

submitted in lieu of Form 3160-5

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
BLM

Sundry Notices and Reports on Wells SEP 23 AM 11:12

1. Type of Well
GAS

2. Name of Operator
SOUTHLAND ROYALTY COMPANY

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

4. Location of Well, Footage, Sec., T, R, M
1120'FSL, 1090'FWL, Sec.6, T-29-N, R-11-W, NMPM

070 FARMINGTON, NM 5. Lease Number
NM-077317

6. If Indian, All. or
Tribe Name

7. Unit Agreement Name

8. Well Name & Number
Cooper #5

9. API Well No.
30-045-20517

10. Field and Pool
Basin Frt Coal/
Fulcher Kutz PC

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 ☐ Change of Plans
☒ Recompletion ☐ New Construction
☐ Plugging Back ☐ Non-Routine Fracturing
☐ Casing Repair ☐ Water Shut off
☐ Altering Casing ☐ Conversion to Injection
☐ Other -

13. Describe Proposed or Completed Operations

It is intended to add and complete by perforating and fracture stimulating the Fruitland Coal formation of this wellbore according to the attached procedure and wellbore diagram. Production from the Pictured Cliffs and Fruitland Coal will then be commingled. Application is being made to the NMOCDD for commingling.

RECEIVED
OCT - 5 1994

OIL CON. DIV.
DIST. 3

RECEIVED
SEP 29 1994

OIL CON. DIV.
DIST. 3

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

Signed Paul Sharpe (KAS2) Title Regulatory Affairs Date 9/20/94

(This space for Federal or State Office use)

APPROVED BY _____ Title _____

CONDITION OF APPROVAL, if any:

Date

APPROVED

SEP 28 1994

Special Agent: STEPHEN MASON

DISTRICT MANAGER

NMOCDD

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

PO Box 2088
Santa Fe, NM 87504-2088

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SEP 23 AM 11:12

Form C-1
Revised February 21, 19
Instructions on ba
Submit to Appropriate District Offi
State Lease - 4 Cop
Fee Lease - 3 Cop

☐ AMENDED REPORT

070 FARMINGTON, NM

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-045-20517		Pool Code 71629	Pool Name Basin Fruitland Coal
Property Code 10462	Property Name Cooper		Well Number 5
OGRID No. 21281	Operator Name Southland Royalty Company		Elevation 5764'

10 Surface Location

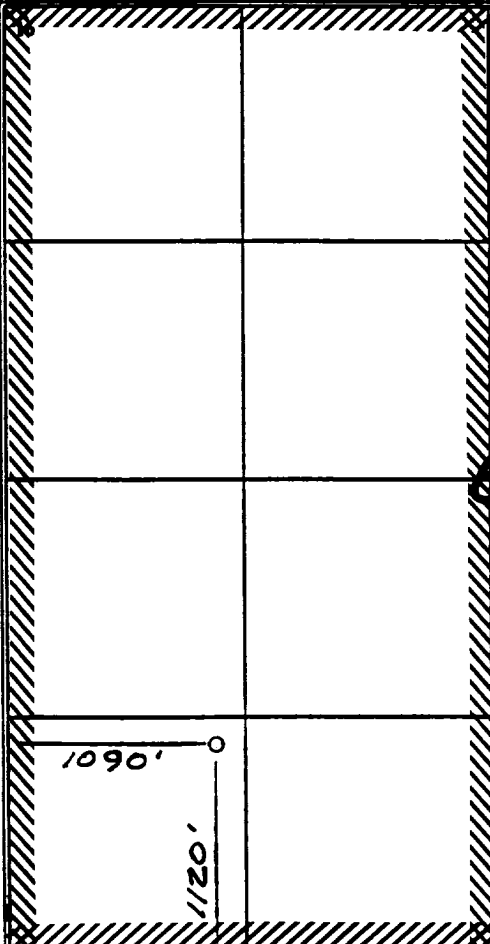
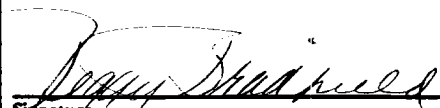
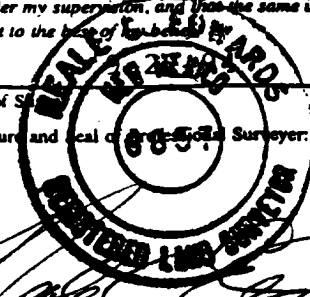
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	6	29N	11W		1120	South	1090	West	S.J.

11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

12 Dedicated Acres 2.2492 W6320	13 Joint or Infill	14 Consolidation Code	15 Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	Not re-surveyed prepared from Plat By: Fred B. Kerr Jr. Dated: June 11, 1969	17 OPERATOR CERTIFICATION: I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.  Signature Peggy Bradfield Printed Name Regulatory Affairs Title 9-22-94 Date
	RECEIVED SEP 29 1994 OIL CON. DIV. DIST. 0 RECEIVED OCT - 5 1994 OIL CON. DIV. DIST. 0	18 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.  Date of Survey Signature and Seal of Registered Surveyor 6857 Certificate Number

Pertinent Data Sheet - COOPER #5

Location: 1120' FSL, 1090' FWL, Unit M, Section 6, T29N, R11W, San Juan County, New Mexico

Field: (Aztec Pictured Cliffs)

Elevation: 5764' GR

TD: 2054'

PBTD: 2020'

Completed: (PC) 06/21/69

Spud Date: 03/09/55

DP #: 9784 PC
9784B FTC

Casing Record:

<u>Hole Size</u>	<u>Csg Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u>Cement</u>	<u>Top/Cement</u>
11"	8 5/8"	24# Armco SW	114'	60 sxs	Surface/Circ
6 3/4"	4 1/2"	9.5# J-55	2020'	250 sxs	CIRCULATED

Tubing Record:

<u>Tbg Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>
1"	1.7# V-55	1941'

Formation Tops:

Ojo Alamo 760'
Kirtland: 1358'
Fruitland: 1705'
Pictured Cliffs: 1932'

Logging Record: ES - INDUCTION

Stimulation: PC Frac'd: 1934' - 1960', w/26,210 gals water, 25,000# sand.

Workover History: NONE

Production History: SEE PLOT

Transporter: GCNM/SUNTERA

COOPER #5

PROPOSED
FULCHER KUTZ PC/BASIN FTC
UNIT M SEC 6 T29N, R11W, SAN JUAN COUNTY, NM

COMPLETED 06/26/69

8-5/8" 24# K-55 8RD CSG SET @114'
CIRC. CMT TO SURFACE

OJO ALAMO @ 760'

KIRTLAND @ 1358'

1990' OF 1-1/2" TBG W/SEATING NIPPLE
ONE JOINT OFF BOTTOM

FRUITLAND @ 1705'

UPPER
FTC PERFS
1705'
1810'

LOWER
FTC PERFS
1884'
1898'

PICTURED CLIFFS @ 1932'

PICTURED CLIFF PERFS
FRAC'D W/25,000 #'S SAND
& 26,210 GALS FLUID

1934'
1960'

4-1/2" 9.5# K-55 8RD CSG SET @ 2020'

TD 2054'

COOPER #5

CURRENT
FULCHER KUTZ PC

UNIT M SEC 6 T29N, R11W, SAN JUAN COUNTY, NM

COMPLETED 06/26/69

8-5/8" 24# K-55 8RD CSG SET @114'
CIRC. CMT TO SURFACE

OJO ALAMO @ 760'

TOC TO BE DETERMINED AND
EVALUATED FOR REMEDIATION

KIRTLAND @ 1358'

1941' OF 1" TBG

FRUITLAND @ 1705'

PICTURED CLIFFS @ 1932'

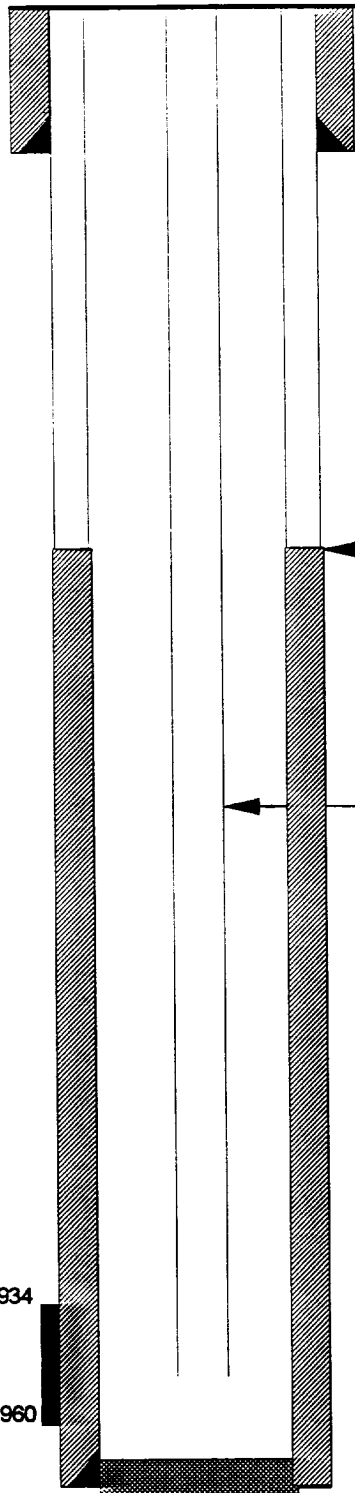
PICTURED CLIFF PERFS
FRAC'D W/25,000 #'S SAND
& 26,210 GALS FLUID

1934

1960

4-1/2" 9.5# K-55 8RD CSG SET @ 2020"
CIRC. CMT TO SURFACE

TD 2054'



COOPER #5
Recommend Completion Procedure
SW/4 Section 6 T29N R11W

1. Test rig anchors and repair if necessary. Install 2-400 bbl frac tanks on location and fill with 2% KCl water. Filter all water to 25 microns. Heat water as required by weather.
2. MOL and RU. Comply to all NMOC, BLM and MOI rules & regulations. Hold safety meeting. ND wellhead. NU BOP. Test operation of rams. NU two relief lines.
3. TOOH laying down w/ 1941' of 1" 1.7# tbg, tally and inspect.
4. TIH w/ 3-7/8" bit and 4-1/2" casing scraper on 2-3/8" tbg and clean out to TD @ 2020'. Load hole w/ 20 bbls 2% KCl water. TOOH.
5. RU & RIH w/ CNL-CCL-GR and log from @ 2020' to 1600'
6. RIH and wireline set 4-1/2" RBP @ 1910'. Correlate w/ CNL-CCL-GR to ensure RBP is set between PC and basal FTC. Load hole w/ water. TOOH.
7. TIH w/ fullbore packer and 2-3/8" tubing, load hole w/ 2% KCl water, set packer @1850', test RBP to 3300 psi for 15 minutes. Test tubing/casing annulus to 500 psi for 15 minutes. Equalize pressure and unseat packer. TOOH.
8. RU wireline and run CBL from PBTD (1910') to 150'. If CBL appears inadequate, re-run log with 500 psi surface pressure. If bond still appears unacceptable, contact production engineering. Send copy of CBL to production engineering.
9. Refill the 400 bbl tanks on location with 2% KCl water in preparation for Fruitland coal fracs. Filter all water to 25 microns. Heat water as required by weather.
10. TIH w/4-1/2" full bore packer, 2 jts 2-7/8, 6.5#, J-55, EUE tbg and **pressure test csg to 3300 psi for 15 minutes.** RD 4-1/2" full bore packer, 2 jts 2-7/8, 6.5#, J-55, EUE tbg. TOOH

COOPER #5
Recommend Completion Procedure
SW/4 Section 6, T29N R11W
Page 2

*****LOWER COAL*****

11. RU wireline and perf the following coal interval w/ 3-3/8" HSC w/ 16.0 gram charges @ 4 SPF (correlate depths to CNL-CCL-GR log).

1884-1898'

Total: 14 feet: 56 holes

12. TIH w/ fullbore packer and 2-3/8" tubing, load backside w/ 2% KCl water, set packer @ 1850', and pressure backside to 500 psi. Breakdown and attempt to ball off lower FTC w/ 2500 gallons 15% HCl acid and 140 7/8" 1.3 sp. gr. RCN perf balls. Max pressure 3300 psi. Acid to contain 1 gal/1000 SAA-2 (surfactant) and 2 gal/1000 C1A-2 (corrosion inhibitor). Lower pkr to 1905' to knock off perf balls. TOOH w/ packer & tubing.
13. TIH w/ 2-3/8" tubing and clean out to PBTD @ 1910' with air, swab well in if necessary. Continue blowing well for 24 hours, take gas and water samples after 24 hours. Retrieve RBP @ 2820', TOOH
14. TIH w/ 4-1/2" full bore packer, 2 jts 2-7/8, 6.5#, J-55, EUE tbg and set packer.
15. RU treatment company for frac. Hold safety meeting with all personnel. Pressure test surface lines to 5000 psi. Fracture treat lower coal according to attached schedule w/ 70Q foam at 30 BPM with 90,000 lbs of 20/40 mesh Arizona sand and **TAIL WITH 10,000 #'s 12/20 mesh Brady sand**. Tag sand with 0.4 mCi/1000# Ir-192 tracer. Flush with 26 bbls 2% KCl. Estimated treating pressure is 2000 psi. **MAXIMUM PRESSURE IS LIMITED TO 3300 PSI!** Monitor backside and braden head pressures during frac. Monitor bottomhole and surface treating pressure, rate, foam quality and sand concentration with computer van. Frac during daylight only.
16. SI well for 3 hours for gel break.
17. After gel break, open well through choke manifold & monitor flow. Flow @ 20 bbls/hr, or less if sand is observed.
18. Refill 400 bbl frac tanks with 2% KCl water and filter to 25 microns. Heat water as required by weather.
19. When well ceases to flow, release packer TOOH.
20. TIH w/ 2 3/8" tbg to 1900' to check for fill. TOOH.
21. RU Wireline, TIH and set 4-1/2" RBP @ 1850'. TOOH
22. TIH w/ 2 3/8" tbg and set pkr @ 1840'. Pressure test BP to 3300 psi surface pressure. TOOH

COOPER #5
Recommend Completion Procedure
SW/4 Section 6, T29N R11W
Page 3

*****UPPER COAL*****

23. RU wireline and perf the following coal interval w/ 3-3/8" HSC w/ 16.0 gram charges @ 2 SPF (correlate depths to CNL-CCL-GR log).

1706-1712'

1764-1768'

1776-1778'

1806-1810'

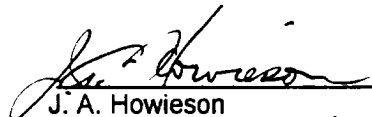
Total: 16 feet: 32 holes

24. TIH w/ fullbore packer and 2-3/8" tubing, load backside w/ 2% KCl water and pressure backside to 500 psi. Breakdown and attempt to ball off lower FTC w/ 2500 gallons 15% HCl acid and 80 7/8" 1.3 sp. gr. RCN perf balls. Max pressure 3300 psi. Acid to contain 1 gal/1000 SAA-2 (surfactant) and 2 gal/1000 C1A-2 (corrosion inhibitor). Lower pkr to 1815' to knock off perf balls. TOOH w/ frac string.
25. TIH w/ 2-3/8" tubing and clean out to PBD @ 1850' with air, swab well in if necessary. Continue blowing well for 24 hours, take gas and water samples after 24 hours. TOOH
26. TIH w/ 4-1/2" full bore packer, 2 jts 2-7/8, 6.5#, J-55, EUE tbg
27. RU treatment company for frac. Hold safety meeting with all personnel. Pressure test surface lines to 5000 psi. Fracture treat upper coal according to attached schedule w/ 70Q foam at 30 BPM with 75,000 lbs of 20/40 mesh Arizona sand and 10,000 #'s 12/20 mesh Brady sand. Tag sand with 0.4 mCi/1000# Ir-192 tracer. Flush with 23 bbls 2% KCl. Estimated treating pressure is 1900 psi. **MAXIMUM PRESSURE IS LIMITED TO 3300 PSI!** Monitor backside and braden head pressures during frac. Monitor bottomhole and surface treating pressure, rate, foam quality and sand concentration with computer van. Frac during daylight only.
27. SI well for 3 hours for gel break.
28. After gel break, open well through choke manifold & monitor flow. Flow @ 20 bbls/hr, or less if sand is observed.
29. When well ceases to flow, TOOH w/ pkr and tubing. TIH w/ retrieving head on 2-3/8" tbg and clean out upper zone until sand flow stops. **Take Pitot gauge before releasing BP.** Release RBP set @ 1850' and TOOH.
30. TIH w/ notched collar on 2 3/8" tbg and clean out lower coal until sand stops. After clean up, flow test the Coal for 24 hrs, taking pitot gauges every 6 hrs. **Take final Pitot gauge and gas & water samples.** TOOH

COOPER #5
Recommend Completion Procedure
SW/4 Section 6, T29N R11W
Page 4

30. TIH w/ retrieving head on 2-3/8" tbg and clean out coal until sand flow stops. Take Pitot gauge before releasing BP. Release RBP set @ 1910' and TOOH.
31. TIH w/ notched collar on 2 3/8" tbg and clean out to TD until sand stops . After clean up, flow test the well for 24 hrs, taking **pitot gauges every 6 hrs.** Take final Pitot gauge and gas & water samples. TOOH
32. RU wireline and run After - Frac - GR log from 2020' to 1500'.
33. TIH w/ 1960' of 1-1/2" tbg w/ standard seating nipple (ID = 1.375") one jt off bottom and pump-off plug on bottom. Land tbg string.
34. ND BOP and NU independent wellhead. Pump off plug. Take final Pitot gauge. Rig down & release rig.

Approve:


J. A. Howieson

ACW
7/21/94

VENDORS:

Wireline:	SCHLUMBERGER	325-5006
Fracturing:	WESTERN	327-6222
RA Tagging:	Protechnics	326-7133