



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

June 12, 1985

TONY ANAYA
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Administrative Order No. DHC-553

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

Attention: David M. Blandford

Re: SRC - Reid Well No. 18, 1850' FSL and
1650' FWL of Sec. 18, T-28-N, R-9-W,
Unit K, San Juan County, New Mexico
Basin-Dakota and Blanco Mesaverde Pools

RECEIVED
JUN 17 1985
OIL CON. DIV.
DIST. 3

Gentlemen:

Reference is made to your recent application for an exception to Rule 303-A of the Division Rules and Regulations for the subject dually completed well to permit the removal of the down-hole separation equipment and to commingle the production from both pools in the wellbore.

It appearing that the subject well qualifies for approval for such exception pursuant to the provisions of Rule 303-C, and that reservoir damage or waste will not result from such downhole commingling, and correlative rights will not be violated thereby, you are hereby authorized to commingle the production as described above and Administrative Order No. MC-1977, Form C-107, dated February 24, 1972, which authorized the dual completion and required separation of the two zones, is hereby placed in abeyance.

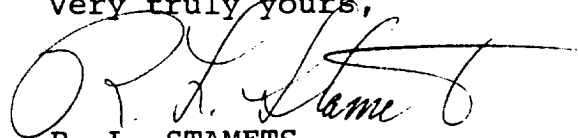
In accordance with the provisions of Rule 303.C.4., total commingled oil production from the subject well shall not exceed 40 barrels per day, and total water production from the well shall not exceed 80 barrels per day. The maximum amount of gas which may be produced daily from the well shall be determined by multiplying the initial combined gas production from both zones by 125%.

Assignment of allowable to the well and allocation of production from the well shall be on the following basis:

Basin Dakota Pool:	Oil 33%, Gas 42%
Blanco Mesaverde Pool:	Oil 67%, Gas 58%

Pursuant to Rule 303-C 5, the commingled authority granted by this order may be rescinded by the Division Director if, in his opinion, conservation is not being best served by such commingling.

Very truly yours,

A handwritten signature in dark ink, appearing to read "R. L. Stamets", with a long horizontal flourish extending to the right.

R. L. STAMETS,
Director



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

OIL CONSERVATION DIVISION
BOX 2088
SANTA FE, NEW MEXICO 87501

DATE 6/10/85

RE: Proposed MC _____
Proposed DHC ✓ _____
Proposed NSL _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

I have examined the application dated 5/28/85
for the Sentinel Royalty Lease #18 K-18-^{38W}~~18~~-9u
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

W.D. [Signature]

CERTIFIED MAIL



Southland Royalty Company

May 23, 1985

Mr. Richard L. Stamets, Director
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

RE: Downhole Commingling Dakota/Mesaverde
SRC - Reid #18
SW/4, Section 18, T28N, R9W
San Juan County, New Mexico

Dear Mr. Stamets:

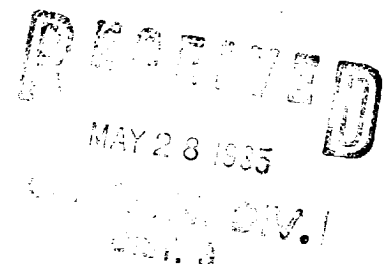
Southland Royalty Company hereby requests permission to downhole commingle Basin Dakota and Blanco Mesaverde production from the above captioned dual well. The Dakota formation does not currently produce enough gas to lift the oil it produces, and it is felt that the additional gas from the Mesaverde will allow the Dakota hydrocarbons to be produced more efficiently and effectively.

The gas produced from each zone is similar, and although the oil gravities differ, it is not felt that this difference will adversely effect production from either formation. As bottom hole pressures for each formation are similar, there will be no crossflow and hence, no lost production resulting from the proposed commingle.

Current deliverability tests for each formation are attached, as are production plats, decline curves, and miscellaneous data. Working interest and royalty ownership in both formations in the subject well are identical.

The proposed production allocation between the Dakota and Mesaverde is based on production performance from each well's decline curve. The proposed allocation is as follows:

Oil Production:	33% Dakota 67% Mesaverde
Gas Production:	42% Dakota 58% Mesaverde



Mr. Richard L. Stamets
SRC - Reid #10
Page Two
May 23, 1985

A copy of this application has been submitted to the BLM and all offset operators. Please advise if further information is required.

Sincerely,

SOUTHLAND ROYALTY COMPANY

A handwritten signature in cursive script, appearing to read "David M. Blandford".

David M. Blandford
Petroleum Engineer

DMB/eg

Attachments

✓ XC: Frank Chavez-NMOCD-Aztec, NM

MISCELLANEOUS DATA

REID #18

Dakota Bottom Hole Pressure	=	430 psi
Mesaverde Bottom Hole Pressure	=	460 psi
Dakota Oil Gravity	.	64° API
Mesaverde Oil Gravity		46° API
BTU/cf at 14.73 psia/60°F/Dry (Dakota)		1285
BTU/cf at 14.73 psia/60°F/Dry (Mesaverde)		1281

T
28
15

T
29
N

T
28
N

36 157-2584 1-24 100-100 2-1 100-100 2-1 100-100 2-1	31 282-513 4-10 267-272 4-5 267-272 4-5	32 442-304 7-6 442-304 7-6 442-304 7-6
12 7-3433 5-27 37-59 6-04 29-2283 2-18	7 2-726 0-3 2-726 0-3 2-726 0-3	8 227-57 3-1 227-57 3-1 227-57 3-1
13 100-100 1-3 100-100 1-3 100-100 1-3	18 39-1402 1-3-13 39-1402 1-3-13 39-1402 1-3-13	17 169-306 3-4 169-306 3-4 169-306 3-4
14 100-100 1-3 100-100 1-3 100-100 1-3	19 121-3037 2-32 121-3037 2-32 121-3037 2-32	20 100-100 1-3 100-100 1-3 100-100 1-3

★

Subject Well

SOUTHLAND ROYALTY COMPANY				
Reid = 19		AREA		
K) SW 12-72-11- R 9V/		LOCATION		
Basin Dakota - Production & (unc)		TYPE OF MAP		
CONTOURED		CL		
BY	SAYE	REVISED BY	SAYE	REFERENCE
		DATE		
NOTES				
MCFD-MMCF				
EOPF-MEO through 12-84				

Below

R9W

T
29
N

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29
N

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N

T
28
N

36	25-20 2-7 SRC State Co #17-22	31	22-112 14-11 SRC Reid #5	32	44-382 21-2 EPNG State Co #4
12		7	58-287 4-30 SRC Reid #22	8	200-419 4-23 EPNG Reid #1
13	23-211 23-8 SRC McClanahan #13	18	36-309 4-12 SRC Reid #19	17	13-263 02-18 EPNG Johnston #3
			61-303 2-5 SRC Reid #13 ★		22-113 2-11 SRC Reid #25
			41-342 1-7 SEC Reid #20		
24	104-121 3-5 SRC McClanahan #17-E	19	75-123 3-8 SAC Reid #25	20	11-1046 0-12 EPNG Lacey B #8

S.R.C.



Subject Well

SOUTHLAND ROYALTY COMPANY

Reid #18

(K) Sec 18-T28N-R9W

Blanco Mesaverde

CONTOURED

CL

BY

DATE

REVISED BY

DATE

REFERENCE

SATE

NOTES

MCFD- MMCF

BOPD- MBO

PANTECHS LABORATORIES

☐ P. O. BOX 2439 TEL. 806 669-6821
☒ P. O. BOX 3246 TEL. 806 797-4325

PAMPA, TEXAS 79066-2439
 LUBBOCK, TEXAS 79452-3246

SAMPLE DATA

CUSTOMER..... SOUTHLAND ROYALTY

STATION NO..... N/A
 OPERATOR..... N/A
 LEASE..... REID 18 DK
 PLANT.....
 SAMPLE OF..... *GAS
 PRESSURE..... 195 PSI
 TEMPERATURE... 52 F
 ATM. TEMP..... N/A
 SAMPLE DATE... 1-30-85
 SAMPLED BY.... SOUTHLAND ROYALTY
 ANALYSIS DATE. 2-6-85
 ANALYZED BY... A. PATTILLO
 SAMPLE CYL. NO. PL-1213

DISTRIBUTION:

SOUTHLAND ROYALTY
 3-MR. JOHN HAMMER; FARMINGTON, NM

ANALYSIS RESULTS

COMPONENT		MOL %	GFM, *
NITROGEN	N2	0.36	
CARBON D.	CO2	1.22	
METHANE	C1	79.06	
ETHANE	C2	10.80	2.915
PROPANE	C3	4.10	1.153
I-BUTANE	IC4	0.85	0.288
N-BUTANE	NC4	1.33	0.435
I-PENTANE	IC5	0.79	0.305
N-PENTANE	NC5	0.61	0.235
HEXANES+	C6+	0.88	0.401

GASOLINE CONTENT (GFM), *

PENTANES & HEAVIER....	0.941
BUTANES & HEAVIER....	1.664
PROPANE & HEAVIER....	2.817
ETHANE & HEAVIER....	5.732
26 # GASOLINE.....	1.388

HEATING VALUE,** (GROSS BTU/CF)

WATER VAP. SAT.....	1263
DRY GAS BASIS.....	1285

SPECIFIC GRAVITY

CALC., WATER SAT.....	0.749
CALC., DRY BASIS.....	0.751

REMARKS:

*CYLINDER CONTAINED SOME CONDENSATE.

*, 14.65 PSIA & 60 F
 **, 14.73 PSIA & 60 F

PANTECHS LABORATORIES

☐ P. O. BOX 2439 TEL. 806 669-6821 PAMPA, TEXAS 79066-2439
☒ P. O. BOX 3246 TEL. 806 797-4325 LUBBOCK, TEXAS 79452-3246

SAMPLE DATA

CUSTOMER..... SOUTHLAND ROYALTY
 STATION NO..... N/A
 OPERATOR..... N/A
 LEASE..... REID 18 MV
 PLANT.....
 SAMPLE OF..... GAS
 PRESSURE..... 170 PSI
 TEMPERATURE... 44 F
 ATM. TEMP..... N/A
 SAMPLE DATE... 1-30-85
 SAMPLED BY.... SOUTHLAND ROYALTY
 ANALYSIS DATE. 2-6-85
 ANALYSED BY... A. FATTILLO
 SAMPLE CYL.No. PL-608

ANALYSIS RESULTS

COMPONENT		MOL %	GPM, *
NITROGEN	N2	0.34	
CARBON D.	CO2	0.53	
METHANE	C1	78.44	
ETHANE	C2	11.43	3.085
PROPANE	C3	5.63	1.597
I-BUTANE	IC4	0.77	0.261
N-BUTANE	NC4	1.68	0.550
I-PENTANE	IC5	0.48	0.185
N-PENTANE	NC5	0.41	0.158
HEXANES+	C6+	0.24	0.108

DISTRIBUTION:

SOUTHLAND ROYALTY
 3-MR. JOHN HAMMER; FARMINGTON, NM

GASOLINE CONTENT (GPM), *

PENTANES & HEAVIER....	0.451
BUTANES & HEAVIER....	1.262
PROPANE & HEAVIER....	2.859
ETHANE & HEAVIER....	5.944
26 # GASOLINE.....	0.640

HEATING VALUE,** (GROSS BTU/CF)

WATER VAP. SAT.....	1258
DRY GAS BASIS.....	1281

SPECIFIC GRAVITY

CALC., WATER SAT.....	0.735
CALC., DRY BASIS.....	0.737

REMARKS:

*, 14.65 PSIA & 60 F
 **, 14.73 PSIA & 60 F

RECEIVED

FEB 12 1985

FARMINGTON DISTRICT

OIL CONSERVATION DIVISION

P. O. BOX 2000

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

SANTA FE, NEW MEXICO 87501

Form O-102-A
Revised 10-1-79WELL DELIVERABILITY TEST REPORT FOR 19 85

POOL NAME Basin	POOL SLOPE n = .75	FORMATION Dakota	COUNTY San Juan
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COMPANY Southland Royalty Company			WELL NAME AND NUMBER Reid #18		
UNIT LETTER K	SECTION 18	TOWNSHIP 28N	RANGE 9W	PURCHASING PIPELINE SUG	
CASING O.D. - INCHES 4.5000	CASING I.D. - INCHES 4.0900	SET AT DEPTH - FEET 6506'	TUBING O.D. - INCHES 1.3150	TUBING I.D. - INCHES 1.0490	TOP - TUBING PERF. - FEET 4221'
GAS PAY ZONE FROM 6322' TO 6446'		WELL PRODUCING THRU CASING TUBING X		GAS GRAVITY .723	GRAVITY X LENGTH 3052
DATE OF FLOW TEST FROM 2/12/85 TO 2/19/85			DATE SHUT-IN PRESSURE MEASURED 2/26/85		

PRESSURE DATA - ALL PRESSURES IN PSIA

(a) Flowing Casing Pressure (DWt) 178	(b) Flowing Tubing Pressure (DWt) 177	(c) Flowing Meter Pressure (DWt) 176	(d) Flow Chart Static Reading 176	(e) Meter Error (Item c - Item d) + 1	(f) Friction Loss (a - c) or (b - c) + 1	(g) Average Meter Pressure (Integr.) 186
(h) Corrected Meter Pressure (g + e) 187	(i) Avg. Wellhead Press. $P_t = (h + f)$ 188	(j) Shut-in Casing Pressure (DWt)	(k) Shut-in Tubing Pressure (DWt) 383	(l) P_c = higher value of (j) or (k) 383	(m) Del. Pressure $P_d = 50\% P_c$ 192	(n) Separator or Dehydrator Pr. (DWt) for critical flow only

FLOW RATE CORRECTION (METER ERROR)

Integrated Volume - MCF/D 14	Quotient of $\frac{\text{Item c}}{\text{Item d}}$ 1.0057	$\sqrt{\frac{\text{Item c}}{\text{Item d}}}$ 1.0028	Corrected Volume Q = 14 MCF/D
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50.4 X .014

WORKING PRESSURE CALCULATION

$(1 - e^{-s})$.199	$(F_c Q_m)^2 (1000)$ 498	$R^2 = (1 - e^{-s}) (F_c Q_m)^2 (1000)$ 99	P_t^2 35344	$P_w^2 = P_t^2 + R^2$ 35443	$P_w = \sqrt{P_w^2}$ 188
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DELIVERABILITY CALCULATION

$D = Q \left[\frac{P_c^2 - P_w^2}{P_c^2 - P_d^2} \right]^n = 14$	$\left[\frac{109825}{111246} \right]^n \left(.9872 \right)^n = .9904$	$= 14$ MCF/D
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REMARKS:

SUMMARY

Item h _____ Paia
 P_c _____ Paia
 Q _____ MCF/D
 P_w _____ Paia
 P_d _____ Paia
 D _____ MCF/D

Company _____
 By _____
 Title _____
 Witnessed By _____
 Company _____

OIL CONSERVATION DIVISION

P. O. BOX 21088

SANTA FE, NEW MEXICO 87501

Form C-122-A
Revised 10-1-73STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENTWELL DELIVERABILITY TEST REPORT FOR 19 85

POOL NAME Blanco	POOL SLOPE n = .75	FORMATION Mesaverde	COUNTY San Juan
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COMPANY Southland Royalty Company			WELL NAME AND NUMBER Reid #18		
UNIT LETTER K	SECTION 18	TOWNSHIP 28N	RANGE .9W	PURCHASING PIPELINE SUG	
CASING O.D. - INCHES 4.0900	CASING I.D. - INCHES 4.0520	SET AT DEPTH - FEET 6506'	TUBING O.D. - INCHES 1.9000	TUBING I.D. - INCHES 1.6100	TOP - TUBING PERF. - FEET 6125'
GAS PAY ZONE FROM 4190' TO 4366'		WELL PRODUCING THRU CASING TUBING X		GAS GRAVITY .742	GRAVITY X LENGTH 4545'
DATE OF FLOW TEST FROM 2/12/85 TO 2/19/85			DATE SHUT-IN PRESSURE MEASURED 2/26/85		

PRESSURE DATA - ALL PRESSURES IN PSIA

(a) Flowing Casing Pressure (DWt)	(b) Flowing Tubing Pressure (DWt)	(c) Flowing Meter Pressure (DWt)	(d) Flow Chart Static Reading	(e) Meter Error (Item c - Item d)	(f) Friction Loss (a - c) or (b - c)	(g) Average Meter Pressure (Integr.)
248	196	194	194	0	+ 2	198
(h) Corrected Meter Pressure (g + e)	(i) Avg. Wellhead Press. $P_t = (h + f)$	(j) Shut-in Casing Pressure (DWt)	(k) Shut-in Tubing Pressure (DWt)	(l) $P_c =$ higher value of (j) or (k)	(m) Del. Pressure $P_d = \frac{80}{\%P_c}$	(n) Separator or Dehydrator Pr. (DWt) for critical flow only
198	200	383	383	383	306	

FLOW RATE CORRECTION (METER ERROR)

Integrated Volume - MCF/D 33	Quotient of $\frac{\text{Item c}}{\text{Item d}}$ 1.0000	$\sqrt{\frac{\text{Item c}}{\text{Item d}}}$ 1.0000	Corrected Volume Q = 33 MCF/D
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WORKING PRESSURE CALCULATION

$(1 - e^{-a})$.281	$(F_c Q_m)^2 (1000)$ 295	$R^2 = (1 - e^{-a}) (F_c Q_m)^2 (1000)$ 83	P_t^2 40000	$P_w^2 = P_t^2 + R^2$ 40083	$P_w = \sqrt{P_w^2}$ 200
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DELIVERABILITY CALCULATION

$D = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^n = 33 \left[\frac{53053 - 40083}{53053 - 40083} \right]^n = \frac{1.3236}{1.2340} = 41 \text{ MCF/D}$

REMARKS:

SUMMARY

Item b _____ Paia
 P_c _____ Paia
 Q _____ MCF/D
 P_w _____ Paia
 P_d _____ Paia
 D _____ MCF/D

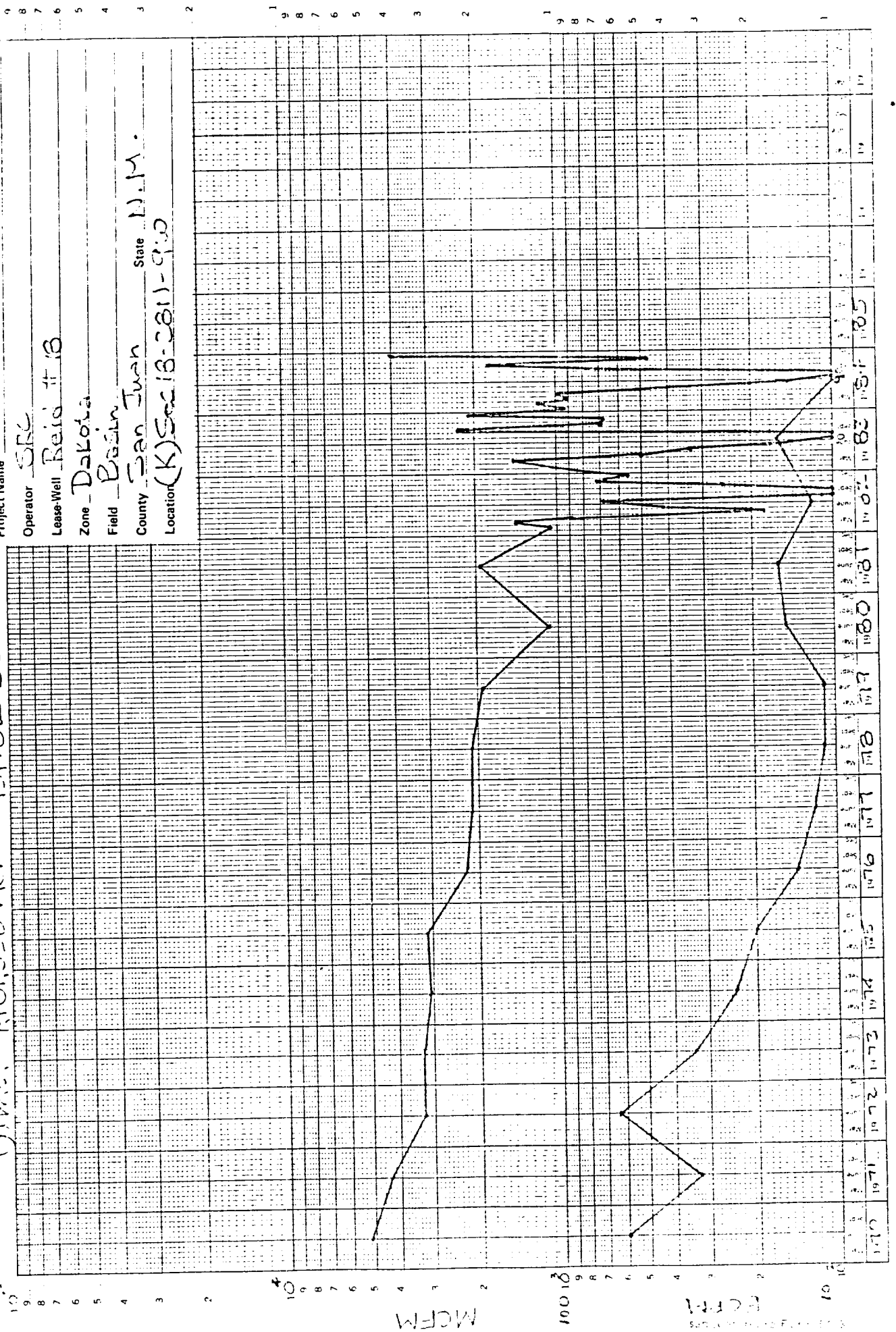
Company _____
 By _____
 Title _____
 Witnessed By _____
 Company _____



Southland Royalty Company

Gravel 1401,550 MCF 13,182 G0

Project Name _____
Operator SRC
Lease-Well Beid #18
Zone Dakota
Field Basin
County San Juan State N.M.
Location (K) Sec 18-2811-910





Southland Royalty Company

Wells: 301, 422, 141, 5404, 80

Project Name _____
Operator SRC
Lease Well Reid #18
Zone Mesa Verde
Field Blanco
County San Juan State N.M.
Location (K) Sec 18-28N-9W

