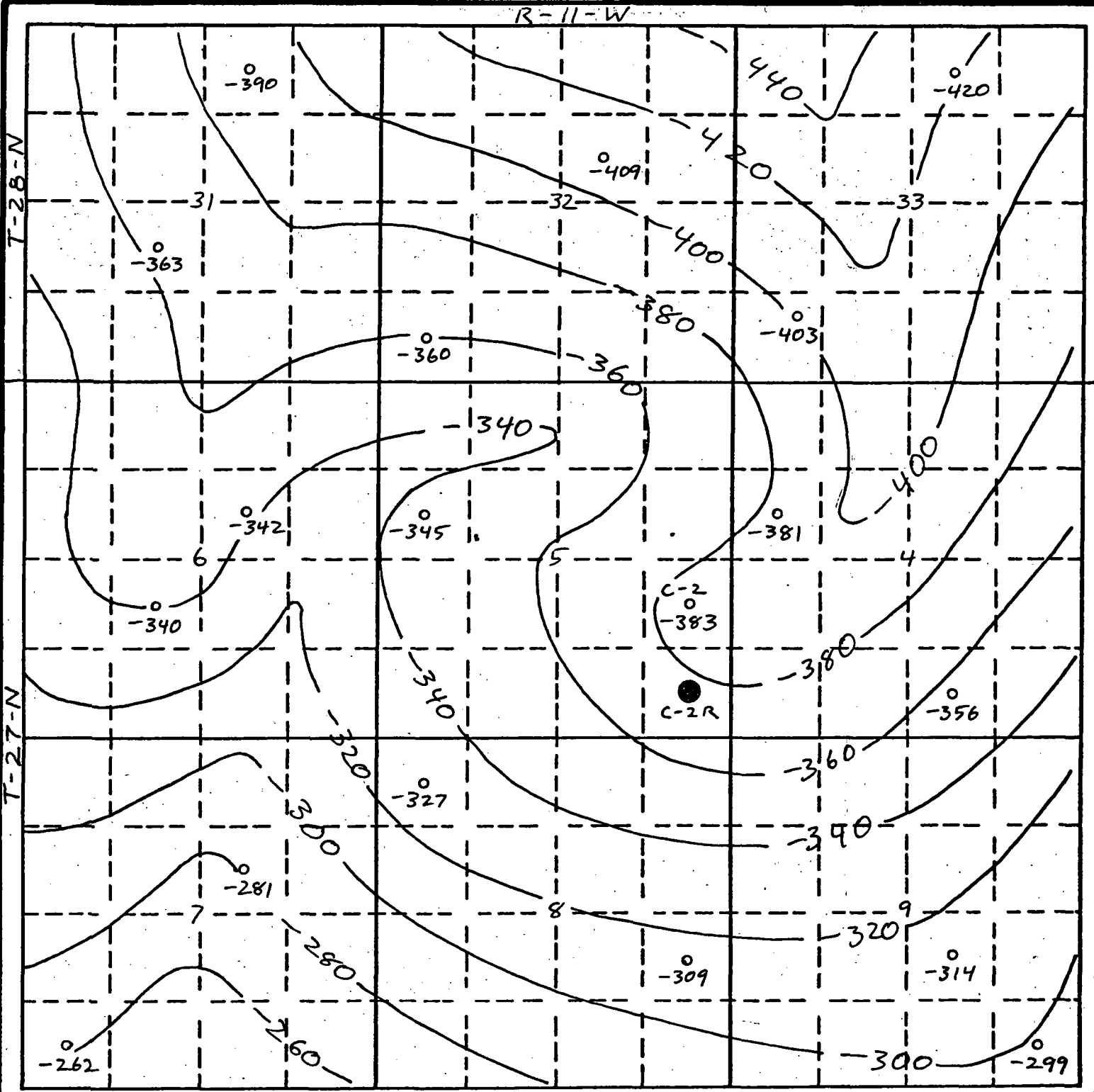
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	$\frac{90}{2922}$	$\frac{70}{2487}$			$\frac{63}{2789}$		
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				$\frac{20}{640}$		$\frac{68}{988}$	
$\frac{46}{1534}$							PEA $\frac{0}{534}$

R-11-W

S.R.C.

XXX MMCF - 1978  
XXXX MMCF Cum. - 12/78

SOUTHLAND ROYALTY COMPANY							
AREA Basin Dakota - Frontier C2R							
LOCATION 600' FSL 900' FEL Sec 5, T27N, R5W							
TYPE OF MAP Gas Production							
CONTOURED							C.L.
BY CCP	DATE	REVISED BY	DATE	REFERENCE	DATE 6-25-79		
NOTES							



S.R.C.

☐

☐

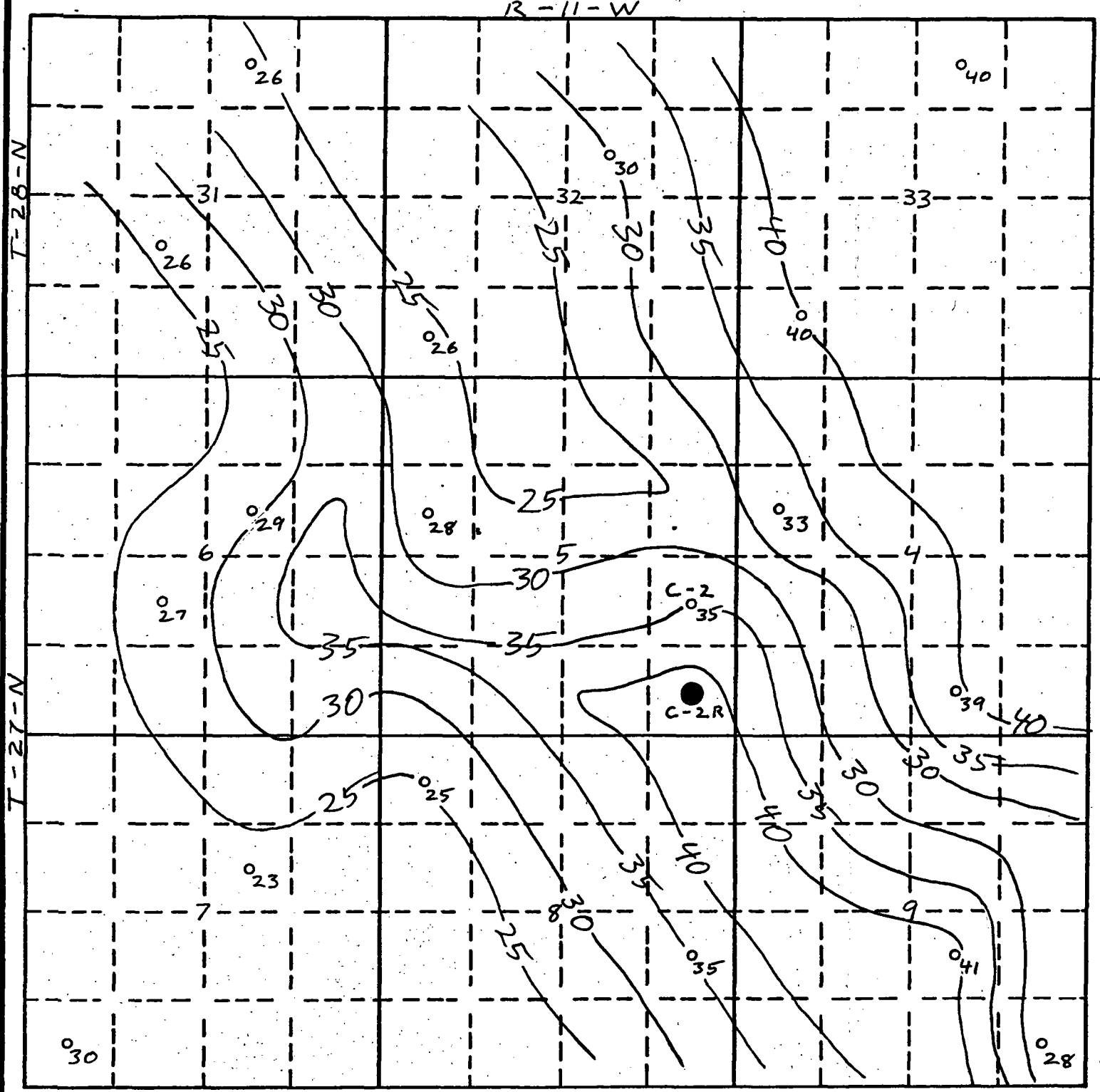
☐

☐

☐

SOUTHLAND ROYALTY COMPANY					
AREA					
LOCATION T-27, 28-N, R-11-W					
TYPE OF MAP DAKOTA STRUCTURE					
CONTOURED					C.I. 20'
BY R.U.P.	DATE	REVISED BY	DATE	REFERENCE	DATE 6-28-79
NOTES					





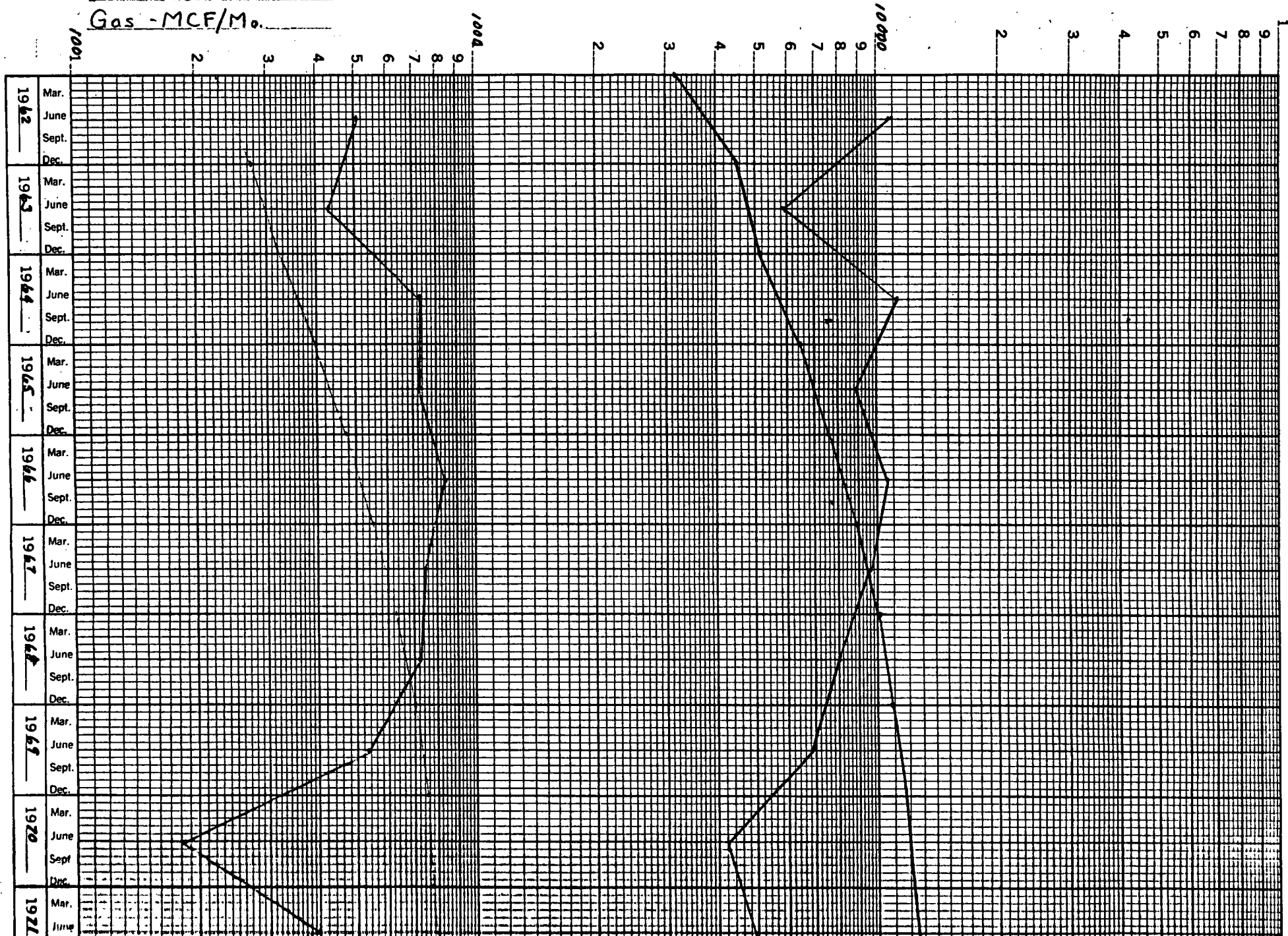
S.R.C.


SOUTHLAND ROYALTY COMPANY					
AREA					
LOCATION T-27, 28-N, R-11-W					
TYPE OF MAP DAKOTA ISOPACH					
CONTOURED					C.I. 5'
BY R.U.P.	DATE	REVISED BY	DATE	REFERENCE	DATE 6-28-79
NOTES					

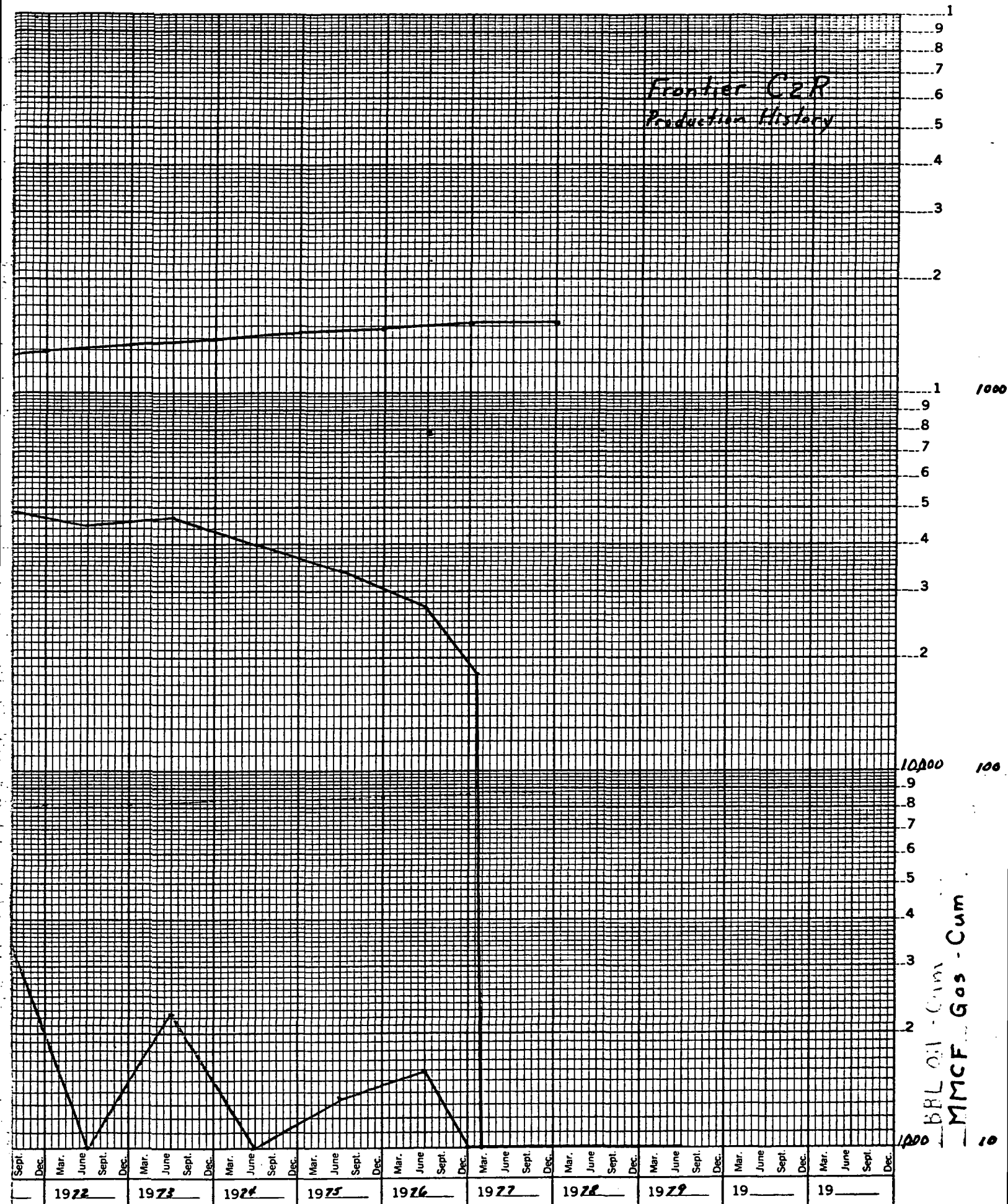
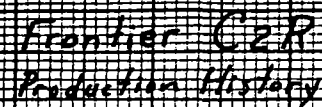
5-

Oil - BOPY

Gas - MCF/Mo.



(E)





# Southland Royalty Company

## INTER OFFICE CORRESPONDENCE

FROM: J. F. Berry

DATE: July 2, 1979

TO: Curt Parsons

SUBJECT: Frontier "C" No. 2 Reserves  
Section 5-27N-11W

1-1-77: Listed below are the reserves for the subject well effective

	<u>Barrels</u>	<u>MCF</u>
Gross	3,365	1,115,049
Net	2,082	689,937

These came from a 1-1-77 Gruy report which gave Aztec a working interest of .75000 and a net interest of .61875. They were calculated by a pressure depletion method.

  
J. F. Berry

JFB/nm

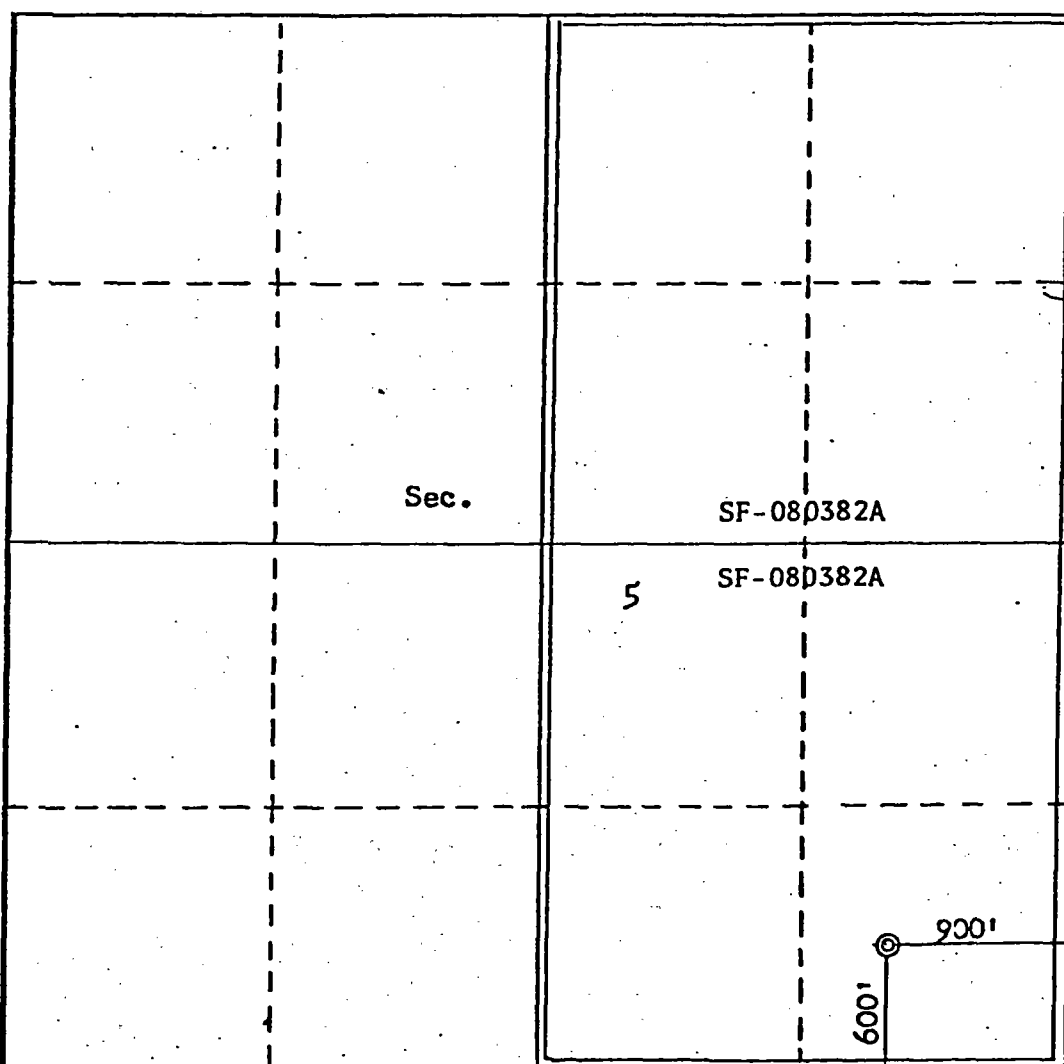
Operator <b>SOUTHLAND ROYALTY COMPANY</b>			Lease <b>FRONTIER "C"</b>		Well No. <b>2R</b>
Unit Letter <b>P</b>	Section <b>5</b>	Township <b>27N</b>	Range <b>11W</b>	County <b>San Juan</b>	
Actual Footage Location of Well: <b>600</b> feet from the <b>South</b> line and <b>900</b> feet from the <b>East</b> line					
Ground Level Elev. <b>6127</b>	Producing Formation <b>Dakota</b>		Pool <b>Basin</b>		Dedicated Acreage: <b>320</b> Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☐ No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



#### CERTIFICATION

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

Name *[Signature]*

Position  
**District Production Manager**

Company  
**Southland Royalty Company**

Date  
**March 5, 1979**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed  
**February 12, 1979**

Registered Professional Engineer and/or Land Surveyor

*[Signature]*  
**Fred B. Kerr**

Certificate No. **3950**  
**FRED B. KERR, JR.**

0 330 660 990 1320 1650 1980 2310 2640 2000 1500 1000 500 0

## DEPARTMENT OF THE INTERIOR

## GEOLOGICAL SURVEY

5. LEASE DESIGNATION AND SERIAL NO.

SF-080382A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Frontier "C"

9. WELL NO.

#2R

10. FIELD AND POOL, OR WILDCAT

Basin Dakota

11. SEC., T., R., M., OR BLK.  
AND SURVEY OR AREA

Section 5, T27N, R11W

12. COUNTY OR PARISH

San Juan

13. STATE  
New Mexico

## APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

## 1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

## b. TYPE OF WELL

OIL  
WELL ☐GAS  
WELL ☒OTHER ☐SINGLE  
ZONE ☒MULTIPLE  
ZONE ☐

## 2. NAME OF OPERATOR

Southland Royalty Company

## 3. ADDRESS OF OPERATOR

P. O. Drawer 570, Farmington, New Mexico

## 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)

At surface

600' FSL &amp; 900' FEL

At proposed prod. zone

## 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE\*

7 miles south/southwest of Bloomfield, New Mexico

## 15. DISTANCE FROM PROPOSED\*

LOCATION TO NEAREST  
PROPERTY OR LEASE LINE, FT.  
(Also to nearest drlg. unit line, if any)

## 16. NO. OF ACRES IN LEASE

17. NO. OF ACRES ASSIGNED  
TO THIS WELL

320

18. DISTANCE FROM PROPOSED LOCATION\*  
TO NEAREST WELL, DRILLING, COMPLETED,  
OR APPLIED FOR, ON THIS LEASE, FT.

## 19. PROPOSED DEPTH

6650'

## 20. ROTARY OR CABLE TOOLS

Rotary

## 21. ELEVATIONS (Show whether DF, RT, GR, etc.)

6127'

## 22. APPROX. DATE WORK WILL START\*

## 23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	8-5/8"	24#	200'	140 sxs
7-7/8"	4-1/2"	10.5#	6650'	220 sxs (1st Stage)
				275 sxs (2nd Stage)
				240 sxs (3rd Stage)

Top of Ojo Alamo sand is at 1130';

Top of Pictured Cliffs sand is at 1888';

Top of Mesa Verde sand is at 3492';

Fresh water mud will be used to drill from surface to total depth.

It is anticipated that an IES and a GR-Density log will be run at total depth.

No abnormal pressures or poisonous gases are anticipated in this well.

It is expected that this well will be drilled before June 15, 1979. This depends  
on time required for approvals, rig availability and the weather.

Gas is dedicated.

This is an unorthodox location. Application is being made to N.M.O.C.C. for  
approval.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

TITLE District Production Manager DATE March 5, 1979

(This space for Federal or State agency use)

PERMIT NO.

MAR 27 1979

APPROVAL DATE

APPROVED BY

CONDITIONS OF E. J. McGRATH

DISTRICT ENGINEER

APPROVAL TO FLARE GRANTED  
WHILE DRILLING AND TESTING.

\*See Instructions On Reverse Side

OPERATOR



ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

BRUCE KING  
GOVERNOR

LARRY KEHOE  
SECRETARY

April 3, 1979

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

Southland Royalty Company  
P. O. Drawer 570  
Farmington, New Mexico 87401

Attention: Curtis C. Parsons

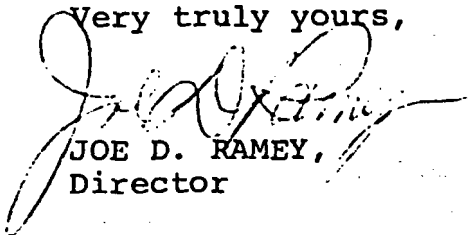
Administrative Order NSL-1018

Gentlemen:

Reference is made to your application for a non-standard location for your Frontier "C" Well No. 2-R to be located 600 feet from the South line and 900 feet from the East line of Section 5, Township 27 North, Range 11 West, NMPM, San Juan County, New Mexico.

By authority granted me under the provisions of Rule 3 of Order No. R-1670-C, the above-described unorthodox location is hereby approved.

Very truly yours,

  
JOE D. RAMEY,  
Director

JDR/RLS/dr

cc: Oil Conservation Division - Aztec  
Oil & Gas Engineering Committee - Hobbs  
U. S. Geological Survey - Farmington

RECEIVED  
APR 06 1979  
FARMINGTON DISTRICT