

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells

1. Type of Well  
GAS

2. Name of Operator  
Southland Royalty

3. Address & Phone No. of Operator  
PO Box 4289, Farmington, NM 87499 (505) 326-9700

4. Location of Well, Footage, Sec., T, R, M  
1610'FSL, 1070'FEL Sec.5, T-27-N, R-9-W, NMPM

5. Lease Number  
SF-07874- 077874

6. If Indian, All. or  
Tribe Name

7. Unit Agreement Name

8. Well Name & Number  
Hanks #18M

9. API Well No.

10. Field and Pool  
Basin Ft Coal

11. County and State  
San Juan Co, NM

12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Type of Submission

☒ Notice of Intent

☐ Subsequent Report

☐ Final Abandonment

Type of Action

☐ Abandonment

☒ Recompletion

☐ Plugging Back

☐ Casing Repair

☐ Altering Casing

☐ Other -

☐ Change of Plans

☐ New Construction

☐ Non-Routine Fracturing

☐ Water Shut off

☐ Conversion to Injection

13. Describe Proposed or Completed Operations

It is intended to plug back the Dakota and Mesa Verde and recompleate into the Fruitland Coal per the attached procedure.

RECEIVED

DEC 30 1993

OIL CON. DIV.)

DIST. 3

14. I hereby certify that the foregoing is true and correct.

Signed Stephen Masopust (MP) Title Regulatory Affairs Date 11/19/93

(This space for Federal or State Office use)

APPROVED BY \_\_\_\_\_ Title \_\_\_\_\_

CONDITION OF APPROVAL, if any:

APPROVED  
AS AMENDED

Date

Dec 27 1993  
STEPHEN MASOPUST

DISTRICT MANAGER

NMOCD

Schedule to Assignment  
District Office  
State Lease - 4 copies  
Fee Lease - 3 copies

State of New Mexico  
Energy, Minerals and Natural Resources Department

Form C-102  
Revised 1-1-89

OIL CONSERVATION DIVISION

P.O. Box 2088  
Santa Fe, New Mexico 87504-2088

Hold C-104 For  
NSR @  
11-22-93

DISTRICT I  
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II  
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III  
1000 Rio Brazos Rd., Aztec, NM 87410

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

|  |                                       |                      |                                    |                    |
|--|---------------------------------------|----------------------|------------------------------------|--------------------|
| Operator<br>Southland Royalty Company  |                                       | Lease<br>Hanks       |                                    | Well No.<br>18M    |
| Unit Letter<br>I   | Section<br>5                          | Township<br>27 North | Range<br>9 West                    | County<br>San Juan |
| Actual Footage Location of Well:<br>1610 feet from the South line and 1070 feet from the East line |                                       |                      |                                    |                    |
| Ground level Elev.<br>6466'  | Producing Formation<br>Fruitland Coal | Pool<br>Basin        | Dedicated Acreage<br>320 3/4 Acres |                    |

1. Outline the acreage dedicated to the subject well by colored pencil or ink 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 interest of all owners been consolidated by commutation, 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 commutation, unitization, force-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.

\*Not resurveyed, prepared from a plat dated 4-6-81 by Fred B. Kerr Jr.

RECEIVED

DEC 30 1993

OIL CON. DIV.  
DIST 3

OPERATOR CERTIFICATION

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

*Peggy Bradfield*  
Signature  
Peggy Bradfield

Printed Name  
Regulatory Representative

Position  
Southland Royalty Co

Company  
11-26-93

Date

SURVEYOR CERTIFICATION

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. 11-22-93

Date Surveyed  
Needle C. Edwards  
Signature of State Professional Surveyor  
6857

Certificate No.

6857

0 130 660 990 1320 1650 1980 2310 2640 2970 3300 3630 3960 4290 4620 4950 5280 5610 5940 6270 6600 6930 7260 7590 7920 8250 8580 8910 9240 9570 9900 10230 10560 10890 11220 11550 11880 12210 12540 12870 13200 13530 13860 14190 14520 14850 15180 15510 15840 16170 16500 16830 17160 17490 17820 18150 18480 18810 19140 19470 19800 20130 20460 20790 21120 21450 21780 22110 22440 22770 23100 23430 23760 24090 24420 24750 25080 25410 25740 26070 26400 26730 27060 27390 27720 28050 28380 28710 29040 29370 29700 30030 30360 30690 31020 31350 31680 32010 32340 32670 33000 33330 33660 33990 34320 34650 34980 35310 35640 35970 36300 36630 36960 37290 37620 37950 38280 38610 38940 39270 39600 39930 40260 40590 40920 41250 41580 41910 42240 42570 42900 43230 43560 43890 44220 44550 44880 45210 45540 45870 46200 46530 46860 47190 47520 47850 48180 48510 48840 49170 49500 49830 50160 50490 50820 51150 51480 51810 52140 52470 52800 53130 53460 53790 54120 54450 54780 55110 55440 55770 56100 56430 56760 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**Hanks #18M FRTC  
FRTC RECOMPLETION  
I 5 27 9  
San Juan County, N.M.**

**PLUGGING:**

1. Comply to all NMOCB, BLM, & MOI rules & regulations. MOL and RU P & A rig. NU 6" 900 series BOP with W/offset rams, flow tee and stripping head. NU blooie line and 2-7/8" relief line.
2. TOH w/157 Jts 1-1/2" IJ tbg & lay down. TOH w/205 Jts 1-1/2" tbg (Otis Permalock Pkr @ 5182').
3. Run 5-1/2" gauge ring on sand line to 6863' (50' above DK perfs). Run 5-1/2" pkr on tested 1-1/2" tbg & set @ 6800'. Swab test Dakota perfs for one day. Record fluid levels, swab depth, water production, and any sustained gas rates. Take water sample. This data will be analyzed to determine whether to continue w/FRTC recompletion or to suspend operations and reconnect the well for Dakota production. TOH.
4. TIH w/5-1/2" cmt ret on tested 1-1/2" tbg & set @ 6863'. Establish rate & sq Dakota perfs w/ 48 sx Cl "G" cmt. This will fill perfs & 5-1/2" csg to 6863' w/100% excess cmt.
5. Sting out of cmt ret & spot 4 sx cmt on top ret. Spot hole w/ 21 bbl mud: 15# sodium bentonite w/non-fermenting polymer, 8.4# gal weight, & 40 qs vis or greater. TOH.
6. Perf 2 sq holes @ 6007' (50' below top Gallup). Run 5-1/2" cmt ret on 1-1/2" tbg, set @ 6000'. Est rate into sq holes & sq w/32 sx Cl "G" cmt. This will fill behind csg from 6007' to 5907' (50' above top Gallup) w/100% excess cmt. Sting out of ret & spot 17 sx cmt. This will fill inside csg from 6007' to 5907' w/50% excess cmt.
7. Spot hole w/ 21 bbl mud: 15# sodium bentonite w/non-fermenting polymer, 8.4# gal weight, & 40 qs vis or greater. TOH.
8. TIH w/5-1/2" cmt ret on 1-1/2" tbg & set @ 4760' (50' above top Mesaverde perf). Sting out of ret & pressure test csg to 1000 psi. Sting back into ret & pump 67 sx cmt. This will fill csg from 5054' (bottom MV perf) to 4760' w/100% excess cmt.
9. Spot hole w/ 18 bbl mud: 15# sodium bentonite w/non-fermenting polymer, 8.4# gal weight, & 40 qs vis or greater.
10. Perf 2 sq holes @ 3472' (50' below top Chacra). Run 5-1/2" cmt ret on 1-1/2" tbg, set @ 3465'. Est rate into sq holes & sq w/32 sx Cl "B" cmt. This will fill behind csg from 3472' to 3372' (50' above top Chacra) w/100% excess cmt. Sting out of ret & spot 17 sx cmt. This will fill inside csg from 3472' to 3372' w/50% excess cmt.
11. Spot hole w/ 18 bbl mud: 15# sodium bentonite w/non-fermenting polymer, 8.4# gal weight, & 40 qs vis or greater.

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COMPLETION:

14. MOL and RU completion rig. NU 6" 900 series BOP with W/offset rams, flow tee and stripping head. NU blooie line and 2-7/8" relief line.
15. Spot and fill 2 - 400 bbl. frac tanks with 2% KCL water. Filter all water to 25 microns. One tank is for gel & one tank for breakdown water. Usable gel water required for frac is 322 bbls.
16. TIH w/rental 2-3/8" tbg to 2590'. Double check all wellhead valves, connections, & fittings which must be 900 series or 3000 psi rated - if not, replace or use treesaver to pressure test & frac. Roll hole w/2% KCL water & pressure test csg to 3000 psi for 15 min.

LOWER FRTC:

17. Perf lower FRTC 2450'-70' w/4 spf. Perforate using 3-1/8" hollow steel carrier guns loaded w/Owen HSC 13 gm. charges phased at 90 degrees & 4 spf. Avg. perf dia.= 0.48". Average penetration is 18" in Berea. Total 80 holes.
18. TIH with 5-1/2" pkr on 2-3/8" tbg. Breakdown perforations from 2450'-70' w/1500 gal. 15% HCL acid & 200 7/8" 1.3 sp gr RCN perf balls. (1 gal/1000 corrosion inhibitor). Lower pkr to 2480' to knock off perf balls. TOH.
19. Fracture treat lower FRTC down 5-1/2" csg with 37,000 gals. of 70 quality foam using 30# gel as the base fluid & 60,000# 20/40 Arizona sand. Pump at 25 BPM. Monitor bottomhole and surface treating pressures, rate, foam quality, & sand concentration with computer van. Sand to be tagged with 0.4 mCi/1000# Ir-192 tracer. Max. pressure is 3000 psi and estimated treating pressure is 2600 psi. Flush w/gel or 2% KCL water. Treat per the following schedule:

| <u>Stage</u> | <u>Foam Vol.<br/>(Gals.)</u> | <u>Gel Vol.<br/>(Gals.)</u> | <u>Sand Vol.<br/>(lbs.)</u> |
|--------------|------------------------------|-----------------------------|-----------------------------|
| Pad          | 12,000                       | 3,600                       | ----                        |
| 1.0 ppg      | 5,000                        | 1,500                       | 5,000                       |
| 2.0 ppg      | 10,000                       | 3,000                       | 20,000                      |
| 3.0 ppg      | 5,000                        | 1,500                       | 15,000                      |
| 4.0 ppg      | 5,000                        | 1,500                       | 20,000                      |
| Flush        | ( 0 )                        | 2,440                       |                             |
| Totals       | 37,000                       | 11,100#                     | 60,000#                     |

Shut well in after frac for six hours to allow the gel to break.  
Treat frac fluid with the following additives per 1000 gallons:

- \* 30# LGC8 (Gel)
- \* 3.0 gal. AQF2 (Non-ionic Surfactant)
- \* 1.0# GVW3 (Enzyme Breaker)
- \* 1.0# B-5 (Breaker)

20. Set 5-1/2" ret BP @ 2400' on wireline & top w/1 sx sand.
21. Fill 2 - 400 bbl. frac tanks with 2% KCL water. Filter all water to 25 microns. One tank is for gel & one tank for breakdown water. Usable

## HANKS #18M - FRTC RECOMPLETION

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gel water required for frac is 355 bbls.

22. Pressure test csg to 3000 psi for 15 min.

UPPER FRTC:

23. Perf upper FRTC 2382'-74', 2370'-52', 2328'-26', 2284'-82', 2266'-64' w/4 spf. Perforate using 3-1/8" hollow steel carrier guns loaded w/Owen HSC 13 gm. charges phased at 90 degrees & 4 spf. Avg. perf dia. = 0.48". Average penetration is 18" in Berea. Total 128 holes.
24. TIH with 5-1/2" pkr on 2-3/8" tbq. Breakdown perforations from 2382'-2264' w/2500 gal. 15% HCL acid & 300-7/8" 1.3 sp gr RCN perf balls. (1 gal/1000 corrosion inhibitor). Lower pkr to 2386' to knock off perf balls. TOH.
25. Fracture treat upper FRTC down 5-1/2" csg with 57,000 gals. of 70 quality foam using 30# gel as the base fluid & 90,000# 20/40 Arizona sand. Pump at 40 BPM. Monitor bottomhole and surface treating pressures, rate, foam quality, & sand concentration with computer van. Sand to be tagged with 0.4 mCi/1000# Ir-192 tracer. Max. pressure is 3000 psi and estimated treating pressure is 2600 psi. Treat per the following schedule:

| <u>Stage</u> | <u>Foam Vol.<br/>(Gals.)</u> | <u>Gel Vol.<br/>(Gals.)</u> | <u>Sand Vol.<br/>(lbs.)</u> |
|--------------|------------------------------|-----------------------------|-----------------------------|
| Pad          | 20,000                       | 6,000                       | ----                        |
| 1.0 ppg      | 10,000                       | 3,000                       | 10,000                      |
| 2.0 ppg      | 10,000                       | 3,000                       | 20,000                      |
| 3.0 ppg      | 10,000                       | 3,000                       | 30,000                      |
| 4.0 ppg      | 5,000                        | 1,500                       | 20,000                      |
| 5.0 ppg      | 2,000                        | 600                         | 10,000                      |
| Flush        | <u>(2,350)</u>               | <u>705</u>                  |                             |
| Totals       | 57,000                       | 17,100#                     | 90,000#                     |

Shut well in after frac for six hours to allow the gel to break.  
Treat frac fluid with the following additives per 1000 gallons:

- \* 30# LGC8 (Gel)
- \* 3.0 gal. AQF2 (Non-ionic Surfactant)
- \* 1.0# GVW3 (Enzyme Breaker)
- \* 1.0# B-5 (Breaker)

26. Open well through choke manifold and monitor flow. Flow @ 20 bbl/hr, or less if sand is observed. Take pitot gauges when possible.
27. TIH w/ret head on 2-3/8" tbq & C.O. w/air/mist to ret BP @ 2400'. Take pitot gauges when possible. When well is sufficiently clean, retrieve BP & TOH.
28. TIH w/notched collar on 2-3/8" tbq & C.O. to 2550'. Monitor gas and water returns and take pitot gauges when possible.
29. When wellbore is sufficiently clean, TOH and run after frac gamma-ray log from 2550'-2000'.

HANKS #18M - FRTC RECOMPLETION

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30. TIH with 1-1/2" tbg with standard seating nipple one joint off bottom and again cleanout to 2550'. When wellbore is sufficiently clean, land tbg at 2000'KB. Take final water and gas samples & rates.
31. ND BOP and NU wellhead & tree. Rig down & release rig.

Approve: \_\_\_\_\_

J. A. Howieson

VENDORS:

|             |              |          |
|-------------|--------------|----------|
| Wireline:   | Basin        | 327-5244 |
| Fracturing: | BJ           | 327-6288 |
| RA Tagging: | Pro-Technics | 326-7133 |

PMP

Pertinent Data Sheet - HANKS #18M MV/DK

Location: 1610' FSL 1070' FEL SEC. 5 T27N R09W, SAN JUAN COUNTY, N.M.

Field: Basin Dakota  
Blanco Mesaverde

Elevation: 6413' TD: 7105'  
14' KB PBTD: 7060'

LEASE: Federal SF-077874

DP#: MV=27208 DK=27207

GWI: 25.00% SRC Trust=100%

NRI: 21.13%

Completed: 8-20-81

Initial Potential:

MV: AOF= 242 MCF/D, Q= 163 MCF/D, SICP= 880 psi

DK: AOT= 771 MCF/D, Q= 769 MCF/D, SICP=1113 psi

Casing Record:

| <u>Hole Size</u> | <u>Csq. Size</u> | <u>Wt. &amp; Grade</u> | <u>Depth Set</u> | <u>Cement</u> | <u>Top/Cmt</u> |
|------------------|------------------|------------------------|------------------|---------------|----------------|
| 12-1/4"          | 8-5/8"           | 24# K-55               | 235'             | 160 sx        | Circ Cmt       |
| 7-7/8"           | 5-1/2"           | 15.5, 17# K-55         | 7105'            | 175 sx        | 6400' - CBL    |
|                  |                  | Stage Tool @           | 5182'            | 195 sx        | 4462' - CBL    |
|                  |                  | Stage Tool @           | 2703'            | 1020 cf       | 150' - Survey  |

Tubing Record: 1-1/2" 2.9# J-55 7046' 205 Jts  
Otis Permalock Pkr @ 5182'  
1-1/2" 2.76# V-55 IJ 5060' 157 Jts

Formation Tops:

|                 |       |
|-----------------|-------|
| Ojo Alamo       | 1580' |
| Kirtland        | 1638' |
| Fruitland       | 2182' |
| Pictured Cliffs | 2478' |
| Chacra          | 3422' |
| Cliffhouse      | 4072' |
| Point Lookout   | 4776' |
| Gallup          | 5957' |
| Dakota          | 6909' |

Logging Record: Induction Log, Density Log, CBL

Stimulation: Lost circ @ 2485' (basal coal) while drilling. Perf DK @ 6913'-7072' w/12 holes & fraced w/68,000# sand in 30# gel. Perfed MV @ 4810'-5054' w/12 holes & fraced w/70,000# sand in water.

Workover History: None

Production History: DK First Delivery = 2-1-82. Cumulative= ??? MMCF & ????? BO. Capacity = 0 MCF/D. Bradenhead = 0 psi. MV tbg pressure = 0 psi. DK tbg pressure = 0 psi. Csg pressure = 0 psi. Line Pressure = 174 psi.

Pipeline: -SUG-

PMP

# HANKS #18M MV/DK

UNIT 1 SECTION 5 T27N R09W  
SAN JUAN COUNTY, NEW MEXICO

PRESENT

