

DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

(Leave blank for use on reverse side)

5. LEASE DESIGNATION AND SERIAL NO.
SF 079060
6. IF INDIAN, ALLOTTEE OR TRIBE NAME

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER		7. UNIT AGREEMENT NAME Northeast Blanco Unit
2. NAME OF OPERATOR Blackwood & Nichols Co., Ltd.		8. FARM OR LEASE NAME Northeast Blanco Unit
3. ADDRESS OF OPERATOR P. O. Box 1237, Durango, Colorado 81302		9. WELL NO. 479
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface 2510' FSL, 1640" FRL		10. FIELD AND POOL, OR WILDCAT Basin Fruitland Coal
14. PERMIT NO. 30-039-24490		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 20, T30N, R7W
15. ELEVATIONS (Show whether OF, RT, GR, etc.) 6313' GL		12. COUNTY OR PARISH San Juan
		13. STATE New Mexico

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
WATER SHUT-OFF	<input type="checkbox"/>	WATER SHUT-OFF	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
FRAC TREAT	<input type="checkbox"/>	ALTERING CASING	<input type="checkbox"/>
SHOOT OR ACIDIZING	<input type="checkbox"/>	ABANDONMENT*	<input checked="" type="checkbox"/>
CHANGE PLANS	<input type="checkbox"/>	(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	
17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If it is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)			

Waited on cement for 24 hours. Rigged down drilling equipment. Tested 7" casing and blind rams to 2000 psig for 15 minutes. Held OK. Picked up 6-1/4" bit, then 3-1/2" drillpipe. Tag cement at 3135'. Drill out. Finish testing pipe rams and HCR and all valves to 2000#. Held OK. Drill extremely hard cement 3100' to 3146'. Drilled to 3310'. No gas flared.

8-17-89 7" casing at 3147'; open hole TD at 3310'. Circulating hole at TD with air; well making no water, no gas and no coal fines. Started air compressor and booster to unload well. Pulled bit into 7" casing and shut well in for buildup. SICP after: 4 hours - 175 psig.

Blew well down, made a small puff of gas but an insufficient volume to maintain a flare. Unloaded well with air in 7" casing and circulated air only, well making no water.

(Continued on next page)

18. I hereby certify that the foregoing is true and correct.		DATE 16 Jan 90	
SIGNED William F. Clark	TITLE Operations Manager	ACCEPTED FOR RECORD	
(This space for Federal or State office use)		DATE FEB 06 1990	
APPROVED BY	TITLE		
CONDITIONS OF APPROVAL, IF ANY:			

NIMOOD

*See Instructions on Reverse Side

FARMINGTON RECORD

BY

TIH, no fill. Blew well dry. Circulating with air and occasional water sweeps. No coal, no water, TSTM gas.

8-18-89 Pulled bit into 7" casing and shut in well. SICP: after 1 hour - 18 psig; 2 hours - 45 psig; 3 hours - 68 psig; 4 hours - 91 psig. Blew well down; had a small gas flare for 4 minutes, then dead.

Blew well with air in 7" casing; no water in returns. TIH to 3310' and found no fill. Blew well with air, no water to surface; no coal fines and a small puff of gas.

Well appears to be an unsuccessful open hole completion; decision made to cement a 4-1/2" liner and stimulate.

Loaded hole with a fresh water gel mud and drilled with the 6-1/4" bit TD of 3510'. Rigged up Halliburton Logging and ran Dual Induction and Density, Neutron with a Micro log.

8-18-89 Rigged up casing crew and ran 13 jts 4-1/2" 11.6# N-80 LT&C, 8rd new casing (534.78') and TIW THL liner hanger (10') on 3-1/2" drillpipe. Set 4-1/2" casing shoe at 3505', float at 3467', and top of hanger at 2960'.

Circulated hole and then Howco cemented with 100 sx (115 cf) Class G with 1% Halid 322 and 3% KCl (by weight of cement). Mixed at 4 BPM at 15.9 ppg. Displaced at 3 BPM; 22 Bbls to displace drillpipe adn pick up casing plug; total of 29.2 Bbls displacement. Bumped plug to 1100 psig; maximum pressure 400 psi @ 3 BPM. Float held OK. Reversed out 5 Bbls of good cement; hole loaded with fresh water. Plug down at 1 pm, 8-18-89.

9-20-89 Move on location, rig up (9-19-89). TIH with 3-7/8". Workover bit, 110 jts 2-3/8" tubing. Tagged liner top at 2960'. Found cement at 3375'. Drilled 30' soft cement. Shut down for night.

9-21-89 Drilled 43' of cement with 3-7/8" bit to float collar at 3467' PBTD. Circulated hole clean with water. TOH with tubing and bit. Rig up Blue Jet. Ran GR-CCL-CBL. Pressure tested casing to 4500 psi for 15 minutes - held OK. Perforated 4 SPF at 3303' and 3258', 8 holes, .47" ID. Broke down perfs with 4300 psig at 3.5 BPM. Established rate of 8.5 BPM at 3980 psi (2 perfs open) using 35# HPGCNG02 linear gel. After 120 Bbls pumped, pressure broke back to 2950 psig (3 perfs open). Held rate constant at 8.5 BPM for remainder of treatment. Final pressure 2940 psi. Pumped a total of 10120 gal.

gel, displaced with 5080 gal. water. ISIP -2250 psi. Monitored pressure falloff for 2 hours. Closure pressure 2700 psi after 18 minutes.

9-22-89 TIH with 2-3/8" open ended to 3287'. Spotted 200 gal. 7.5% HCl across perfed interval. Changed out blind rams and TOH with tubing. Rig up perforators. Shot a total of 56 holes of 0.47" diameter in 2 gun runs (3252-3270' and 3295-3305') with 2 SPF.

Rig up to frac. Hold safety meeting. Began pumping pad. Broke perfs with 2950 psi @ 24 BPM. Increased rate to 45 BPM at 4100 psi. Estimated 8 perfs open. Increased gel concentration from 0 to 40 lb/gal. Started in with 1 ppg sand. Well began screen out with sand on formation. Started flush with water. Well screened out with 6100 lbs sand in formation. Checked sand bin and found 20/40 mesh pumped by error. TIH with tubing and cleaned out 250' sand. TOH.

TIH with straddle packer to break down perforations. Unable to get to bottom perf interval. TOH with packer.

9-23-89 TIH with 2-3/8" tubing open ended, tag sand at liner top (2960'). Wash to bottom reverse circulating sand out of liner. TOOH with tubing, pick up and TIH with Baker 4-1/2" "SAP" straddle packer and mechanical collar locator.

Isolated and broke down perforations 3305-3295' in 2' intervals. Pulled isolation tool into lower portion of upper perfs, 3270-3252', and was unable to break down @ 5000 psi. Packer began leaking, spotted 200 gal. 7.5% HCl across perfs 3270-3252'. TOOH with SAP tool into 7" and shut down for night.

9-24-89 Finished TOOH with packer, found inner equalizing ports plugged with sand and small amount of coal. TIH with packer to bottom perf of upper interval at 3270'. Tested perf interval from 3270'-3254'. Unable to break down perfs with 5000 psi. Pulled packer 10' above perfs, pumped down casing and established a rate of 3.0 BPM @ 4000 psi. Picked up packer and pulled to 2976', pressure test casing to 4000 psi, liner top holding OK. Set packer at 3149', pressure test to 4000 psi - held OK; set packer at 3174' - held OK; set packer at 3205', pressure test to 4000 - held OK; set at 3223' - held OK; set at 3227' - held OK; set packer at 3242', pressure test to 4000 psi - held OK.

Rig up to pump down tubing, isolated 3242-3244', pressure test to 4000 psi - held OK. Set packer to straddle 3248' - 3250', pumped into formation with 4000 psi @ 1 BPM.

9-24-89 Set packer to straddle 3252-3254', pumped 4000 psi @ 1 BPM. TIH to 3274', spot 4 Bbls 7.5% HCl, TOOH with packer. Rig up perforators and re-perf interval 3270'-3252' using 3-1/8" Tolson DP gun with 2 SPF. SDON. (MM)

9-25-89 Rigged up Smith and prepared to frac. Pumped 28,140 gal. fresh water pad, brought on HPG linear gel slowly to 40#/gal (viscosity: 1-40 cp), saw no breaks treating @ 25 BPM and 4500 psi. Formation very tight. Started in with 40/70 sand @ 1/2#/gal, increased sand concentration to 2.0 #/gal in 1/2#/gal increments. Saw several very small breaks, overall pressure increasing, treating rate decreased from 25 BPM to 16 BPM. Average treating pressure 4500 psi. Started in with 1/2#/gal 12/20 sand. Well began screening off, cut sand and went to flush. Final displacing 1.5 BPM @ 4700 psi, ended flush early. Treated 1st stage with a total of 46,450# 40/70 sand and 70,014 gal. of water and 40# HPG gel. Shut well in two hours, opened well through 1/4" choke and flowed well 20 hours.

9-26-89 Flowing well pressure 0 psi. TIH with notched collar, and 1jt 2-3/8" . 2-3/8" tubing. Tagged sand at 3287' (180' fill), reverse circulate out sand with water cleaning to PBTD at 3467'. Made short trip into 7". TIH to bottom, no fill. TOOH with tubing. Rig up perforators, perforated a total 68 holes with 2 shots per foot: 3226-3240' and 3186-3206'.

9-27-89 Finish TIH with tubing, tagged fill at 3462'. Reverse circulate out 5' sand and coal, pull tubing up to 3240', spotted 126 gal. of 15% HCl across perforations. TOOH with tubing. Pick up and TIH with Halliburton 'S.P.I.T.' packer and mechanical collar locator. Set packer below perfs, pressure test packer to 5600 psig, packer equalized and released, jumped up 10'. Inspected tubing and function of packer - OK. Set packer at bottom perfs, 3238-3240', broke down perf with 4200 psi. Continued isolating and breaking down perfs 3238-3226'. Broke a total of 28 perfs, average break down pressure 4310 psi, average fracture gradient 1.285 psi/ft. Pull up and break down perfs 3206-3200', average break down pressure 3200 psi, average fracture gradient 0.83 psi/ft. Perfs 3198-3186', fracture gradient not determined, perfs broke down at \pm 2500 psig. Released packer, pull 1 stand.

Shut down over night.

9-28-89 TOOH with tubing and perforation isolation packer. Rig up Smith Energy to treat well.

Pumped 10,000 gal. fresh water pre-pad @ 56 BPM and 2750 psi, brought fluid viscosity up to 45 centipoise slowly with 40#/gal HPG gel and started in with 1/2#/gal 40/70 sand. Increased 40/70 sand concentration to 2#/gal in 1/2#/gal increments. Total pad volume - 46,500 gals; total 40/70 sand - 45,100#; average pad treating - 2970 psi @ 54 BPM.

Started in with 1/2#/gal 12/20 sand and increased to 2#/gal at 1/2# increments using 500 SCF/bbl CO₂ and 40# HPG gel in 7000 gal. stages. Initial rate 53 BPM @ 3300 psi, well screened off completely with 15,350# of 12/20 sand in formation. Final rate @ time of screen off - 44.5 BPM, pressured up to 4850 psi and shut down. Monitored shut in pressure 2 hours, flowed well back through 1/4" choke.

9-29-89 TIH with 2-3/8" notched collar, on 2-3/8" tubing, tagged fill at 2692'. Reverse circulated out a total of 775' of sand fill, cleaned out to PBTD at 3467'. Pulled tubing into 7" casing. Shut in tubing, left well flowing through 1/2" choke, well making 1" stream of water. Shut down for the night. Well flowed through 1/4" fixed choke up casing for 12 hours; FCP - 50 psig. Well making a mist with gas and CO₂.

9-30-89 Tripped in hole. Tagged 5' of fill. Cleaned out to 3467'. Riggged up Blue Jet. Ran after frac Tracer log.

TIH with tubing. Tagged PBTD at 3467'. Landed donut and 98 jts (3035.17') of 2-3/8" new 4.7 #/ft, J-55 8rd tubing. Regular 2-3/8" collar at 3048', 2-3/8" F nipple (1.81" ID) at 3016'. Nipple down BOP, nipple up wellhead. Released rig 9-29-89.

10-17-89 Move in and rig up 10-16-89.

10-18-89 Nipple down wellhead and nipple up BOPS; unseat tubing donut and TIH with 2-3/8" tubing to PBTD of 3467', no fill. TOH with 2-3/8" tubing and laid down F nipple. TIH with tubing and landed. Ran 106 jts 2-3/8" 4.7# J-55 EUE tubing (3286.0') and set at 3302'. Set common seating nipple (1.87" ID) at 3271'. Nipple up tubing bonnet and shut well in.

3160-5
NEBU #479
Continued

10-19-89 Ran 2" x 1-1/2" x 18' RWAC-EQ pump on 129 7/8" sucker rods, one 6' and two 8' pony rods and 22' polish rod. Landed in seating nipple at 3270'. Clamp off polish rod. Rig released at 12:00 noon, 10-18-89.