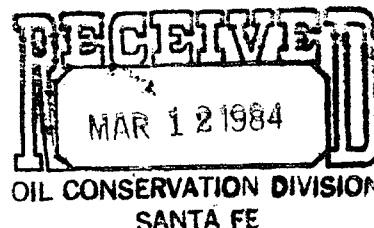




Southland Royalty Company

March 9, 1984

Mr. Joe D. Ramey
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501



RE: Downhole Commingling
SRC - Childers #2
Fruitland/Pictured Cliffs
SW/4, Section 1, T31N, R11W
San Juan County, New Mexico

Dear Mr. Ramey:

Southland Royalty Company requests permission to downhole commingle production from the Fruitland and Pictured Cliffs formations in this dual well. The Fruitland formation cannot continuously produce enough gas to lift the oil it produces. With the additional gas from the Pictured Cliffs formation, we feel that the Fruitland oil will be produced with fewer problems.

The gas produced from each zone is similar, and the Fruitland oil produced has no adverse effect on the Pictured Cliffs formation. Bottom hole pressures are similar for the two formations and there will be no crossflow between the zones, therefore no production will be lost.

Production allocation between the two zones was determined from the decline curves and cumulative production from each zone. Proposed allocation is as follows:

Oil Production: 100% Fruitland
Gas Production: 63% Pictured Cliffs

37% ~~100%~~ Fruitland

(Should be according to the telephone conversation from SRC)

Royalty ownership in both zones of the well are identical. The well is currently unproductive and no current 24 hour productivity test can be supplied, therefore, we have included the latest deliverability test reports. In addition, copies of gas analysis from each zone, decline curves, production plats, and miscellaneous data are included with this package for your information.

Mr. Joe D. Ramey
Page Two
March 9, 1984

A copy of this application has also been sent to the Bureau of Land Management and all offset operators.

Sincerely,

SOUTHLAND ROYALTY COMPANY

A handwritten signature in dark ink, appearing to read "Doug R. Harris". The signature is fluid and cursive, with the first name "Doug" and last name "Harris" clearly distinguishable.

Doug R. Harris
Petroleum Engineer

DRH/eg

Attachments

XC: BLM-Farmington
EPNG-Farmington
Mesa Petroleum-Amarillo, TX
C&E Operators, Inc.-Dallas, TX

MISCELLANEOUS DATA

Fruitland Bottom Hole Pressure	=	642 psi
Pictured Cliffs Bottom Hole Pressure	=	598 psi
Fruitland Oil Gravity	=	43 deg.

BTU/CF at 14.73/60 F/Dry (Fruitland)	1139.4
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BTU/CF at 14.73/60 F/Dry (Pictured Cliffs)	1114.6
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NEW MEXICO OIL CONSERVATION COMMISSION
WELL DELIVERABILITY TEST REPORT FOR 19 83

Form C122-A
 Revised 8-77

POOL NAME UND FRUITLAND	POOL SLOPE n = .85	FORMATION FRUITLAND	COUNTY SAN JUAN
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COMPANY SOUTHLAND ROYALTY			WELL NAME AND NUMBER CHILDERS 2		
UNIT LETTER M	SECTION 1	TOWNSHIP 31N	RANGE 11W	PURCHASING PIPELINE SOUTHERN UNION GATHERING	
CASING O.D. - INCHES 5.5000	CASING I.D. - INCHES 4.9500	SET AT DEPTH - FEET 3052	TUBING O.D. - INCHES 1.6600	TUBING I.D. - INCHES 1.3800	TOP - TUBING PERF. - FEET 2773
GAS PAY ZONE		WELL PRODUCING THRU		GAS GRAVITY	GRAVITY X LENGTH
FROM 2535	TO 2749	CASING	TUBING X	.640	1775
DATE OF FLOW TEST			DATE SHUT-IN PRESSURE MEASURED		
FROM 05/09/83	TO 05/17/83	05/24/83			

PRESSURE DATA - ALL PRESSURES IN PSIA

(a) Flowing Casing Pressure (DWI) 487	(b) Flowing Tubing Pressure (DWI) 463	(c) Flowing Meter Pressure (DWI) 462	(d) Flow Chart Static Reading 456	(e) Meter Error (Item c - Item d) 6+	(f) Friction Loss (a-c) or (b-c) 1+	(g) Average Meter Pressure (Integr.) 452
(h) Corrected Meter Pressure (g+e) 458	(i) Avg. Wellhead Press. $P_i = (h+f)$ 459	(j) Shut-in Casing Pressure (DWI) 538	(k) Shut-in Tubing Pressure (DWI) 538	(l) P_c = higher value of (i) or (k) 538	(m) Del. Pressure $P_d = 80$ % P_c 430	(n) Separator or Dehydrator Pr. (DWI) for critical flow only -----

FLOW RATE CORRECTION (METER ERROR)

Integrated Volume - MCF/D 17	Quotient of $\frac{\text{Item c}}{\text{Item d}}$ 1.0131	$\sqrt{\frac{\text{Item c}}{\text{Item d}}}$ 1.0065	Corrected Volume Q = 17 MCF/D
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WORKING PRESSURE CALCULATION

$(1-e^{-s})$.121	$(F_c Q_m)^2 (1000)$ 175	$R^2 = (1-e^{-s}) (F_c Q_m)^2 (1000)$ 21	P_i^2 210,681	$P_w^2 = P_i^2 + R^2$ USE PT2	$P_w = \sqrt{P_w^2}$ 459
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DELIVERABILITY CALCULATION

$D = Q \left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^n =$ 17	$\left(\frac{104,544}{78,763} \right)^n = \left(1.3273 \right)^n =$ 1.2721	$=$ 22 MCF/D
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REMARKS:

SUMMARY

Item h 458 Psia
 P_c 538 Psia
 Q 17 MCF/D
 P_w 459 Psia
 P_d 430 Psia
 D 22 MCF/D

Company SOUTHLAND ROYALTY
 By *[Signature]*
 Title DISTRICT PRODUCTION MANAGER
 Witnessed By _____
 Company _____

JUL 13 1983

NEW MEXICO OIL CONSERVATION COMMISSION
WELL DELIVERABILITY TEST REPORT FOR 19 82

Form C122-A
 Revised 8-77

POOL NAME BLANCO PC	POOL SLOPE α = .35	FORMATION PICTURED CLIFFS	COUNTY SAN JUAN
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COMPANY SOUTHLAND ROYALTY			WELL NAME AND NUMBER CHILDERS 2		
UNIT LETTER M	SECTION 1	TOWNSHIP 31N	RANGE 11W	PURCHASING PIPELINE SOUTHERN UNION GATHERING	
CASING O.D. - INCHES 5.5000	CASING I.D. - INCHES 4.9500	SET AT DEPTH - FEET 3052	TUBING O.D. - INCHES 1.9000	TUBING I.D. - INCHES 1.6100	TCP - TUBING PERF. - FEET 2927
GAS PAY ZONE FROM 2846 TO 2918		WELL PRODUCING THRU CASING TUBING X		GAS GRAVITY .636	GRAVITY X LENGTH 1862
DATE OF FLOW TEST FROM 04/09/82 TO 04/17/82			DATE SHUT-IN PRESSURE MEASURED 04/24/82		

PRESSURE DATA - ALL PRESSURES IN PSIA

(a) Flowing Casing Pressure (DWI) 00	(b) Flowing Tubing Pressure (DWI) 353	(c) Flowing Meter Pressure (DWI) 352	(d) Flow Chart Static Reading 357	(e) Meter Error (Item c - Item d) 5-	(f) Friction Loss (a-c) or (b-c) 1+	(g) Average Meter Pressure (Integr.) 353
(h) Corrected Meter Pressure (g+e) 348	(i) Avg. Wellhead Press. $P_w = (h+f)$ 349	(j) Shut-in Casing Pressure (DWI) 00	(k) Shut-in Tubing Pressure (DWI) 487	(l) P_c = higher value of (j) or (k) 487	(m) Del. Pressure $P_d = \frac{80}{P_c}$ 390	(n) Separator or Dehydrator P_r (DWI) for critical flow only _____

FLOW RATE CORRECTION (METER ERROR)

Integrated Volume - MCF/D 44	Quotient of $\frac{\text{Item c}}{\text{Item d}}$.9859	$\sqrt{\frac{\text{Item c}}{\text{Item d}}}$.9929	Corrected Volume Q = 44 MCF/D
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WORKING PRESSURE CALCULATION

$(1-e^{-3})$.127	$(F_c Q_m)^2 (1000)$ 525	$R^2 = (1-e^{-3}) (F_c Q_m)^2 (1000)$ 67	P_1^2 121,801	$P_w^2 = P_1^2 + R^2$ USE PT2	$P_w = \sqrt{P_w^2}$ 349
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DELIVERABILITY CALCULATION

$D = Q \left[\frac{a_1^2 - a_2^2}{P_c^2 - P_w^2} \right]^n =$ 44	$\left(\frac{85,069}{115,368} \right)^n = \left(.7374 \right)^n =$.7719	$=$ 34 MCF/D
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REMARKS:

SUMMARY

Item h 348 Psia
 P_c 487 Psia
 Q 44 MCF/D
 P_w 349 Psia
 P_d 390 Psia
 D 34 MCF/D

Company SOUTHLAND ROYALTY
 By CC Pearson
 Title DISTRICT PRODUCTION MANAGER
 Witnessed By _____
 Company _____

JUN - 7 1982

SOUTHERN UNION GATHERING COMPANY
REPORT OF BTU TEST RESULTS

TO: SOUTHLAND ROYALTY CO (826)

REF: CHILDERS 2 UND FRT.
4610
NORTHWEST NEW MEXICO (70)

DATE OF THIS TEST: 4/14/83
DATE OF LAST TEST: 10/01/82
TEST FREQUENCY: 12

RESULTS: SPECIFIC GRAVITY: 0.6401
BTU/CF @ 14.73/60F/DRY: 1139.4

	MOL %	G. P. M.
CARBON DIOXIDE	0.193	0.0000
NITROGEN	0.267	0.0000
METHANE	89.140	0.0000
ETHANE	6.170	1.6500
PROPANE	2.583	0.7110
ISOBUTANE	0.511	0.1670
N-BUTANE	0.615	0.1930
ISOPENTANE	0.236	0.0860
N-PENTANE	0.143	0.0510
HEXANE +	0.163	0.0710
	-----	-----
TOTAL	100.021	2.9290

SOUTHERN UNION GATHERING COMPANY
REPORT OF BTU TEST RESULTS

TO: SOUTHLAND ROYALTY CO (826)

REF: CHILDERS 2 *Blanco*
4620
NORTHWEST NEW MEXICO (70)

DATE OF THIS TEST: 10/12/83
DATE OF LAST TEST: 4/14/83
TEST FREQUENCY: 12

RESULTS: SPECIFIC GRAVITY: 0.6329
BTU/CF @ 14.73/60F/DRY: 1114.6

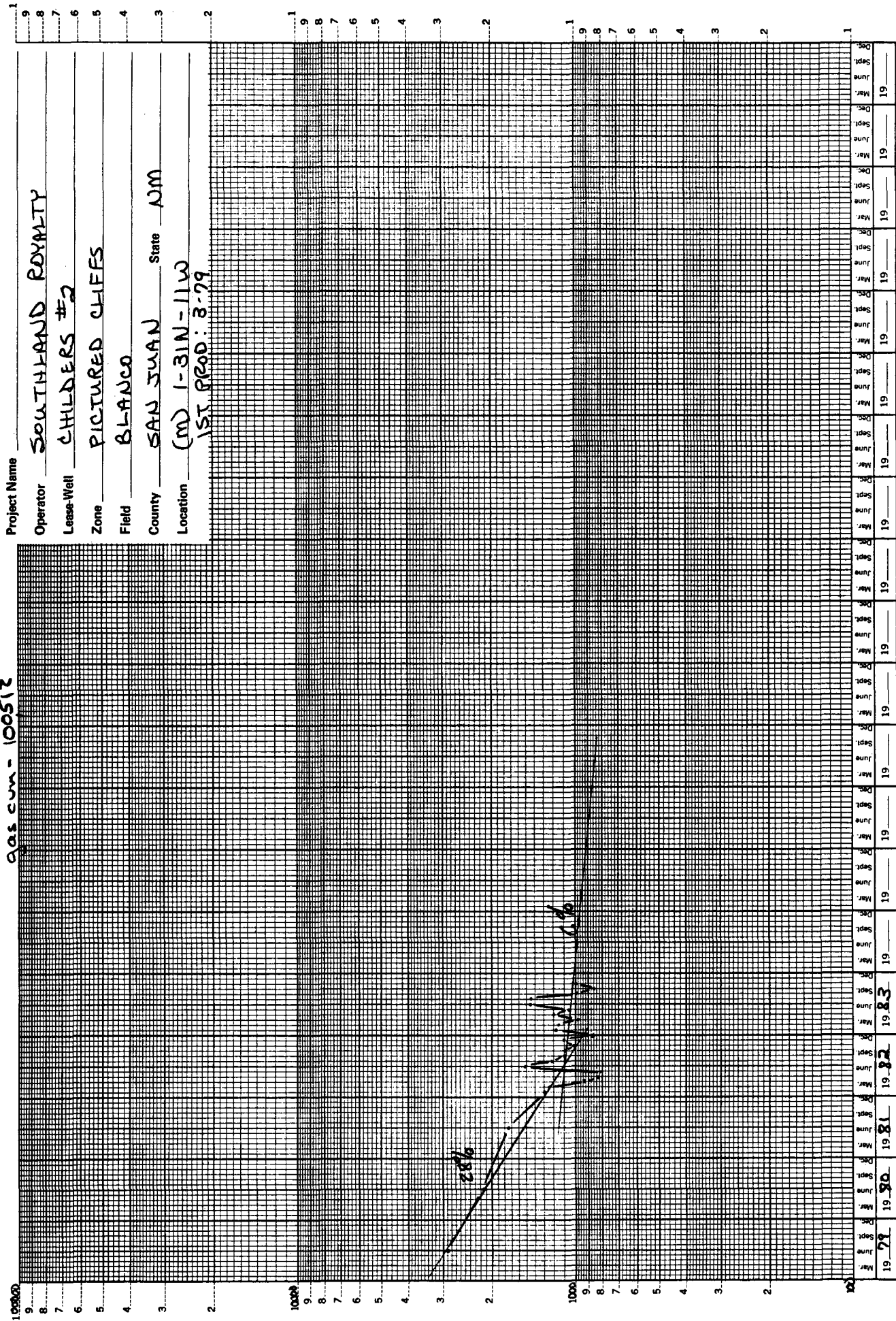
	NEL %	G. P. M.
CARBON DIOXIDE	0.798	0.0000
NITROGEN	0.180	0.0000
METHANE	90.240	0.0000
ETHANE	5.330	1.4250
PROPANE	2.067	0.5690
ISOBUTANE	0.373	0.1220
N-BUTANE	0.526	0.1650
ISOPENTANE	0.195	0.0710
N-PENTANE	0.120	0.0430
HEXANE +	0.195	0.0850
	-----	-----
TOTAL	100.024	2.4800

Southland Royalty Company



gas cum - 100512

Project Name _____
 Operator SOUTHLAND ROYALTY
 Lease-Well CHILDERS #2
 Zone PICTURED CLIFFS
 Field BLANCO
 County SAN JUAN State NM
 Location (M) 1-31N-11W
1ST PROD: 3-79





Southland Royalty Company

GAS cum: 60,251

Project Name		SOUTHLAND ROYALTY	
Operator		CHILDERS #2	
Lease-Well		FRUITLAND	
Zone		SAN JUAN UNO	
Field		SAN JUAN	
County		NM	
Location		(M) 1-31N-11W	
		1ST PRD: 3-79	

1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
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low



SOUTHLAND ROYALTY COMPANY				
CHILDERS #2		AREA (FRUIT. - P.C.)		
(M) 1-31N-11W		LOCATION SAN JUAN		
TYPE OF MAP				
PRODUCTION				
CONTOURED		CL		
BY	DATE	REVISED BY	DATE	REFERENCE
				DATE
NOTES				



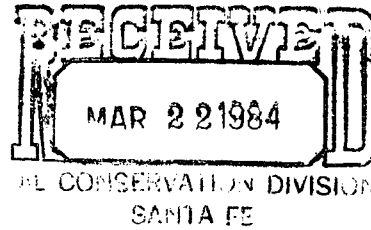
STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

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

OIL CONSERVATION DIVISION
BOX 2088
SANTA FE, NEW MEXICO 87501

DATE 3-20-84

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



Gentlemen:

I have examined the application dated 3-14-84
for the Southland Royalty Children #2 M-1-31N-11W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

Frank T. O'Leary