STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

December 10, 1984

TONEY ANAYA
GOVERNOR

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

AMENDED
Administrative Order No. DHC-541

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

Attention: Mr. Doug R. Harris

Re: Chamberlain Well No. 2, Unit A,
Sec. 14, T-32-N, R-12-W, NMPM,
San Juan County, New Mexico
Fruitland and Pictured Cliffs Pools

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 any Division Order 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 20 barrels per day, and total water production from the well shall not exceed 40 barrels per day. The maximum amount of gas which may be produced daily from the well shall be determined by Division Rules and Regulations or by the gas allocation for each respective prorated gas pool as printed in the Oil Conservation Division San Juan Basin Gas Proration Schedule.

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

Fruitland Pool: Condensate 100%, Gas 18%
Pictured Cliffs Pool: Condensate 0%, Gas 82%

Pursuant to Rule 303-C 5, the commingled authority granted by this order may be rescinded by the Division Director if, in his opinion, conservation is not being best served by such commingling.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

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 Dec 7, 1984

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

Gentlemen:

I have examined the application dated 11/14/84

for the Southland Royalty Co. Chamberlain #2 A-14-32N-12W
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

Approve

Yours truly,

Frank T. Chavez

Southland Royalty Company

CERTIFIED MAIL

November 14, 1984

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

RE: Downhole Commingling
SRC - Chamberlain #2
NE/4, Section 14, T32N, R11W
San Juan County, New Mexico
Fruitland/Pictured Cliffs

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	79% Pictured Cliffs
	21% Fruitland

Royalty ownership in both zones of the well are identical. The well is currently producing and the deliverability tests were run in August 1984 and are included. In addition, copies of gas analysis from each zone, decline curves, production plats and miscellaneous data are included with this package for your information.

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

Sincerely,

Doug R. Harris
Petroleum Engineer

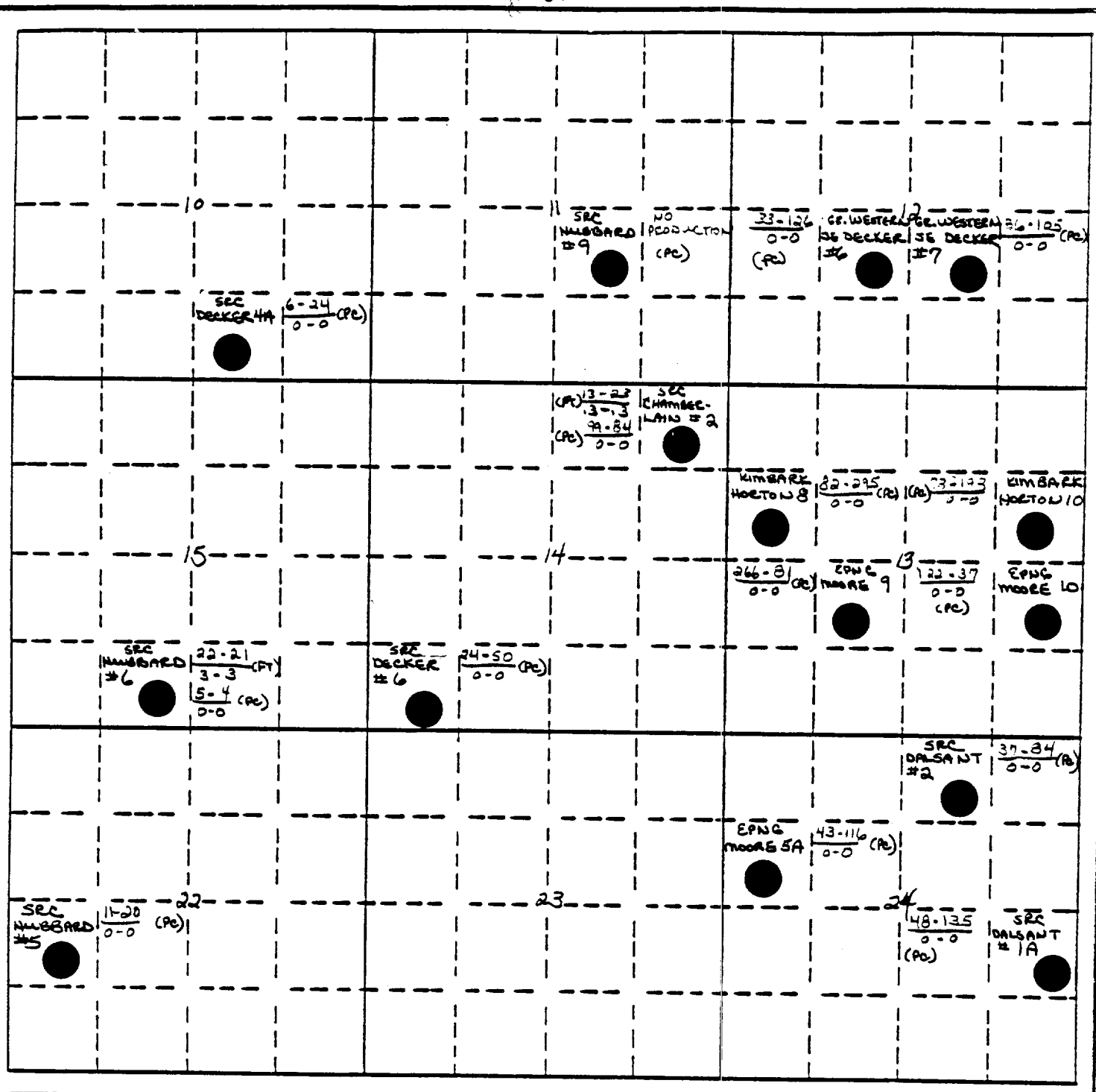
DRH/eg

Attachments

MISCELLANEOUS DATA

CHAMBERLAIN #2

Fruitland Bottom Hole Pressure	629 psi
Pictured Cliffs Bottom Hole Pressure	754
Fruitland Oil Gravity	44°
BTU/cf at 14.73/60°/Dry (Fruitland)	1119
BTU/cf at 14.73/60°/Dry (Pictured Cliffs)	1151



32N

S.R.C.

SOUTHLAND ROYALTY COMPANY

AREA: CHAMBERLAIN #2 (P.C. & FET.)

LOCATION: (A) SEC. 14, 32N, 12W

TYPE OF MAP: PRODUCTION SAN JUAN CO.

CONTOURED | CI

BY	DATE	REVISED BY	DATE	REFERENCE	DATE

NOTES

MCFD - MMCF
BOPD - MBO
to 1-84

AS ANALYSIS: TRANSCRIPTION OF TAPE FROM AUTOMATIC CHROMATOGRAPH

AME/LOCATION: SAMPLE DATE: 5/15/84

TREAM NO. 6
TATION NO. 9258-07

PECIFIC GRAVITY 0.6479 BTU/CF 14.73/60F/DRY: 1150.6

COMPONENT	MOLE%	G.P.M.
RBON DIOXIDE	0.251	0.0000
TROGEN	0.277	0.0000
THANE	88.920	0.0000
HANE	5.480	1.4650
OPANE	3.183	0.8760
OBUTANE	0.592	0.1930
BUTANE	0.719	0.2260
OPENTHANE	0.228	0.0830
PENTHANE	0.148	0.0530
XANE	0.238	0.1040
TOTAL	100.036	3.0000

STATION NAME: CHAMBERLAIN 2

LAST BTU TEST DATE 83/05/16
LAST BTU TEST RESULT: 1142

TEST RUN: 14:14 16/05/84 1

TEST TRANSCRIBED ON: 84/05/21

WELL # 9258-07/803 DUE: 5/16/84
NAME: CHAMBERLAIN 2 pc
RUN# 308 FREQ: 12 LAST BTU: 1142
DATE PULLED: 5/15/84 STREAM: 6
DATE TESTED: 5/16/84 TIME: ____

AS ANALYSIS: TRANSCRIPTION OF TAPE FROM AUTOMATIC CHROMATOGRAPH 1

AME/LOCATION: SAMPLE DATE: 5/15/84
TREAM NO. 3
TATION NO. 9307-10

PECIFIC GRAVITY 0.6352 BTU/CF 14.73/60F/DRY: 1119.3

COMPONENT	MOLE%	G.P.M.
RBON DIOXIDE	0.524	0.0000
TROGEN	0.523	0.0000
THANE	91.260	0.0000
HANE	3.100	0.8290
OPANE	2.618	0.7200
OBUTANE	0.698	0.2280
IUTANE	0.718	0.2260
OPENTHANE	0.243	0.0880
ENTHANE	0.161	0.0580
ANE	0.187	0.0820
TOTAL	100.032	2.2310

STATION NAME: CHAMBERLAIN 2

LAST BTU TEST DATE 83/05/16
LAST BTU TEST RESULT: 1115

TEST RUN: 13:43 16/05/84 1

TEST TRANSCRIBED ON: 84/05/21

ID: 9307 - 10 DATE: 5 15 8

WELL # 9307-10/803 DUE: 5/16/84
NAME: CHAMBERLAIN 2 FRT
RUN# 308 FREQ: 12 LAST BTU: 1115
DATE PULLED: 5/15/84 STREAM: 3
DATE TESTED: 5/16/84 TIME: ____

3 16MAY84 STREAM NO. 3

CO2	N2	C1	C2	C3	IC4	NC4	IC5	NC5	C6+
.524	.523	91.26	3.10	2.618	.698	.718	.243	.161	.187
.000	.000	.000	.829	.720	.228	.226	.088	.058	.082

COMPRESSIBILITY .9975 BTU 1119.3 SPECIFIC GRAVITY .6352 GALLONS PER THOUSAND FEET 2.231

1

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-122-A
Revised 10-1-78

WELL DELIVERABILITY TEST REPORT FOR 19 84

POOL NAME	POOL SLOPE	FORMATION	COUNTY
Undesignated	n= .85	Fruitland	San Juan

COMPANY			WELL NAME AND NUMBER		
Southland Royalty Company			Chamberlain #2		
UNIT LETTER	SECTION	TOWNSHIP	RANGE	PURCHASING PIPELINE	
A	14	32	12	Southern Union Gathering	
CASING O.D. - INCHES	CASING I.D. - INCHES	SET AT DEPTH - FEET	TUBING O.D. - INCHES	TUBING I.D. - INCHES	TOP - TUBING PERF. - FEET
4.5000	4.0520	2935			
GAS PAY ZONE		WELL PRODUCING THRU		GAS GRAVITY	GRAVITY X LENGTH
FROM 2465 TO 2596		CASING X TUBING		.635	1565
DATE OF FLOW TEST			DATE SHUT-IN PRESSURE MEASURED		
FROM 8-8-84 TO 8-15-84			8-22-84		

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.)
401		397	396	+1	+4	423
(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 = 80 %P_c**	**(n) Separator or Dehydrator Pr. (DWt) for critical flow only**
424	428	529		529	423	

FLOW RATE CORRECTION (METER ERROR)

Integrated Volume - MCF/D	Quotient of Item c / Item d	$\sqrt{\text{Item c / Item d}}$	Corrected Volume
21	1.0025	1.0013	Q = 21 MCF/D

WORKING PRESSURE CALCULATION

$(1-e^{-s})$	$(F_c Q_m)^2$ (1000)	$R^2 = \frac{(F_c Q_m)^2 (1000)}{(1-e^{-s})}$	P_t^2	$P_w^2 = P_t^2 + R^2$	$P_w = \sqrt{P_w^2}$
.108	1	.1039	183184	183184	428

DELIVERABILITY CALCULATION

$$D = Q\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2}\right]^n = 21 \left[\left(\frac{100912}{96657}\right)^a = (1.0440)^n = 1.0373\right] = 22 \text{ MCF/D}$$

REMARKS:

SUMMARY

Item b	424	Psia
P_c	529	Psia
Q	21	MCF/D
P_w	428	Psia
P_d	423	Psia
D	22	MCF/D

Company Southland Royalty Company
By R. L. Fields
Title District Manager
Witnessed By
Company

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-122-A
Revised 10-1-78

WELL DELIVERABILITY TEST REPORT FOR 1984

POOL NAME	POOL SLOPE	FORMATION	COUNTY
Blanco	n = .85	Pictured Cliffs	San Juan

COMPANY			WELL NAME AND NUMBER		
Southland Royalty Company			Chamberlain #2		
UNIT LETTER	SECTION	TOWNSHIP	RANGE	PURCHASING PIPELINE	
A	14	32	12	Southern Union Gathering	
CASING O.D. - INCHES	CASING I.D. - INCHES	SET AT DEPTH - FEET	TUBING O.D. - INCHES	TUBING I.D. - INCHES	TOP - TUBING PERF. - FEET
4.5000	4.0520	2935	1.9000	1.6100	2817
GAS PAY ZONE		WELL PRODUCING THRU		GAS GRAVITY	GRAVITY X LENGTH
FROM 2789 TO 2854		CASING	TUBING X	.648	1825
DATE OF FLOW TEST			DATE SHUT-IN PRESSURE MEASURED		
FROM 8-8-84 TO 8-15-84			8-22-84		

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.)
	420	418	414	+4	+2	422
(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 = 80 %P_c**	**(n) Separator or Dehydrator Pr. (DWt) for critical flow only**
426	428		642	642	514	

FLOW RATE CORRECTION (METER ERROR)

Integrated Volume - MCF/D	Quotient of $\frac{\text{Item c}}{\text{Item d}}$	$\sqrt{\frac{\text{Item c}}{\text{Item d}}}$	Corrected Volume
136	1.0097	1.0048	Q = 137 MCF/D

WORKING PRESSURE CALCULATION

$(1-e^{-s})$	$(F_c\,Q_m)^2\,(1000)$	$R^2 = (1-e^{-s})\,(F_c\,Q_m)^2(1000)$	P_t^2	$P_w^2 = P_t^2 + R^2$	$P_w = \sqrt{P_w^2}$
.124	5085	631	183184	183815	429

DELIVERABILITY CALCULATION

$$D = Q\left[\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2}\right]^n = 137\left[\left(\frac{147968}{228349}\right)^a = .6480\right]^n = .6916 = 95 \text{ MCF/D}$$

REMARKS:

SUMMARY

Item b	426	Psia
P_c	642	Psia
Q	137	MCF/D
P_w	429	Psia
P_d	514	Psia
D	95	MCF/D

Company: Southland Royalty Company
By: R. C. Fielder
Title: District Manager
Witnessed By:
Company:

Southland Royalty Company

GAS cum: 24,164 OIL cum: 278

Project Name

Operator SOUTHLAND ROYALTY

Lease-Well CHAMBERLAIN #2

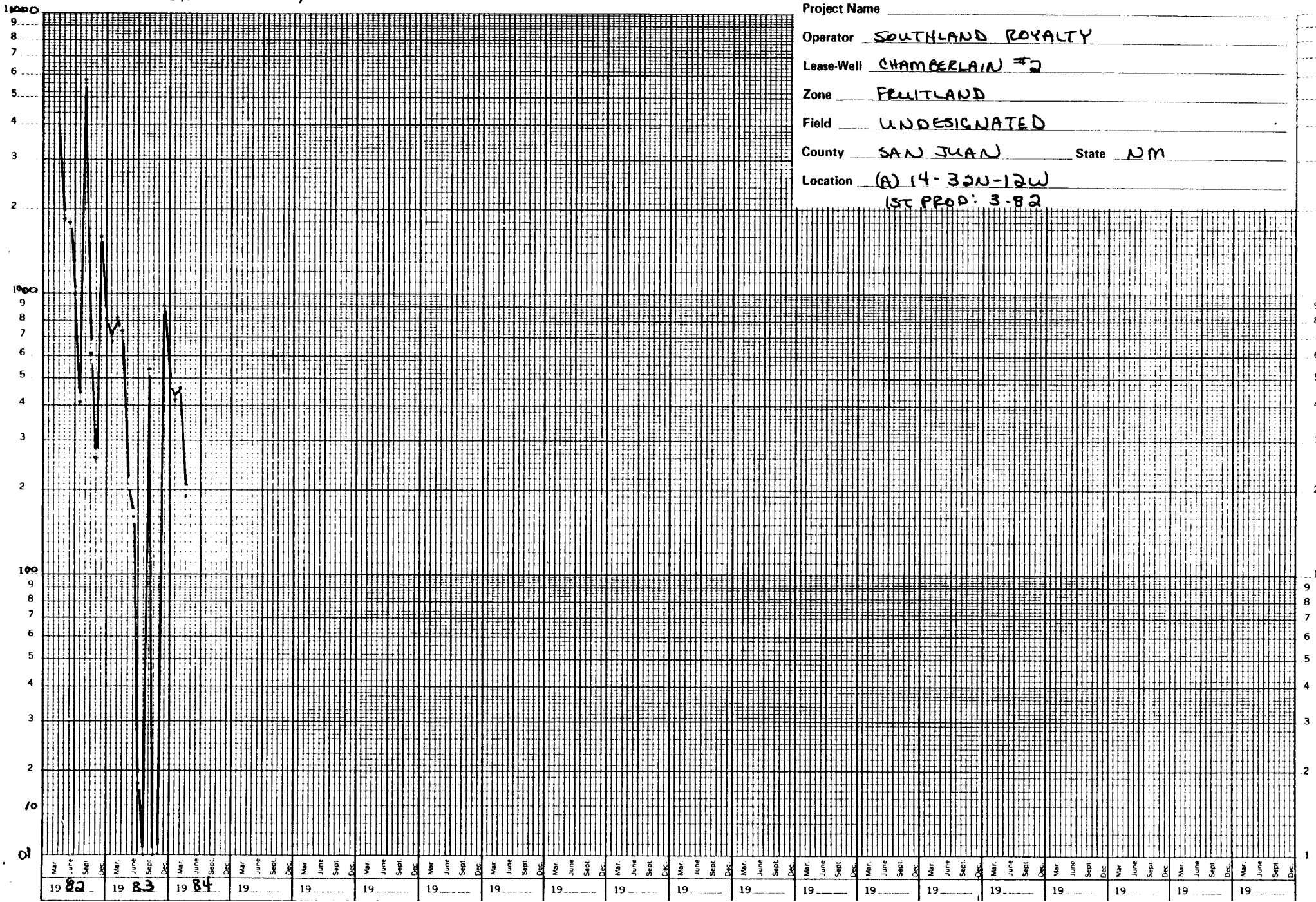
Zone FRUITLAND

Field UNDESIGNATED

County SAN JUAN State NM

Location (A) 14-32N-12W

1ST PROD: 3-82



Southland Royalty Company

GAS cum: 92,559 OIL cum: 0

Project Name

Operator SOUTHLAND ROYALTY

Lease-Well CHAMBERLAIN #2

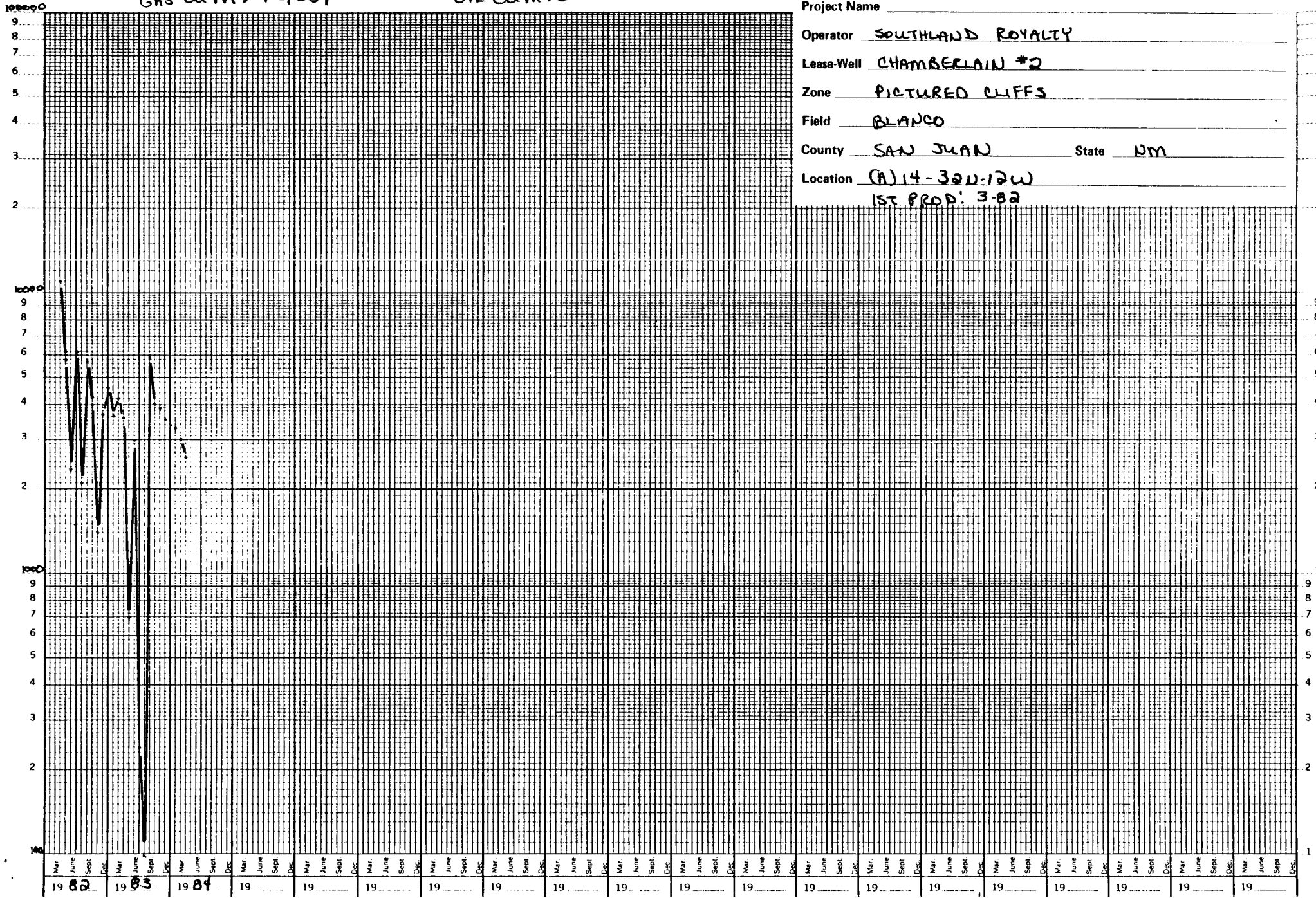
Zone PICTURED CLIFFS

Field BLANCO

County SAN JUAN State NM

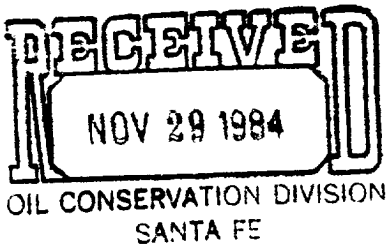
Location (A) 14-30N-12W

1ST PROD: 3-82



Southland Royalty Company

November 27, 1984



Mr. Dave Catanach
New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Downhole Commingling
SRC - Hillstrom #3 and Chamberlain #2
San Juan County, New Mexico
Fruitland/Pictured Cliffs

Dear Dave,

As per our telephone conversation on 11-16-84, a five day production test was run on the subject wells and is attached. If you need any more information, please feel free to contact me on this matter.

Thank you,

D.R.H.

D. R. Harris
Area Engineer

DRH/bgw

5 Day Deliverability Test

Hillstrom #3 - Blanco Pictured Cliffs "D" 35-32-12

11-17-84	94 MCF/D	79%
11-18-84	97 MCF/D	73%
11-19-84	131 MCF/D	72%
11-20-84	65 MCF/D	65%
11-21-84	99 MCF/D	67%
		71% Avg.

Hillstrom #3 - Glades Fruitland "D" 35-32-12

11-17-84	24 MCF/D	21%
11-18-84	33 MCF/D	27%
11-19-84	52 MCF/D	28%
11-20-84	35 MCF/D	35%
11-21-84	49 MCF/D	33%
		29% Avg.

Chamberlain #2 - Blanco Pictured Cliffs "A" 14-32-12

11-17-84	73 MCF/D	N/A
11-18-84	159 MCF/D	79%
11-19-84	131 MCF/D	81%
11-20-84	94 MCF/D	85%
11-21-84	104 MCF/D	85%
		82.5% Avg.

Chamberlain #2 - Undesignated Fruitland "A" 14-32-12

11-17-84	0 MCF/D	N/A
11-18-84	42 MCF/D	21%
11-19-84	30 MCF/D	19%
11-20-84	17 MCF/D	15%
11-21-84	17 MCF/D	15%
		17.5% Avg.