Form 3160-3
(November 1983)
(formerly 9-331C)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0136
Expires August 31, 1985

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: NM-0997

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT AGREEMENT NAME:

1a. TYPE OF WORK: DRILL ☐ DEEPEN ☐ PLUG BACK ☒

b. TYPE OF WELL: OIL WELL ☒ GAS WELL ☐ OTHER — SINGLE ZONE ☒ MULTIPLE ZONE ☐

8. FARM OR LEASE NAME: Federal "21" Com

2. NAME OF OPERATOR: Southland Royalty Company

9. WELL NO.: 1

3. ADDRESS OF OPERATOR: 21 Desta Drive Midland, Texas 79705

10. FIELD AND POOL, OR WILDCAT: South Corbin (Bone Spring)

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 1980' FSL & 660' FWL, Sec. 21, T-18-S,R-33-E
At proposed prod. zone

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec. 21, T-18-S, R-33-E

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 10 miles southeast of Maljamar

12. COUNTY OR PARISH: Lea

13. STATE: N.M.

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any)	16. NO. OF ACRES IN LEASE	17. NO. OF ACRES ASSIGNED TO THIS WELL
660'	320	40
18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.	**19. PROPOSED DEPTH**	**20. ROTARY OR CABLE TOOLS**
NA	13,646'	NA

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 3830' GR

22. APPROX. DATE WORK WILL START*: 2-3-87

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
17 1/2"	13 3/8"	48#	396'	400 sx.
11"	8 5/8"	24,28&32#	5110'	1650 sx.
7 7/8"	5 1/2"	17&20#	13,620'	1145 sx. TOC @ 7970'

Plug Back to 1st Bone Springs.

See Attached Procedure.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED Cathy Mathis TITLE Engineering Tech III DATE 1/20/87

(This space for Federal or State office use)

PERMIT NO. Orig. Sgd. [illegible] APPROVAL DATE

APPROVED BY [illegible] TITLE DATE 1-26-87

CONDITIONS OF APPROVAL, IF ANY:

***See Instructions On Reverse Side**

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated, on all types of lands and leases for appropriate action by either a Federal or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable State or Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on this reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal or State agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective production zone.

ITEM 22: Consult applicable Federal or State regulations, or appropriate officials, concerning approval of the proposal before operations are started.

NOTICE

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR Part 3160.

PRINCIPAL PURPOSE: The information is to be used to process and evaluate your application for permit to drill, deepen, or plug back an oil or gas well.

ROUTINE USES: (1) The analysis of the applicant's proposal to discover and extract the Federal or Indian resources encountered. (2) The review of procedures and equipment and the projected impact on the land involved. (3) The evaluation of the effects of proposed operation on surface and subsurface water and other environmental impacts. (4)(5) Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions, as well as routine regulatory responsibility.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if the lessee elects to initiate drilling operation on an oil and gas lease.

The Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq) requires us to inform you that:

This information is being collected to allow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases.

This information will be used to analyze and approve applications.

Response to this request is mandatory only if the lessee elects to initiate drilling operations on an oil and gas lease.

1. MIRU WO rig. ND WH. NU BOP's. POH w/2 7/8" tbg, SN & TAC.
2. MIRU WL. RIH w/gauge ring & junk basket for 5 1/2" csg to ± 9000'. POH. RIH w/CIBP & set @ ± 8950'. POH. Test csg to 2500#.
3. If csg will not hole press & determination is made that csg leak exists, sqz hole in csg. → w/35 sx Cement using Dump Bailer @ ±.
4. RIH w/±8800' tbg. Hydrostatically test tbg to 7500# while RIH.
5. Pmp 500 gals 7 1/2% NEFEHCl dwn tbg. Once all acid circulates thru btm of tbg, rev circ & expel acid to pit.
6. Circ hole full w/1/2% KCl & 1/2% clay stabilizer. Pull tbg to ± 8760'. Spot 500 gals 7 1/2% NEFEHCl & inhibitor from 8247-8760'. POH.
7. RIH w/4" OD csg guns & perf 8716-8764' @ 1 JSPF w/120° phasing for a total of 49 shots. POH. RDMO WL unit.
8. RIH w/trtg pkr (with fluid bypass), SN & 2 7/8" tbg. Rev acid into tbg. St pkr @ ± 8600' & pmp acid into form. Record rate & press.
9. Swb/flw test well. If well will not flw, swb well dwn to SN. MIRU stimulation co. NU surf lines & test to 7500#. Place, maintain & monitor 2000# on csg-tbg annulus.
10. Acdz well w/5000 gals 7 1/2% NEFEHCl & 100 RCNBS (sp. gr. 1.3) @ 4-5 BPM & 1 ball/bbl.
11. Swb/flw test well. If well will not flw, swb well dwn to SN. MIRU stimulation co. NU surf lines & test to 7500#. Place, maintain & monitor 2000# on csg-tbg annulus.
12. Fracture stimulate according to attached schedule.
13. RD stimulation co. MIRU swbg unit. Swb/flw test well until twice the load wtr fluid volume has been rec.
14. Eval well for prod equip.

Federal 21 Com. #1
South Corbin Bone Spring Field
Lea County, New Mexico

Fracture Treatment Schedule

Stage	Fluid Vol. (gallons)	Cum. Fluid (gallons)	Prop. Conc. (lbs/gal.)	Propant (lbs)	Cum. Prop. (lbs)	Dirty Vol. (gallons)	Cum. Dirty Vol. (gallons)
1	16,000	16,000	0	0	0	16,000	16,000
2	6,000	22,000	1	6,000	6,000	6,272	22,272
3	8,000	30,000	1.5	12,000	18,000	8,544	30,816
4	8,000	38,000	2.0	16,000	34,000	8,725	39,541
5	8,000	46,000	3.0	24,000	58,000	9,087	48,628
6	6,000	52,000	4.0	24,000	82,000	7,087	55,715
7	4,000	56,000	5.0	20,000	102,000	4,906	60,621

Flush with 2% KCl water to top perforation (52 bbls)

Propant is 20/40 Ottawa Sand

Pump rate is assumed to be 14-16 BPM

Dirty volumes reflect both fluid and sand volumes

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