

submitted in lieu of Form 3160-5

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 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
2310' FNL, 990' FWL, Sec. 20, T-29-N, R-11-W, NMPM

5. Lease Number
SF-077056
6. If Indian, All. or
Tribe Name
7. Unit Agreement Name
8. Well Name & Number
Cozzens #4
9. API Well No.
30-C45-08035
10. Field and Pool
Fulcher Kutz Pict. Cliffs
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 - Stimulate
☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut off
☐ Conversion to Injection

13. Describe Proposed or Completed Operations

It is intended to drill to a new TD of 1810', run and cement 3 1/2" casing, perforate and fracture treat the Pictured Cliffs according to the attached procedure and wellbore diagram. The well will then be returned to production.

RECEIVED
OCT - 2 1995

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

Signed [Signature] (PMP1) Title Regulatory Administrator Date 9/20/95

(This space for Federal or State Office use)

APPROVED BY _____ Title _____

CONDITION OF APPROVAL, if any:

Date

APPROVED

SEP 25 1995

DISTRICT MANAGER

COZZENS #4 PC
Workover Procedure
E 20 29 11
San Juan County, N.M.
Lat-Long: 36.712128 - 108.019928

1. Comply to all NMOCD, BLM, & MOI rules & regulations. MOL and RU completion rig. NU 6" 900 series BOP w/flow tee and stripping head. NU blooie line & 2-7/8" relief line.
2. TOH w/2-3/8" tbg & Schlum. AD-1 pkr.
3. MI Basin wireline. Set 5-1/2" retrievable BP @ 1650' & top w/2 sx sand. Run CBL from 1650' to above top of cmt (TOC @ 1550' @ 75% Eff.). **Note: The 5-1/2" csg has a csg leak.**
4. Perf 2 sq hole @ 1455' (50' below top of FRT) making sure they are above the TOC. TIH w/cmt ret on 2-3/8" tbg & set 20' above sq perfs. Establish rate & sq behind 5-1/2" csg w/100 sx CL "B" cmt w/2% Cacl. Pump @ 2-4 BPM w/max pressure of 1500 psi. This will cover to 50' above top of FRT w/600% excess. Sting out of ret & rev out cmt. TOH.
5. TIH w/5-1/2" pkr on 2-3/8" tbg & locate csg leak. Set pkr 300' above csg leak & sq as required. PU rev out cmt & repressure. WOC. TOH.
6. TIH w/4-3/4" bit on 2-3/8". Drill & CO. cmt w/water. TOH. TIH w/retrieving head. Latch onto RBP @ 1650' & TOH.
7. TIH w/4-3/4" bit on 2-3/8" tbg & C.O. w/air/mist to new TD 1810'. Load hole w/1% KCL water. TOH.
8. MI Blue Jet. Run an advanced integrated data processing GSL neutron log 1810'-1400' & correlate to 5-1/2" csg shoe @ 1694'.
9. Run 3-1/2"-OD 9.2# J-55 NUE tbg to TD 1810' w/Omega type latching collar above 2' tbg sub w/notched collar on bottom. Space out using tbg subs & install 3-1/2" csg in new csg spool. Cement w/200sx 50-50 CI"B" POZ w/2% gel & 6-1/2#/sx kolite & 10% salt & 2% Cacl. (yield=1.44 cf/sx). After cmt, break & wash lines, run 2 wiper balls & Omega wiper latching plug, followed by 100 gal 7-1/2% HCL acid. Displace acid w/1%KCL water. Install 6000 psi rental frac valve on 3-1/2" csg.
10. Pressure test csg to 6000 psi. MI Basin Perforating. Run GR-CCL & coorelate to neutron log. Perf PC w/about 14 holes over 100' of PC interval as per Production Engineering Dept. Perf w/2-1/8" SHOGUN SDP STP-2125-401NT 14 gr charges which make a 0.27" hole & 21.8" of penetration in concrete
11. Break down PC perfs down 3-1/2" csg w/2000 gal 15% GCL & 150% excess perf balls. Acidize @ 7 BPM w/max pressure = 6000 psi. Run junk basket to retrieve balls.
12. Spot & fill 2-400 bbl. frac tanks w/2% KCL water. Filter all water to 25 microns. One tank is for gel & one tank is for breakdown water. Usable gel water required for frac is 355 bbls.
13. Frac PC down 3-1/2" csg w/49,000 gals. of 70 quality foarn using 30# gel as the base fluid & 80,000# 20/40 Arizona sand. Pump at 55 BPM. Monitor bottomhole & surface treating pressures, rate, foam quality, & sand concentration with computer van. Sand to

COZZENS #4 PC - CEMENT 3-1/2" CSG. PERF PC. & FRAC

be tagged w/ 0.4 mCi/1000# Ir-192 tracer. Max. pressure is 6000 psi & estimated treating pressure is 5500 psi. Treat per the following schedule:

<u>Stage</u>	<u>Foam Vol. (Gals.)</u>	<u>Gel Vol. (Gals.)</u>	<u>Sand Vol. (lbs.)</u>
Pad	14,000	4,200	---
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
Flush	(619)	(186)	0
Totals	49,000	14,700	80,000#

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

- * 30# J-48 (Guar Gel mix in full tank - 16,000 gal)
- * 1.0 gal. Aqua Flow (Non-ionic Surfactant mix in full tank)
- * 1.0# GVW-3 (Enzyme Breaker mix on fly)
- * 1.0# B - 5 (Breaker mix on fly)
- * 3.0 gal Fracfoam I (Foamer mix on fly)
- * 0.38# FracCide 20 (Bactericide mix on full tank)

14. Open well through choke manifold & monitor flow. Flow @ 20 bbl/hr, or less if sand is observed. Take pitot gauges when possible.
15. Change out frac valve w/tbg head. TIH w/notched collar on 1-1/4" IJ tbg & C.O. to 1808'. Monitor gas & water returns & take pitot gauges when possible.
16. When wellbore is sufficiently clean, TOH & run after frac gamma-ray log from 1808'-1400'.
17. TIH w/1-1/4" IJ tbg w/standard seating nipple one joint off bottom & again cleanout to 1808'. Use expendable check if necessary. When wellbore is sufficiently clean, land tbg @ 1730' KB. Take final water & gas samples & rates.
18. ND BOP & NU wellhead & tree. Rig down & release rig.

Approve _____
Drilling Superintendent

VENDORS:

Logging:	Blue Jet	325-5584
Perfing	Basin	327-5244
Fracturing:	Howco	325-3575
RA Tag:	Pro-Technics	326-7133
Csg Equip:	Howco	325-3575
Cmt	Howco	325-3575

PMP

Pertinent Data Sheet - COZZENS #4 PC

Location: 2310' FNL & 990' FWL, Unit E, Section 20, T29N, R11W, San Juan County, New Mexico

Field: Fulcher Kutz PC

Elevation: 5578' GL

TD: 1792'

PBTD: 1792'

Completed: 1/15/48

Spud Date: 12/22/47

DP #: 9843

Lease: Fed: SF 077056

(SJB T=100%)

GWI: 25.00%

NRI: 20.19%

Prop#: 0020258

Initial Potential: Initial Potential = 606 MCF/D, SICP=446 psi

Casing Record:

<u>Hole Size</u>	<u>Csg Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u>Cement</u>	<u>Cement (Top)</u>
N/A	16"	60#	32'	None (Gravel Packed)	
N/A	13-3/8"	50#	675'	None (Pulled During Completion)	
10-1/4"	8-5/8"	32#	1300'	None (Pulled During Completion)	
8"	5-1/2"	14# N/A	1694'	30 sx.	1550' @ 75% EFF.

Tubing Record:

<u>Tbg. Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>
2-3/8"	4.7# J-55	1674'
	Schlum AD-1 PKR @ 1674'	

Formation Tops:

Ojo Alamo:	e367'
Kirtland Shale:	e562'
Fruitland:	e1419'
Pictured Cliffs:	e1690'

Logging Record: None

Stimulation: Shot open hole w/80 qts SNG.

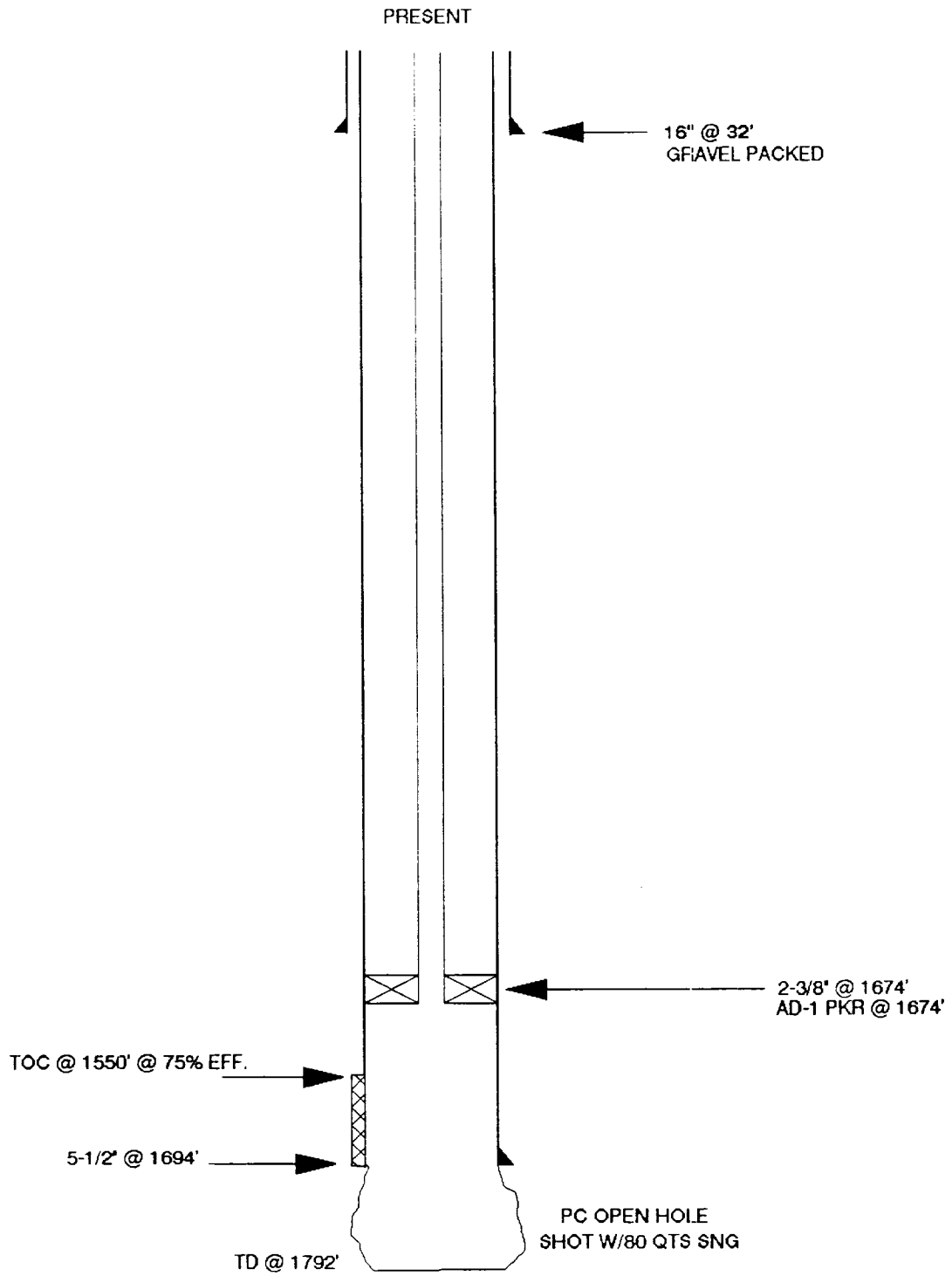
Workover History: 1/28/95: TOH w/1" tbg. TIH w/2-3/8" & tag fill @ 1753'. Ran csg scraper. TIH w/Schlum AD-1 Pkr & set @ 1674'. Test backside for csg leak - well has csg leak. Completed TA.

Production history: PC 1st delivered 1948. Current PC capacity is 0 MCF/D. PC cum is 715 MMCF..

Pipeline: SUG

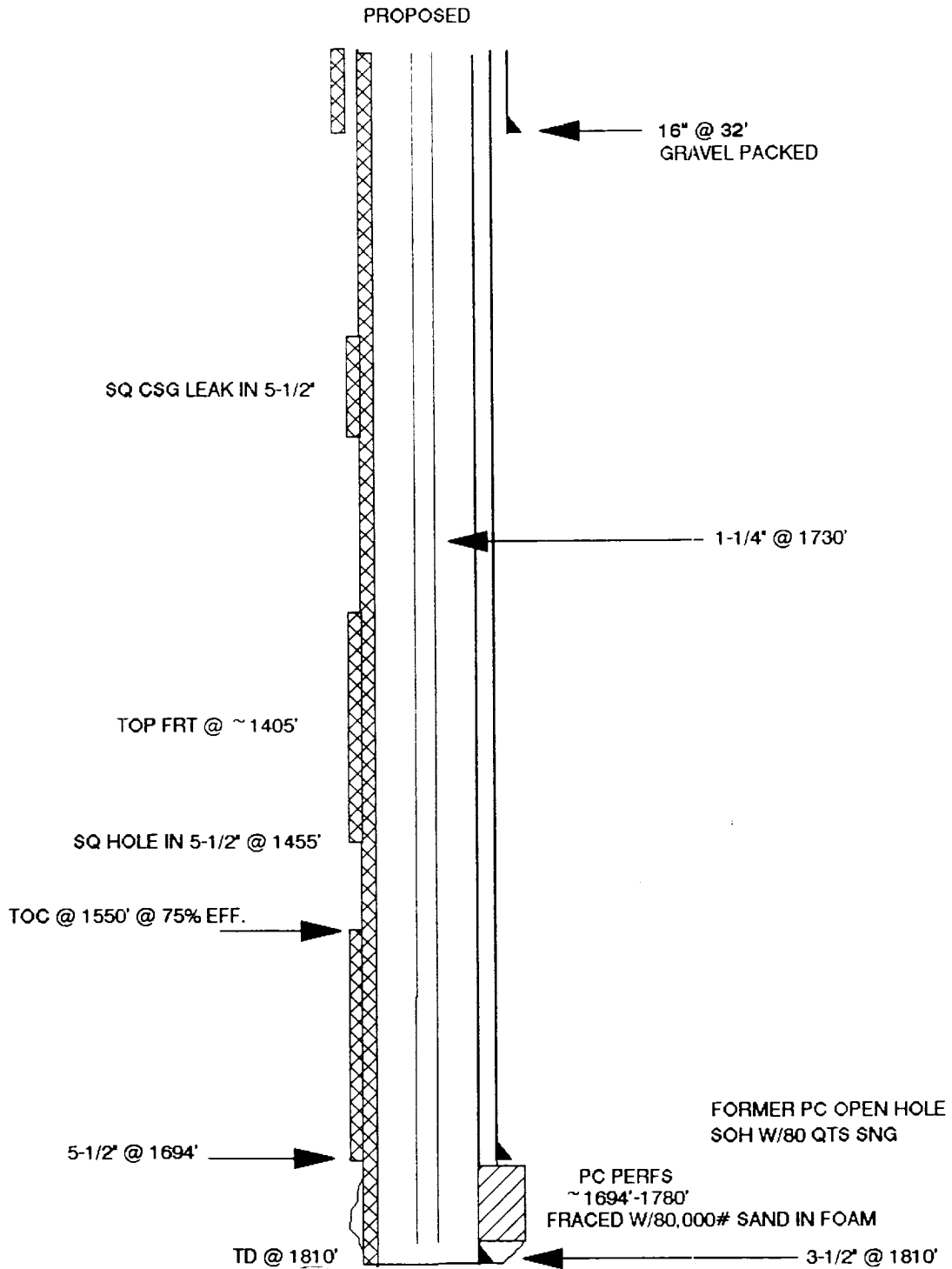
COZZENS #4 PC

UNIT E SECTION 20 T29N R11W
SAN JUAN COUNTY, NEW MEXICO



COZZENS #4 PC

UNIT E SECTION 20 T29N R11W
SAN JUAN COUNTY, NEW MEXICO



SAIZ

K 20

29

11

OFFSET TO:

COZZENS

E 20

29

4 PC

11

1600

1700

