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

(Other instructions on reverse side)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

30-045-28553

RECEIVED
91 MAY 24 AM 10 54
070 FARMINGTON, NM

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: NM03358

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [ ] OTHER Water Disposal SINGLE ZONE [ ] MULTIPLE ZONE [X]

7. UNIT AGREEMENT NAME: Northeast Blanco

8. FARM OR LEASE NAME: NEBU Middle Mesa SWD 13888

2. NAME OF OPERATOR: Blackwood & Nichols Co., Ltd. 2505

9. WELL NO.: 2

3. ADDRESS OF OPERATOR: P.O. Box 1237, Durango, Colorado 81302-1237

10. FIELD AND POOL, OR WILDCAT: SWD Wildcat Morrison/Bluff Entrada

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*) 96162
At surface: 555' FSL - 720' FWL
At proposed prod. zone: Same

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Section 11, T31N, R7W, NMPM

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 20 1/2 miles N.E. of Blanco, New Mexico

12. COUNTY OR PARISH: San Juan

13. STATE: New Mexico

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
555'	2396.77	N/A - SWD Well
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**
175'	9200'	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 6505' GL

22. APPROX. DATE WORK WILL START*: July 1, 1991

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
26"	20"	133# J-55	300'	575 sacks
17 1/2"	13 3/8"	68#/61# K-55	3745'	2060 sacks
12 1/4"	9 5/8"	40# N-80	3512'-5905'	860 sacks
8 3/4"	7"	26# N-80,L-80, CF-95	9165'	1035 sacks

Propose to spud in the San Jose formation. Drill a 26" hole to a TD of 300'. Run & cement surface casing with cement returns to surface. WOC 12 hours. Pressure test surface casing & BOPE to 600 psi/30 mins. Drill a 17 1/2" hole to a TD of 3745' using fresh water; low solids mud. Abnormal pressures could be present in the Fruitland formation & the mud system will be weighted up to density adequate to control this pressure prior to drilling the Fruitland formation. Logs will be run at intermediate TD. Run & cement intermediate casing with cement returns to surface. WOC 18 hours. Pressure test intermediate casing & BOPE to 1500 psi/30 mins. Drill a 12 1/4" hole to a TD of 5905' using air. No abnormal pressures are anticipated in this interval. Run logs. Run & cement drilling liner with cement returns to the liner top. WOC 18 hours. Pressure test liner & BOPE to 1500 psi/30 mins. Drill an 8 3/4" hole to a TD of 9165' using air in the interval above the Dakota (7560') & a fresh water mud from Dakota to TD. No abnormal pressures are anticipated in this interval. Run logs. Run production casing & cement with cement returns to top of drilling liner. WOC 12 hours. Release drilling rig, move in completion unit. Morrison, Bluff & Entrada intervals will be selectively perforated & evaluated for water disposal purposes. - No poisonous gases are anticipated in any interval drilled.

Continued →

24.

SIGNED AL Rector — TITLE Operations Engineer — DATE 5/23/90

Al Rector

(This space for Federal or State office use)

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

RECEIVED
JUN 3 1991
OIL CON. DIV.
DIST. 3

APPROVED AS AMENDED
MAY 30 1991
AREA MANAGER

Need e-log

*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.

NMOCD

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

RECEIVED

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: NM03358

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

1a. TYPE OF WORK: DRILL [X] DEEPEN [ ] PLUG BACK [ ]

7. UNIT AGREEMENT NAME: Northeast Blanco

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [ ] OTHER Water Disposal SINGLE ZONE [ ] MULTIPLE ZONE [X]

8. FARM OR LEASE NAME: Middle Mesa SWD NEBU

2. NAME OF OPERATOR: Blackwood & Nichols Co., Ltd.

9. WELL NO.: 2

3. ADDRESS OF OPERATOR: P.O. Box 1237, Durango, Colorado 83102-1237

10. FIELD AND POOL, OR WILDCAT: Wildcat Morrison/Entrada

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)
At surface: 555' FSL - 720' FWL
At proposed prod. zone: Same

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: M Section 11, T31N, R7W, NMPM

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 20 1/2 miles N.E. of Blanco, New Mexico

12. COUNTY OR PARISH: San Juan | 13. STATE: New Mexico

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555'	2396.77	N/A - SWD Well
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175'	9200'	Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): 6505' GL

This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4.

22. APPROX. DATE WORK WILL START*: July 1, 1991

DRILLING OPERATIONS AUTHORIZED ARE SUBJECT TO COMPLIANCE WITH ATTACHED "GENERAL REQUIREMENTS".

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
26"	20"	133# J-55	300'	575 sacks
17 1/2"	13 3/8"	68#/61# K-55	3745'	2060 sacks
12 1/4"	9 5/8"	40# N-80	3512'-5905'	860 sacks
8 3/4"	7"	26# N-80,L-80, CF-95	9165'	1035 sacks

Surface Casing: 575 sx Class B w/2% CaCl2 and 1/4 #/sx flocele @ 15.6 ppg, 1.18 ft 3/sx yield.

Intermediate Casing: 1860 sx Class B 65/35 poz w/6% gel, 2% CaCl2 and 1/2 cf perlite per sx @ 12.7, ppg, 1.70 ft 3/sx yield. F/B 200 sx Class B neat w/2% CaCl2 and 1/4 #sx flocele, 15.6 ppg and 1.18 ft 3/sx yield.

Liner: 660 sx Class G 65/35 poz w/6% gel, .6% FLA 6 1/4 #/sx gilsonite and 1/4 #/sx flocele, 12.3 ppg and 1.74 ft 3/sx yield. F/B 200 sx Class G neat w/.8% FLA, 15% ppg, 1.18 ft 3/sx yield.

Long String: 1st Stage: 285 sx Class G 50/50 poz + 2% gel, 10% salt, .7% FLA, .2% FR, 13.9 ppg, 1.26 ft 3/sx yield. F/B 250 sx Class G + 35% silica, 2% KCL, .8% FLA, .2% FL, .5% FR, 15.8 ppg, 1.20 ft 3/sx yield. 2nd Stage: 375 sx Class G 65/35 poz + .6% gel, 6% FLA, 6.25 #/sx gilsonite, 1/4#/sx flocele, 12.2 ppg, 1.92 ft 3/sx yield. F/B 125 sx Class G w/.8% FL, .2% FR, 15.2 ppg, 1.18 ft 3/sx yield.

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 Al Rector TITLE Operations Engineer DATE Apr 22 91

Al Rector

(This space for Federal or State office use)

RECEIVED
JUN 3 1991
OIL CON. DIV.
DIST. 3

PERMIT NO. _____ APPROVAL DATE _____

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

NMOCD

*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.

Submit to Appropriate
District Office
State Lease - 4 copies
Fee Lease - 3 copies

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 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised 1-1-89

OIL CONSERVATION DIVISION

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

RECEIVED
BLM
91 APR 23 PM 3:47
070 FARMINGTON, N.M.

WELL LOCATION AND ACREAGE DEDICATION PLAT

All Distances must be from the outer boundaries of the section

Operator	Lease	Well No.
Blackwood & Nichols Co., LTD.	Middle Mesa SWD	2

Unit Letter	Section	Township	Range	County
M	11	31 North	7 West NMPM	San Juan

Actual Footage Location of Well:
555 feet from the South line and 720 feet from the West line

Ground level Elev.	Producing Formation	Pool	Dedicated Acreage:
6505'	Morrison-Entrada	Undesignated	NA Acres

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below. SWD Well

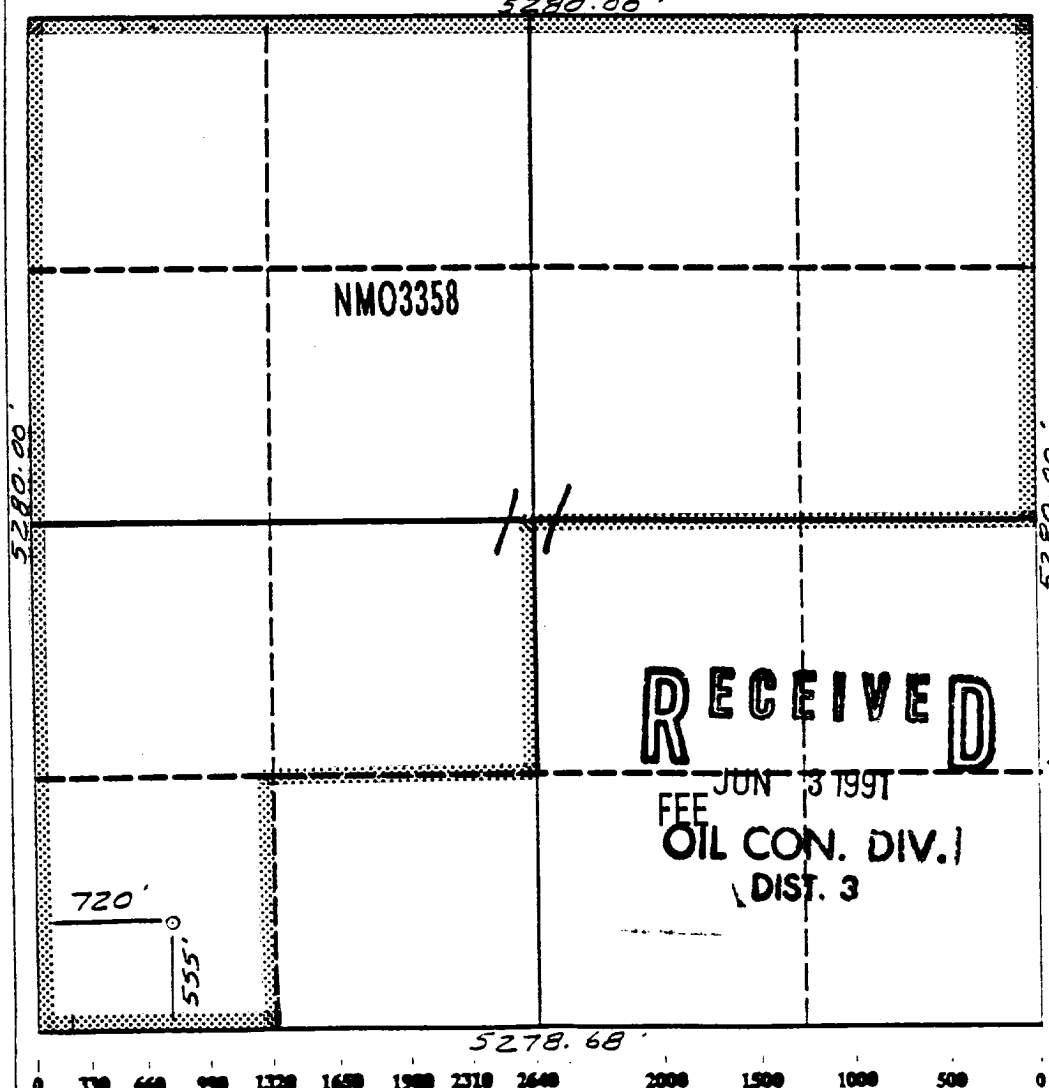
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).

3. If more than one lease of different ownership is dedicated to the well, have the interest of all owners been consolidated by communitization, unitization, force-pooling, etc.?

[X] Yes [ ] No If answer is "yes" type of consolidation Unitized

If answer is "no" list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary. _____

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interest, has been approved by the Division.



RECEIVED
JUN 3 1991
FEE
OIL CON. DIV.
DIST. 3

OPERATOR CERTIFICATION

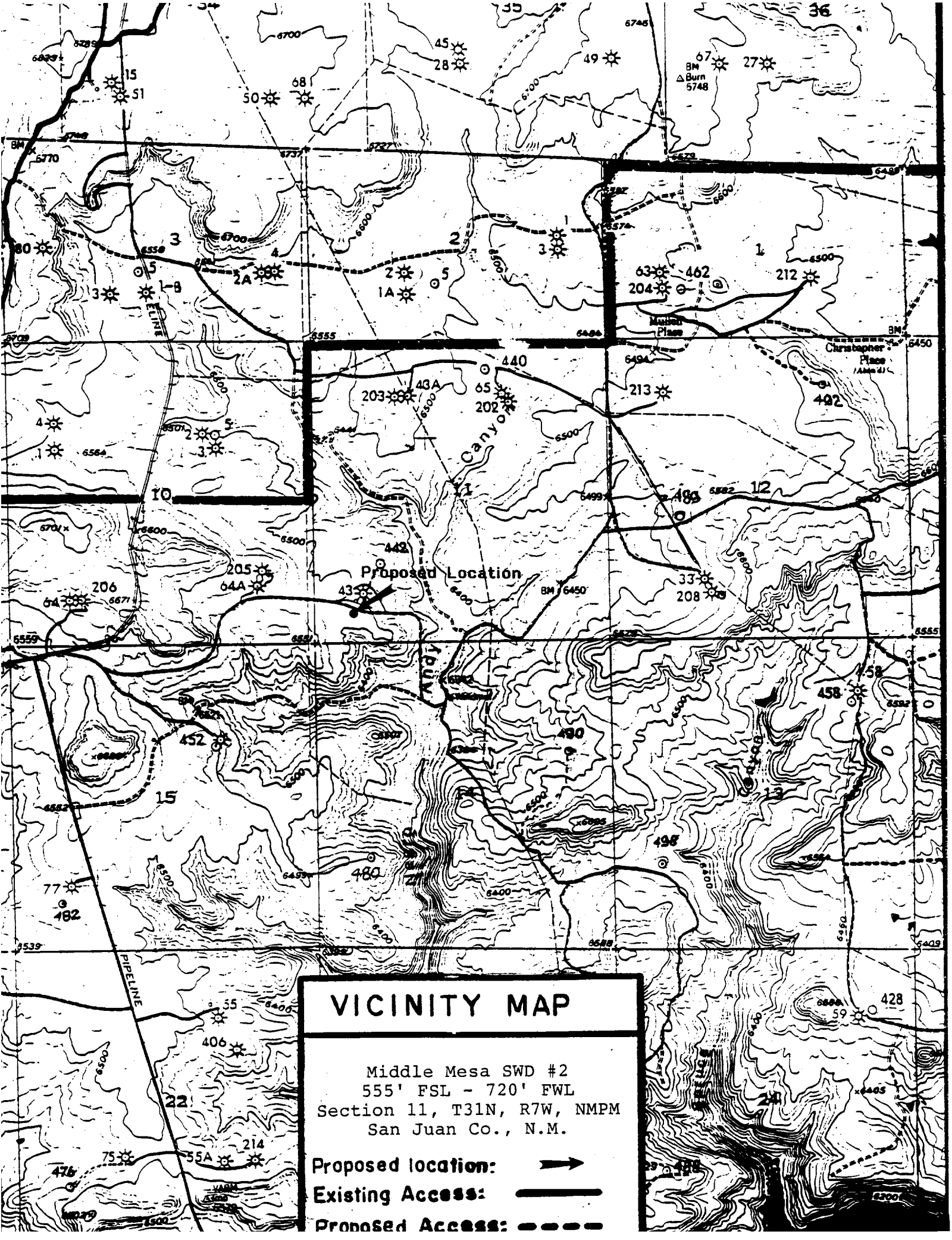
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

Signature: Al Rector
Printed Name: Al Rector
Position: Operations Engineer
Company: Blackwood & Nichols Co., Ltd.
Date: Apr 22, 91

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 supervison, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed: 3-19-91
Signature & Seal of Professional Surveyor:
NEW MEXICO 6857 REGISTERED LAND SURVEYOR
6857
Certificate No. Neale C. Edwards



VICINITY MAP

Middle Mesa SWD #2
555' FSL - 720' FWL
Section 11, T31N, R7W, NMPM
San Juan Co., N.M.

Proposed location: ➔

Existing Access: ——

Proposed Access: - - - -

Blackwood & Nichols Co., Ltd.
Middle Mesa SWD No. 2
555' FSL - 720' FWL
Section 11, T31N, R7W
San Juan Co., New Mexico

Field: Wildcat Morrison/Entrada Elevation: 6505'GL

Geology:

Formation Tops:

San Jose - Surface	Pt. Lookout - 5642'
Animas - 1354'	Mancos - 6062'
Ojo Alamo - 2337'	Dakota - 7560'
Kirtland - 2442'	Burro Canyon - 7982'
Fruitland - 3102'	Morrison - 8084'
Pictured Cliffs - 3392'	Bluff - 8627'
Lewis - 3527'	Todilto - 8857'
Cliff House - 5002'	Entrada - 8899'
Menefee - 5392'	Total Depth - 9165'

Logging Program:

Intermediate TD - 3745': Induction electric survey, compensated formation density/ neutron, sonic and microlog.

Liner TD - 5905': Gamma ray, induction and compensated formation density/neutron.

Total Depth - 9165': Induction electric survey, compensated formation density/neutron, sonic and microlog.

Coring: None anticipated.

Drill Stem Tests: Gauge at every connection above each possible producing interval while air drilling. Drill stem test all oil/or gas shows from Dakota to total depth.

Drilling:

Contractor: Not assigned. Toolpusher: Not assigned.

Operator's Representative: Not assigned.

Mud Program:

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

300'- 3000': Water and PHPA polymer with 1 qt. polymer sweeps every 93' or less if hole conditions dictate.

3000'- 3745': Fresh water, low solids PHPA polymer mud. Mud wt.-10.0 to 10.5 ppg, as necessary to control well. 40-50 sec./qt. viscosity w/gel. 6-8 cc water loss w/drispac.

Start mud up 100' above Fruitland.

Increase mud weight to 10.8 ppg prior to 3100'.

3745'- 5905': Air drill. Switch to air/2% kcl water mist/stift foam if hole quits dusting. Call company representative immediatey. Make 10 stand wiper trip every hour until adequate returns are established.

5905'- 9165': Air or air/foam drill as above. Before drilling into Dakota (7560'+), pull into casing and mud up with 10-12 ppg gel and XCD polymer to 40-42 vis., and drispac to <8 cc water loss. Stage into hole. Make 10 stand wiper trips every hour until mud returns are established.

Materials:

Casing Program:

Hole Size	Depth Set	Casing Size	Wt. & Grade
26"	300'	20"	133#,J-55
17 1/2"	3745'	13 3/8"	61# & 68#,K-55
12 1/4"	3512'-5905'	9 5/8"	40#,N-80
8 3/4"	9165'	7"	26#,N-80,L-80,CF-95

Materials: Cont'd

Float Equipment:

20" surface casing - TD at 300'. Super seal float shoe with inner string adaptor. Threadlock and tac weld float shoe and 1st 2 joints of casing. 7 centralizers: one 10' up on 1st joint, one on top of 1st joint and one on top of each joint, thereafter.

13 3/8" intermediate casing-Setting depth @ 3745'. Cement nose guide shoe. Differential fill float collar one joint up. 12 centralizers. One on top of each joint above shoe. 5 turbolizers across Ojo Alamo.

9 5/8" liner - Setting depth 3512'-5905'. Cement nose guide shoe on bottom and flapper float collar one joint up. 3 centralizers: one on top of first 3 joints below liner hanger.

7" casing long string - Setting depth 9165'. Cement nose guide shoe on bottom and differential fill float collar one joint up. 15 centralizers: evenly spaced below DV tool.

Cement Program:

20" surface casing - 575 sacks (679 cuft) Class B w/ 2% CaCl2 and 1/4# flocele per sack. 15.6 ppg. 1.18 cuft/sack yield. 50% excess to circulate to surface. WOC 12 hours. Pressure test surface pipe, BOPs and manifold to 600 psi prior to drilling surface shoe.

13 3/8" intermediate - 1860 sacks (3162 cuft) Class B 65/35 poz w/ 6% gel, 2% CaCl2 and 1/2 cuft perlite per sack. 12.7 ppg. 1.70 cuft/sack yield. Followed by 200 sacks (236 cuft) Class B neat w/2% CaCl2 and 1/4# flocele per sack. 15.6 ppg. 1.18 cuft/sack yield. Precede cement with 40 Bbls of mud flush & 60 Bbls of 11.0 ppg poz scavenger. Adjust cement volume to caliper plus 10% excess. WOC 18 hours. Pressure test casing, BOPs and manifold to 1500 psi prior to drilling shoe.

9 5/8" drilling liner - 660 sacks (1148 cuft) Class G 65/35 poz w/6% gel, .6% FLA, 6 1/4# gilsonite per sack and 1/4# flocele per sack. 12.3 ppg. 1.74 cuft/sack yield. Followed by 200 sacks (236 cuft) Class G neat w/.8% FLA. 15.8 ppg. 1.18 cuft/sack yield. Precede cement with 40 Bbls of 5 lbs/bbl gelled water. Adjust cement volume to caliper plus 25% excess. WOC 18 hours. Pressure test liner, BOPs and manifold to 1500 psi prior to drilling shoe.

7" long string - DV tool @ 7470'.
Stage 1: 285 sacks (345 cuft) Class G 50/50 poz w/2% gel, 10% salt, .7% FLA, .2% FR. 13.9 ppg. 1.21 cuft/sack yield. Followed by 250 sacks (380 cuft) with 35% silica, 2% KCL, .8% FLA, .2% FL, .5% FR. 15.8 ppg. 1.52 yeild. Cement volume is calculated at 185% excess based on gauge hole. Adjust volue to caliper plus 25% excess.

Stage 2: 375 sacks (720 cuft) Class G 65/35 poz w/6% gel, .6% FLA, 6.25#/sack gilsonite, 1/4#/sack flocele. 12.2 ppg. 1.92 cuft/sack yield. Followed by 125 sacks (148 cuft) Class G w/.8% FLA, .29 FR, 15.2 ppg. 1.18 cuft/sack yield. Adust open hole cement volume to caliper plus 25% excess. Precede longstring with 30 Bbls of CW-100 with fluid loss additive.

Miscellaneous:

- Operate pipe rams daily and record in tour reports.
- Operate Blind rams on each trip and record in tour reports.
- Casing rams are to be installed prior to running casing.
- Upper kelly cock valve with handle will be used. Safety valve and subs to fit all drill string connections in use will be kept available on rig floor.
- Due to the limited local availablity of rigs with load bearing subs tall enough to accommodate annular preventers in conjuction with double ram preventers, a variance to Federal Register/Vol. 53, No. 233/ Section III A - Well Control Requirements/Page 46 806/Subsection iii. 3 M System/Item 1 - Annular preventers is requested.