

Submit to Appropriate
District Office
State Lease - 6 copies
Fee Lease - 5 copies

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-101
Revised 1-1-89

OIL CONSERVATION DIVISION

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

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

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK					
1a. Type of Work: DRILL ☒ RE-ENTER ☐ DEEPEN ☐ PLUG BACK ☐					
b. Type of Well: OIL WELL ☐ GAS WELL ☒ OTHER ☐					
2. Name of Operator Blackwood & Nichols Co., Ltd. 2505					
3. Address of Operator P.O. Box 1237, Durango, Colorado, 81302-1237					
4. Well Location (Bottomhole) Unit Letter <u>D</u> : <u>100</u> Feet From The <u>North</u> Line and <u>590</u> Feet From The <u>West</u> Line (Surface) <u>1166</u> <u>North</u> <u>2315</u> <u>West</u> Section <u>20</u> Township <u>30N</u> Range <u>7W</u> NMPM Rio Arriba County					
10. Proposed Depth 4131' (MD) - 3320' (TVD)					
11. Formation Fruitland Coal					
12. Rotary or C.T. Rotary					
13. Elevations (Show whether DF, RT, GR, etc.) 6315' GL					
14. Kind & Status Plug. Bond Statewide					
15. Drilling Contractor Not selected					
16. Approx. Date Work will start August 1, 1993					
17. PROPOSED CASING AND CEMENT PROGRAM					
SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
12 1/4"	9 5/8"	36#, K-55	300' (MD & TVD)	570 (673 cf)	Surface
8 3/4"	7"	23#, N-80	3861' (MD) 3050' (TVD)	1020 (1508 cf)	Surface
6 1/4"	5 1/2"	17#, N-80	3761' - 4131' (MD)	None	Surface
2950' - 3320' (TVD)					

Propose to spud in the San Jose formation. Will drill a 12 1/4" vertical hole to 300'. Run and cement surface with cement returns to surface. WOC 12 hours, test to 600 psi for 30 mins. Drill an 8 3/4" vertical hole to 400'. Pick up directional tools and drill a directional hole to 1117' (TVD) - 1211' (MD) on a N-58°-W bearing with a build angle of 6°/100'. Drill next section of hole to 2334' (TVD) - 3051' (MD) maintaining inclination at 48.61° and bearing of N-58°-W. Drill final section of hole to 3050' (TVD) - 3861' (MD) dropping angle at 6°/100' rate on N-58°-W bearing. Hole projected to return to vertical at 3050' (TVD) - 3861' (MD). The 8 3/4" hole will be drilled with a fresh water/polymer system. Weight material will be added as necessary to handle Fruitland overpressure. No poisonous gases are anticipated in this hole. Run and cement intermediate casing with cement returns to surface. WOC 12 hours. Test to 1500 psi for 30 mins. Drill a 6 1/4" vertical hole to TD of 3320' (TVD) - 4131' (MD) using water and air. A mud logging unit will be used while drilling this interval. Run a 5 1/2" production liner. The liner will be cemented if fracture stimulation is needed. Surface location is Bureau of Reclamation.

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. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

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

SIGNATURE Al Rector This Approval TITLE District Superintendent DATE July 13, 93
TYPE OR PRINT NAME Al Rector Expires 9-07-94 TELEPHONE NO. 303-247-07

(This space for State Use) And Will Not Be

APPROVED BY Erica Budd Extended DEPUTY OIL & GAS INSPECTOR, DIST. #3 DATE SEP 07 1993

CONDITIONS OF APPROVAL, IF ANY:

B-9936

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Fee Lease - 3 copies

OIL CONSERVATION DIVISION

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

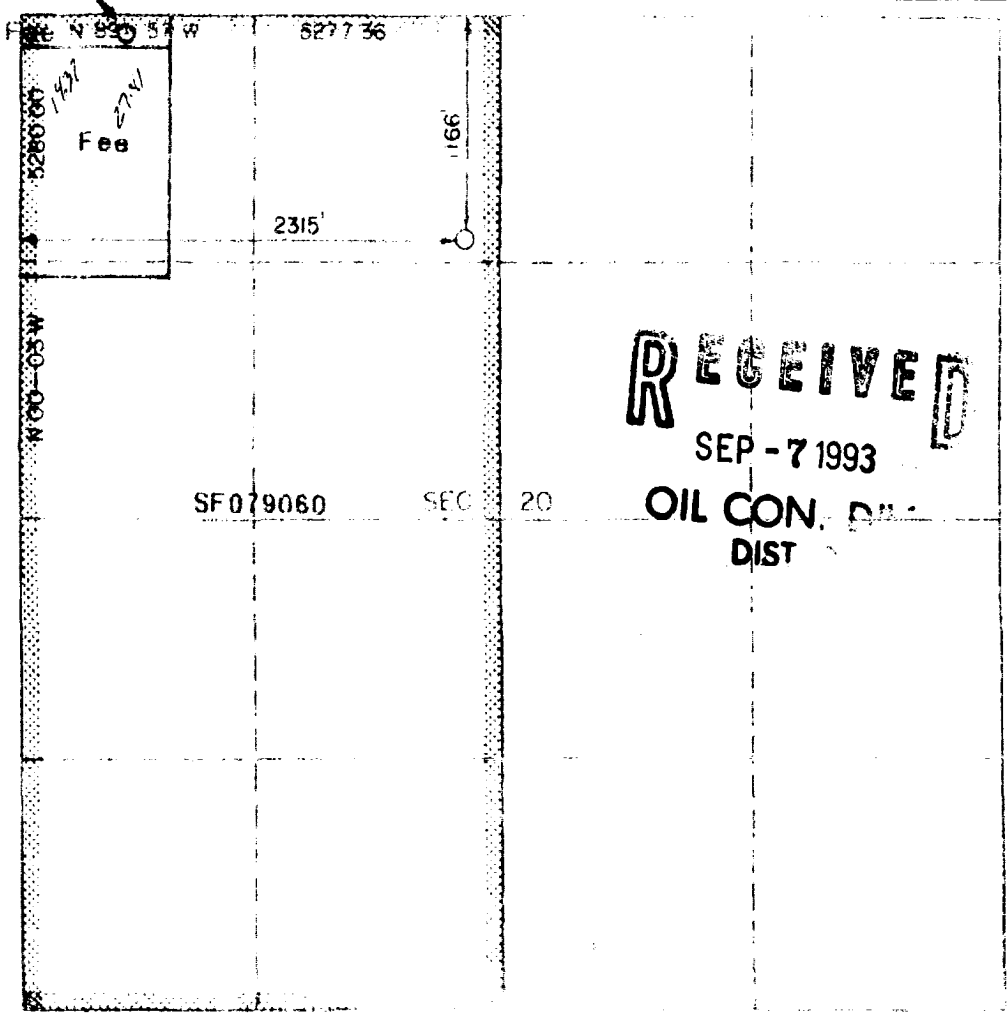
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAN
All Districts except for District I, the Districts of the Survey

Operator BLACKWOOD & NICHOLS CO.		County NEBU		Well No. 479R	
Unit Letter C	Section 20	Township T. 30 N.	Range R. 7 W.	County SAN JUAN	
Actual Footage Location of Well 1166 feet from the NORTH line and 2315 feet from the WEST line					
Ground Level Elev. 6315	Producing Formation Fruitland Coal	Pool Basin	Dedicated Acreage: 320 Acres 342.84		
1. Outline the acreage for which the well is being dedicated on the plat below					
2. If more than one lease is dedicated to the well, list each lease as to its acreage, as to working interest and royalty					
3. If more than one lease of different ownership is dedicated to the well, list each lease as to its acreage, as to working interest and royalty					
If answer is "Yes" type of consolidation					
☒ Yes ☐ No Unitization					
If answer is "No" list the owner's name and acreage for each lease, as to working interest and royalty, on the reverse side of this form if necessary					
No allocation will be assigned to the well if all acreage has been consolidated by unitization or otherwise, or if forced-pooling or otherwise is not a condition of the lease, or if the well is not being drilled in accordance with the approved plan.					



RECEIVED
SEP - 7 1993
OIL CON. DIV.
DIST

OPERATOR CERTIFICATION	
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.	
Signature	<i>Al Rector</i>
Printed Name	Al Rector
Position	District Superintendent
Company	Blackwood & Nichols Company
Date	July 9, 1993
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 Surveyed	JULY 2, 1993
Signature & Seal	<i>Henry P. Broadhurst</i>
Professional Surveyor	HENRY P. BROADHURST
Certificate No.	14305

Materials:

Casing Program:

Hole Size	Depth (TVD)	Depth (MD)	Casing Size	Wt. & Grade
12 1/4"	300'	300'	9 5/8"	36#,K-55
8 3/4"	3050'	3861'	7 "	23#,N-80
6 1/4"	2950-3320'	3761'-4131'	5 1/2"	17#,N-80

Float Equipment:

- 9 5/8" surface casing - Texas Pattern Guide Shoe. Threadlock guide shoe and first collar.
- 7" Intermediate casing - Cement Nose Guide Shoe. Self fill insert float valve run one joint above the shoe. Fifty centralizers: 37 run in tangent section of hole, one on each joint, 3 run in drop angle section of hole to top of Ojo Alamo, one on every other joint, 10 run from top of Kirtland to Intermediate TD, one every other joint. Five turbolizers, run one on each joint from top of Ojo Alamo to top of Kirtland. Threadlock shoe, insert float valve, and first collar.
- 5 1/2" liner- Geyser guide shoe. Threadlock shoe. Right hand rotating, Left hand set liner hanger with lead seal ring packoff.

Wellhead Equipment:

- 9 5/8" X 10" 3000# casing head with 7" automatic slips.
- 10" 3000# X 6" 3000# tubing head with a 2 7/8" EUE Tubing hanger.

Cement Program:

- 9 5/8" surface casing - 570 sacks (673 cuft) of Class B w/2% CaCl and 1/4# flocele per sack. 300% excess to circulate to surface. WOC 12 hours. Pressure test to 600 psi/30 minutes prior to drilling surface casing shoe.
- 7" Intermediate casing- 895 sacks (1060 cuft) of Howco Lite with, 1/4# flocele per sack, and 1.2% HA22, and 2% CaCl, followed by 125 sacks (148 cuft) of Class B with 1/4# flocele per sack, 0.4% HA 344. 50% excess to circulate to surface. WOC 12 hours. Run temperature survey after 8 hours if cement does not circulate. Pressure test to 1500 psi for 30 mins. prior to drilling shoe.
- 5 1/2" liner - Liner will be uncemented unless natural flow capacity indicates need for fracture stimulation.

Blackwood & Nichols Co., Ltd.
Northeast Blanco Unit No. 479R
Location, Surface: 1165' FNL - 2315' FWL
Section 20, T30N, R7W
Location, Bottomhole: 100' FNL - 590' FWL
Section 20, T30N, R7W
Rio Arriba Co., New Mexico

Field: Basin Fruitland Coal

Elevation: 6315' GL

Geology:

Formation Tops:	MD	TVD
San Jose	Surface	Surface
Ojo Alamo	2893'	2130'
Kirtland	3035'	2250'
Fruitland	3827'	2990'
Intermediate TD	3861'	3050'
Total Depth	4131'	3320'

Logging Program: No logs will be run at Intermediate TD. A one man mud logging unit will be run from Intermediate TD to total depth.

Drilling:

Contractor: Big A Well Service - Rig 23 Toolpusher:

Operator's Representative: Al Rector

Mud Program:

MD

0' - 300' : Spud mud of lime and gel.

300' - 2850' : Fresh water, gel, FHPA polymer, & Drispac with prehydrated 20 bbl. gel sweeps every 200' or as hole conditions dictate.
MW: 8.6-9.0 ppg.
Visc: 32-35 sec./qt.
Water Loss: 6-8 cc/30 mins.
PH: 9.0-9.5

2850' - 3652' : Reduce water loss to 4-6 cc/30 mins. HPHT < 20cc. Increase viscosity with prehydrated gel slurry to 40-45 sec./qt.

3652' - 3861' : Increase mud weight to 9.0-9.5 ppg as necessary to control well.

3861' - 4131' : Water and air.

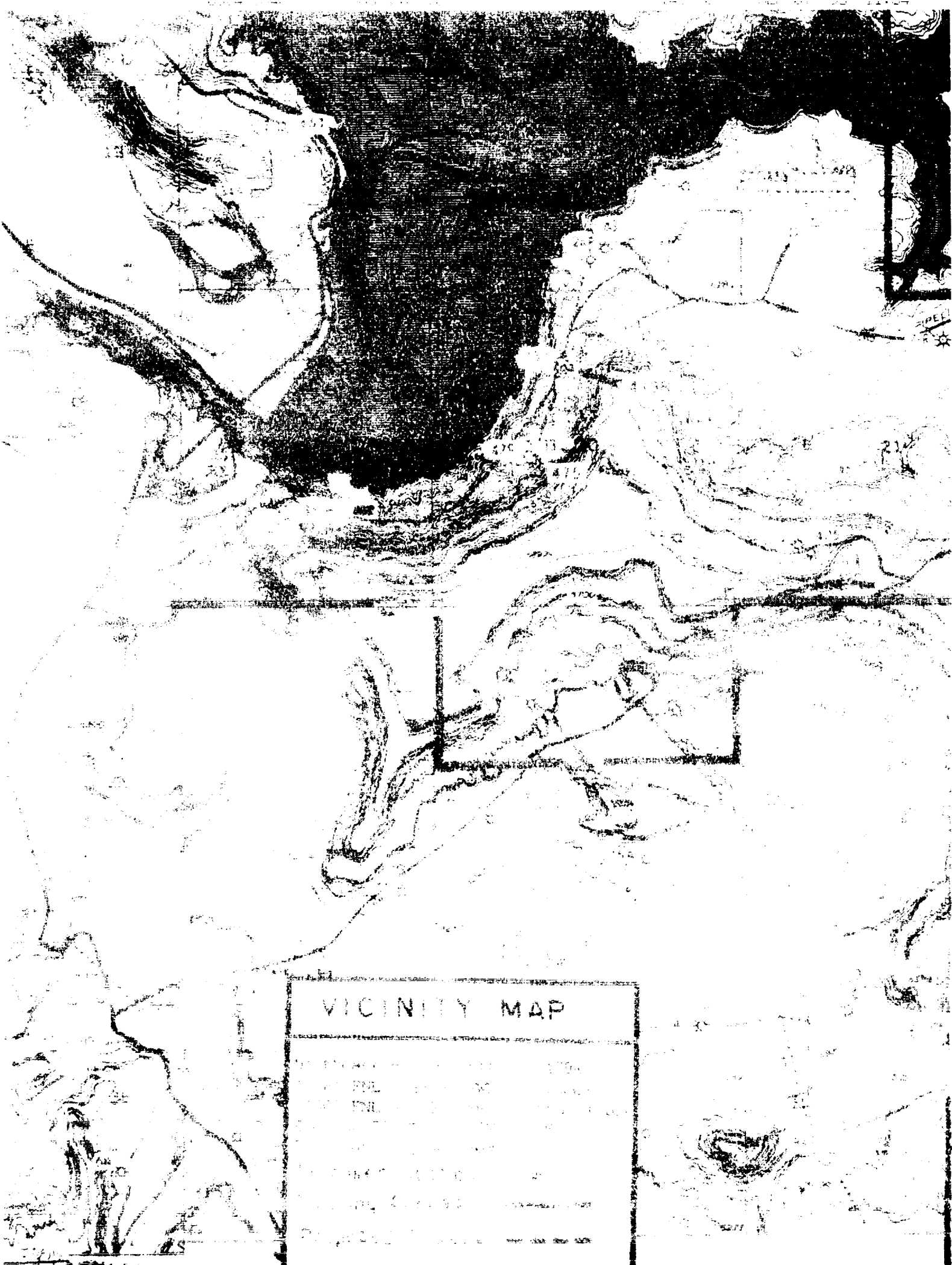
Miscellaneous:

Operate pipe rams daily and record in tour reports.

Operate blind rams on each trip and record in tour reports.

7" casing rams are to be installed prior to running the intermediate casing.

5 1/2" casing rams are to be installed prior to running the liner.



VICINITY MAP

1. The map shows the location of the site relative to the surrounding area. The site is located in the center of the map, surrounded by a large area of water. The map is oriented with North at the top. The scale of the map is 1:50,000. The map is dated 1960. The map is titled "VICINITY MAP".