

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

OIL CONSERVATION DIVISION

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

WELL API NO.
30-045-27340

5. Indicate Type of Lease
STATE ☒ FEE ☐

6. State Oil & Gas Lease No.

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"
(FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well:
OIL WELL ☐ GAS WELL ☒ OTHER Salt Water Disposal

2. Name of Operator
Blackwood & Nichols Co., Ltd.

3. Address of Operator
P. O. Box 1237, Durango, Colorado 81302

4. Well Location
Unit Letter N : 990 Feet From The South Line and 1600 Feet From The West Line
Section 36 Township 31N Range 8W NMPM San Juan County

10. Elevation (Show whether DF, RKB, RT, GR, etc.)
6430' GR

11. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐
OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ PLUG AND ABANDONMENT ☐
CASING TEST AND CEMENT JOB ☒
OTHER: ☐

12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Please see attached pages for activity for period 7-06-90 through 8-13-90.

RECEIVED
NOV 06 1990
OIL CON. DIV.
DIST. 3

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

SIGNATURE R. W. Williams TITLE Administrative Manager DATE 11/2/90
TYPE OR PRINT NAME R. W. Williams TELEPHONE NO. _____

(This space for State Use)

APPROVED BY Original Signed by FRANK T. CHAVEZ SUPERVISOR DISTRICT # 3 DATE NOV 06 1990

CONDITIONS OF APPROVAL, IF ANY:

BLACKWOOD & NICHOLS CO., LTD.
P.O. BOX 1237
DURANGO, COLORADO 81302-1237

(303) 247-0728

Drilling Report

Northeast Blanco Unit Pump Mesa SWD #1 - Water Disposal Well

LOCATION: 990' FSL, 1600' FWL
Section 36, T31N, R8W
San Juan County, New Mexico

7-06-90 Pull up hole to unload water.

Drilled cement and retainer (13-3/8") 3567'-3625'. POOH. TIH with bit #10. Drill cement at 3625'-3708', tag float collar at 5848. Pressure test squeeze hole to 1000 psi for 30 min; held - O.K.

Drill float collar and shoe jt, lost circulation under shoe, pumped 40 bbl water. No returns.

Rig up air equipment, hole would not circulate or unload. Pull 8 stands drill pipe, break circulation with water.

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LOCATION: 990' FSL, 1600' FWL
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San Juan County, New Mexico

7-07-90 Blowing hole with air to dry at 5904'.

Circulate cement out of 9-5/8" casing with water to 5888' - lost circulation. POOH to 2760'. Unload hole. TIH to 5170'. Unload hole. TIH to 5888'. Unload and dry hole. Drill 8' to 5896', hole wet.

Run 10 gal. soap sweeps at 2760', 4330', 5170', 5888', and 5896'. Run 5 gal. soap sweep at 5904'. (RS)

7-08-90 TIH with 9-5/8" cement retainer.

Blow to dry hole at 5896'. Noticed gas bubbles around 13-3/8" casing. Shut down air. Pull 1 stand drill pipe. Observe well and check gas - 1280 total units in gas: 88,200 ppm C₁, 544 ppm C₂, and 250 ppm C₃. TOOH, pick up 9-5/8" cement retainer. TIH. (RS)

7-09-90 Drilling cement inside 4-1/2" drill pipe at 4369'.

Set 9-5/8" cement retainer at 5814'. Pressure test drill pipe, lines, and squeeze manifold to 3500 psi - test backside to 800 psi.

Sting out of retainer, mix and spot 200 sx (236 cf) 15.6 ppg Class G cement with 2% CaCl₂. Sting into retainer, displace 25 Bbls cement with booster pump. Shut down for 15 minutes - pump 1.5 Bbls water. Drill pipe pressure 2000 psi, backside pressure 750 psi. Could not sting out of retainer. Pulled 190,000#, 2 times string weight + 10,000#.

Drilling Report - NEBU PM SWD #1
July 9, 1990

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(Cont'd)

7-09-90 Call Homco for 1-1/2 MT drill pipe, power swivel, and pump to drill cement inside 4-1/2" drill pipe. Pick up 2-7/8" drag bit and 1-1/2" drill pipe; strap, rabbit, and TIH. Tag cement at 4307'. Drill cement inside 4-1/2" drill pipe 4307-4369'. (RS)

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LOCATION: 990' FSL, 1600' FWL
Section 36, T31N, R8W
San Juan County, New Mexico

7-10-90 Repairing swivel.

Drill cement inside 4-1/2" drill pipe with 2-7/8" HVM blade/drag bit and 1-1/2" MT drill pipe with reverse circulation 4369-4858'. Total: 489'. Circulating pressure increased to 1500 psi. Blew discharge hose and plugged bit. Pull 52 stands. MT drill pipe went on vacuum.

Pick up power swivel and break circulation. Swivel packing leaking. Shut down to repair same. No packing on location. Rig up circulating swedge. TIH breaking circulation every 10 stands. Tag cement at 4737'.

Circulate and wait on swivel repair. (RS)

Estimated daily cost: \$ 5,557
Estimated cumulative cost: \$618,538

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**LOCATION: 990' FSL, 1600' FWL
Section 36, T31N, R8W
San Juan County, New Mexico**

7-11-90 Drilling in 4-1/2" drill pipe @ 5315'; 24' per hour.

Pick up swivel and crossover subs; wash 121' to bottom @ 4858'.

Drill cement 4858-5315' (457'). Circulate and work pipe to overcome bridging (2 hours). Circulate back cement 1/2" to 1-3/4" in diameter using conventional circulation because of cutting size (Four Corners Air took 3 compressors and 2 boosters from location). (RS/MD)

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LOCATION: 990' FSL, 1600' FWL
Section 36, T31N, R8W
San Juan County, New Mexico

7-12-90 Servicing rig.

Circulate direct at 5315' to clean hole (3 hours). Run two polymer sweeps. Reverse circulate and drilled cement 5315-5340'. Plug bit and TOH. Lay down 1 jt 1-1/2" MT drill pipe - plugged.

Pick up new 2-7/8" drag bit and TIH. Tag cement at 4455', circulate and clean hole. Reciprocate drill pipe. Got bridge in annulus, pressure to 2500 psi. Blow pop off on pump and plugged bit. TOH. (RS/MD).

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LOCATION: 990' FSL, 1600' FWL
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7-13-90 Drilling cement inside 4-1/2" drill pipe at 5392'; 24' per hour.

Circulate with water and polymer; viscosity 30 sec, 1000 psi, 60 SPM, 1.38 BPM water.

Lay down 1 j 1-1/2" MT drill pipe, plugged. TIH, wash from 4455-5340'. Circulate back 1/8" to 1-3/4" cement. Drill cement at 5340' at 3:30 a.m. (RS/AR)

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LOCATION: 990' FSL, 1600' FWL
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7-14-90 Drilling cement inside 4-1/2" weight pipe @ 5770'; 28.5' per hour.

Drill cement inside 4-1/2" drill pipe to 5616'. Circulate annulus clean. POOH with 1-1/2" MT drill pipe. Pick up 2-1/4" blade drag bit. TIH, no fill. Drill cement inside 4-1/2" weight pipe 5616-5770'. (RS/AR)

7-15-90 TIH with 8-1/8" wash over shoe, 180' washpipe, and jars.

Drill cement in 4-1/2" drill pipe to 5794'. Run polymer sweep. Run 25 Bbls 28% HCl with 4 gal. HAI85. Displace with 6.5 Bbls water.

Spot acid from 3402-5794'; wait 30 minutes. Run 10 Bbls water spacer then polymer sweep. Flush acid with 100 Bbls water. POOH and lay down 1-1/2" MT drill pipe.

Run freepoint tool to 5011': drill pipe free to 4942'; partially stuck at 4948'. Back off 4-1/2" drill pipe with string shot at 4916', left 698' of 4-1/2" drill pipe and 180' of 4-1/2" weight pipe in hole. POOH with 4-1/2" drill pipe. Pick up 8-1/8" washover shoe, 1.92' of washpipe, and jars. TIH. (RS/AR)

7-16-90 Rigging up to run 1-1/2" MT drill pipe.

TIH with 192' of 8-1/8" washover pipe and jars; wash over 4-1/2" drill pipe from 4925-5108'.

(Cont'd)

7-16-90 POOH. Pick up screw-in sub, jars, eight 8" drill collars, and accelerator. TIH, screw into 4-1/2" at 4916', jar for 2 hours - no movement.

Run wireline with sinker bars and pointed sucker rod on bottom to break through bridge in drill pipe. Spud on bridge in drill pipe at 4958' for 1 hour. Could not break through. POOH with wireline, release grapple, POOH with fishing assembly. TIH with 4-1/2" drill pipe. Screw back into fish, rig up to run 1-1/2" MT drill pipe.
(RS/AR)

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LOCATION: 990' FSL, 1600' FWL
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San Juan County, New Mexico

7-17-90 Wash cement in 4-1/2" drill pipe at 5223'.

Pick up and run 163 jts of 1-1/2" MT drill pipe. Tag and wash cement in 4-1/2" drill pipe at 4972'. Circulate back cement; fine to 2-1/4" diameter, 2" flowline plugging, install tee spool with 4" outlet. Wash 4972'-5223'. 251' in 10.5 hrs. Average 24' per hr.

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LOCATION: 990' FSL, 1600' FWL
Section 36, T31N, R8W
San Juan County, New Mexico

7-18-90 RIH with sinker bar on wireline.

Wash cement inside 4-1/2" drill pipe from 5223' to top of 4-1/2" weight pipe at 5616'.

Circulate cement (1" to 2-1/4" diameter). Circulate annulus clean, POOH with 1-1/2" drill pipe.

Rig up and run free point to 5393'; could not get deeper. POOH, RIH with sinker bar. (RS/MD)

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LOCATION: 990' FSL, 1600' FWL
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San Juan County, New Mexico

7-19-90 Washing over 4-1/2" drill pipe at 5480'.

TIH with sinker bar, spudding jars, and pointed sucker rod. Spud on cement in 4-1/2" drill pipe 5393-5726' (333' total, 110' inside 4-1/2" heavy weight drill pipe). POOH.

Pick up free point and back-off tool and TIH. Drill pipe 100% free at 5464'; 15% free 5464-5720'. Attempt back-off at 5695' - no good. POOH.

TIH with string shot and back off drill pipe at 5449'. POOH with 4-1/2" drill pipe. Lay down 18 jts. Install 11" Grant shorty rotating head. Pick up 221' of 8-1/8" wash pipe and shoe, jars, bumper sub, and four 6-3/4" drill collars and TIH. Wash on cement 5450-5480'. (RS/MD)

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LOCATION: 990' FSL, 1600' FWL
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San Juan County, New Mexico

7-20-90 Washing over 4-1/2" drill pipe at 5472'.

Wash pipe torquing at 5482'. POOH to look at shoe. Wash pipe twisted at 5351'. Left 131' of 8-1/8" wash pipe and shoe in hole.

Pick up spear, grapple, stop sub, jars, four 6-3/4" drill collars, and TIH. Spear into fish. POOH. Lay down all used wash pipe (7 jts) and shoe. Pick up new string (7 jts) of 8-1/8" wash pipe and 8-1/8" shoe (total wash pipe length 219.04'), four 6-3/4" drill collars (116.35'), and jars (10.85'). TIH, wash 5450-5472'. (RS/MD)

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LOCATION: 990' FSL, 1600' FWL
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7-21-90 Rigging up floor to run 1-1/2" MT drill pipe.

Wash over 4-1/2" drill pipe to 5482'. Returns rounded cement 1/2" to 1" and metal. Pipe torquing at 5482'. POOH with wash pipe. TIH with 4-1/2" drill pipe open ended; screw into 4-1/2" drill pipe at 5449'. Test drill pipe and liner to 2500 psi for 15 minutes - held OK. RIH with wireline perf, 4-1/2" drill pipe 5602-5603' with five 1-13/16" shots, staggered 180°. POOH with Wireline. Attempt to circulate through perfs at 5602-5603'; held 2400 psi for 10 minutes. Run 5 more shots on wireline, hit obstruction at 5462'. POOH. RIH with sinker bar, spudding jars, spud on obstruction 5469-5445'. Lost 24'. POOH and rig down wireline. Rig up floor to run 1-1/2" MT drill pipe. (MD)

7-22-90 Pumping with Howco down drill pipe out perf holes @ 3.7 BPM @ 4500 psig.

Pick up 2-7/8" RR bit, bit sub, and string float. TIH, tag bridge at 5432'. Rig up swivel and pump; break circulation at 11:30 a.m.; wash cement 5432-5616'. Returns moderate fine cement. Circulate on bottom 2 hours. Hang back swivel.

POOH and stand back 1-1/2" MT drill pipe. Rig down floor. Rig up Homco Wireline. RIH with five 1-13/16" shots in 8', could not get past 5462'. Pull 4-1/2" drill pipe to 25,000# over string weight. Run spud bars to 5650'. Rerun bi-wire perf gun, shoot 5 holes 5484-5492'.

Pick up Kelly. Establish a rate of 1.6 BPM @ 3000 psi with no returns. Increase rate to 2.3 BPM @ 4000 psi. Returns 20-25 GPM, rate dropping along with returns. Increase pressure to 4500 psi @ 2.3 BPM and 23 GPM returns.

(Cont'd)

7-22-90 Work pipe periodically - very little difference. Pressure dropped 4500-1500 psi. Rate increased to 4.2 BPM @ 4000 psi. Returns 40 GPM, then began to decline to 3.7 BPM @ 4000 psi. Worked pipe, increase pressure to 4500 @ 3.5 BPM.

7-23-90 TIH with 8-1/8" wash pipe and new mill shoe.

Pump through perfs in drill pipe at 2.9 to 7.9 BPM @ 3150-4500 psi. 60% returns: gray water and soap. Shut down, rig up Homco and run free point: 4-1/2" 100% free at 5470' and 5480'; 10% free at 5486'. Could not get deeper than 5490'.

Back off 4-1/2" drill pipe at 5449'. Attempt to reverse circulate. Pump 25 Bbls - no returns and POOH with 4-1/2" drill pipe.

Pick up 8-1/8" wash pipe and shoe, four 6-3/4" drill collars, and jars and TIH. Wash over 4-1/2" drill pipe 5460-5482' pumping 4 BPM and no circulation. POOH with wash pipe. Put on new 8-1/8" mill shoe and TIH with wash pipe on 4-1/2" drill pipe. (MD)

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Drilling Report

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LOCATION: 990' FSL, 1600' FWL
Section 36, T31N, R8W
San Juan County, New Mexico

7-24-90 Washing over 4-1/2" drill pipe at 5515'.

TIH with 8-1/8" wash pipe and new mill shoe. Broke circulation with 300 Bbls water. Wash over 4-1/2" drill pipe 5482-5513'. Losing approximately 65-70 Bbls per hour to formation.

Mix and pump 50 Bbls 70 sec viscosity gel sweep. Circulate and clean hole. POOH. Pick up new mill shoe and TIH. Wash from 5483-5515' (5.5 hours). (RS/MD)

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Drilling Report

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LOCATION: 990' FSL, 1600' FWL
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7-25-90 Wash over 4-1/2" drill pipe to 5515'.

No penetration. POOH to look at shoe. Left 2 jts of 8-1/8" wash pipe and mill shoe in hole (length = 63). Wash pipe got in bind and threads popped out.

Pick up spear, stop sub, jars and 4 6-3/4" drill collars and TIH. Tag 4-1/2" drill pipe at 5449'. Rotate 1 round left to spear wash pipe.

POOH. No fish. Lay down spear assembly, TIH with 72 stands of 4-1/2" drill pipe, open ended. Lay down 1-1/2" M. T. drill pipe. POOH with 4-1/2" drill pipe.

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LOCATION: 990' FSL, 1600' FWL
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7-26-90 TIH with 4-1/2" drill pipe open ended to pressure test casing.

Pick up 9-5/8" bridge plug and setting tool and TIH. Set Baker N-1 mechanical bridge plug at 5400'. Load hole with 138 Bbls water. Mix 23 sx (26.5 cf) 15.8 ppg Class G with 2% CaCl_2 , pump and spot cement with 75 Bbls water. Cement plug = 55'. Top of cement plug at 5345'. Plug spotted at 12:15 p.m., 7-25-90.

POOH with 4-1/2" drill pipe and setting tool. Run cement evaluation log 5200'-surface. Rig down all Homco equipment. Nipple down Grant rotating head, Nipple up Shaffer type 50 rotating head and flow line. TIH with 4-1/2" drill pipe open ended to pressure test 4-1/2" casing. (RS/MD)

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LOCATION: 990' FSL, 1600' FWL
Section 36, T31N, R8W
San Juan County, New Mexico

7-27-90 Picking up 13-3/8" RTTS packer.

TIH with 4-1/2" drill pipe open ended to 5200' ±.
Circulate hole with fresh water. Close pipe rams and
pressure test casing, BOPs, choke manifold, and line to
1500 psi - pressure dropped 50 psi in 30 minutes - OK.

Premix 760 Bbls of weighted non-dispersed 10.8 ppg 44 sec
viscosity mud. Circulate hole with mud and build volume.
POOH with 4-1/2" drill pipe. Pick up 13-3/8" RTTS
packer. (RS/MD)

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LOCATION: 990' FSL, 1600' FWL
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San Juan County, New Mexico

7-28-90 Circulating and conditioning at 2170'.

Finish running 13-3/38" RTTS packer at 2654'. Circulate while conducting safety meetings. Set packer and pressure annulus to 300 psi.

Rig up Schlumberger and run gauge ring, then perf 2750-52' with 6 shots (Enerjet, decentralized, 90° phasing, all shots fired). Attempt to establish injection rate with Dowell, 0 BPM @ 970 psi - no bleed off.

Rig up Schlumberger to reperf, 2-1/8" strip gun broke while stabbing into drill pipe, wait on another perf gun. Perf 2757-2759' with 6 shots 2-1/8" (Enerjet, decentralized, 0° phasing, all shots fired).

Rig up Dowell, establish injection rate of 2.5 BPM @ 700 psi. Squeeze last perfs with 100 sx Class G + 2% CaCl₂ + .5% FLA, average 2.5 BPM @ 700 psi. Stage last 2.5 Bbls over 45 minutes, maximum pressure 340 psi. Shut in with 260 psi on drill pipe. WOC 8 hours. 50 psi on drill pipe. Release packer, pull 8 stands to 2170'± circulating at 2 BPM. WOC, 10 hours at 6:00 a.m. (RW)

7-29-90 Squeezing cement at 1720' (Nacimient formation).

WOC 2 hours. Set 13-3/8" RTTS at 2184' (wireline measurement). Pressure up backside to 300 psig. Rig up Schlumberger and run gauge ring. Tag top of cement at 2695', then perforate 6 shots 2280-2282' (Enerjet, decentralized, 13 GRM charges, 0° phasing, all shots fired). Establish injection rate of 1.5 BPM @ 1650 psi. Squeeze with 90 sx of Class G + 2% CaCl₂ + 1/2% D-60 FLA. Staged last 5 Bbls. Final squeeze pressure 260 psi. Shut in drill pipe, WOC 8 hours.

Drilling Report - NEBU PM SWD #1
July 30, 1990

(Cont'd)
7-29-90

Unset packer, pull 9 stands, circulate 2 BPM (WOC 12 total hours). Set RTTS packer at 1627'. Pressure up backside to 300 psig. Rig up Schlumberger, RIH with gauge ring, tag cement at 2232', then perforate 1720-1722' with 6 shots (Enerjet, decentralized, 13 GRM charge, 0° phasing, all shots fired). Establish injection with Dowell of 1.5 BPM @ 1400 psig. Squeeze perfs with 125 sx of Class G + 2% CaCl₂ + 1/2% D-60 FLA. Stage last 3-1/2 Bbls. Final squeeze pressure 1100 psig. (RW)

7-30-90 TOH with 13-3/8" Halliburton RTTS.

Shut in drill pipe after final squeeze pressure of 1130 psig. WOC 8 hours.

Release 13-3/8" RTTS packer, pull up to 942' (wireline measurement). Pressure up backside to 330 psig, rig up Schlumberger, RIH with gauge ring, tag top of cement at 1656'. Pressure up drill pipe to 2000 psig, held OK. RIH and perforate from 1060-1062' with 6 shots (Enerjet, 13 GRM, decentralized, 0° phasing). Work gun through bottom of packer. Establish injection rate of 1 BPM @ 2000 psig. Old mud circulating up between 13-3/8" casing and 20" annulus.

Shut down pump. Pressure test packer down annulus, moderate flow between 20" and 13-3/8". Halliburton RTTS packer was unseating hydraulically. Reset packer, pressure up backside to 1000 psig. Establish injection rate of 1.5 BPM @ 1180 psig. Release backside pressure. Returns behind 13-3/8" and 20" were @ 2 GPM mud. TOOH with packer, order 16 jts of 4-1/2" weight pipe to set RTTS packer for squeeze job. (RW)

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LOCATION: 990' FSL, 1600' FWL
Section 36, T31N, R8W
San Juan County, New Mexico

7-31-90 WOC and order from NMOCD.

Tally 16 jts 4-1/2" heavy weight drill pipe. TIH with 13-3/8" RTTS, 16 jts heavy weight drill pipe, and 14 jts 4-1/2" 16.6# drill pipe. Set packer at 935', pressure up back side to 800 psi, held OK. Estimated injection rate 1-1/2 BPM @ 1130 psi. Water-cut mud back to surface through 20" x 13-3/8" annulus, squeeze with 125 sx Class G, 2% CaCl₂ + 1/2% FLA. Stage cement and final squeeze pressure 1300 psi, cement cut with trace of drilling mud back to surface up 20" x 13-3/8" annulus. Left 11.2 Bbls cement in casing. Estimated cement top 986'.

Release squeeze pressure, no flow back, pressure up drill pipe with 330 psi, left 800 psi on back side. Shut in well. Rig down Dowell, release pressure and unset packer at 3:00 a.m., 7-31-90. POOH. Lay down 16 jts weight pipe and packer. WOC. (JG/AR)

Est. daily cost:	\$ 17,073	Daily mud:	\$ 914
Est. cumulative cost:	\$875,738	Cum. mud:	\$12,807

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LOCATION: 990' FSL, 1600' FWL
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San Juan County, New Mexico

8-01-90 Pressure testing squeeze #3.

Pick up bit no. 17, 12-1/4" Smith Tool Co. SVH (jets: 14-14-14), and TIH. Tag cement on squeeze #4 at 994'. Plugged bit - TOOH. Bit plugged with cement and barite. TIH and dress cement. Drill 20' @ 2-1/2 feet per minute. WOC 8 hours.

Check cement. Drill cement @ 1-2 minutes per foot, fell through cement at 1088'. Circulate cement out. Pressure test squeeze #4 to 1000 psig for 15 minutes - pressure dropped 85 psi due to surface leaks. TIH with 9 stands and 1 single, tag cement at 1675'. Drill cement averaging 3 minutes per foot. Fell through cement at 1745'. Circulate out cement. Pressure test squeeze #3 to 1000 psig for 15 minutes - pressure dropped 50 psi. Pipe rams leaking. Replace pipe rams. (JG/RS)

BLACKWOOD & NICHOLS CO., LTD.

P.O. BOX 1237

DURANGO, COLORADO 81302-1237

(303) 247-0728

Drilling Report

Northeast Blanco Unit Pump Mesa SWD #1 - Water Disposal Well

LOCATION: 990' FSL, 1600' FWL
Section 36, T31N, R8W
San Juan County, New Mexico

8-02-90 POOH to squeeze 9-5/8" casing.

Trip in and tag cement at 2196'. Drill cement to 2273' with bit no. 17, 6-8,000# WOB, 40-50 RPM, fell through. Circulate hole clean, cement drilled @ 2'/min. Pressure test to 1000 psi, pressure fell off 100 psi/min. - pipe rams leaking. Wait on pipe rams and install. Pressure test squeezes #2, #3, and #4 to 975 psi for 15 minutes - held OK.

TIH and tag cement at 2705', drill to 2770' and circulate hole clean. Pressure test squeeze #1 to 1000 psi, pressure dropped to 850 psi in 15 minutes - pipe rams leaking. Tests witnessed by NMOCD and approved.

Clean out to liner top and trip out, pick up bit no. 18, 8-3/4" Smith Tool Co., RR SDH (jets: 14-14-14), and TIH. Clean out to 5240', lay down 16 jts 4-1/2" drill pipe, POOH to squeeze 9-5/8" casing (Cliff House). (JG/AR)

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LOCATION: 990' FSL, 1600' FWL
Section 36, T31N, R8W
San Juan County, New Mexico

8-03-90 Prepare to squeeze 9-5/8" casing at 5200'.

TOOH. Lay down drill collars. Waiting on perforators. Rig up Blue Jet. Perf 4 holes at 5200' in 9-5/8" casing. Pick up Baker 9-5/8" cement retainer. RIH. Run retainer to 5150' and circulate hole. Set cement retainer at 5150'. Pressure backside to 350 psi. Leak off to 300 psi. Establish injection rate - 2 bbls per minute at 550 psi.

Perf broke at 1200' psi. Mix and pump 100 sx 10-1 RFC cement, 14.6 ppg. Displace cement with 85 bbls water to clear perf. Reduce from 3 BPM to 1 BPM, after 72 bbls displacement, maximum pressure - 1500 psi. Final pressure - 0 psi. Backside pressure OK during squeeze.

Pull out of retainer and reverse drill pipe with 85 bbls water WOC, until 6 a.m. (AR/RS)

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LOCATION: 990' FSL, 1600' FWL
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San Juan County, New Mexico

8-04-90 Move rig to level substructure.

WOC, rig up dowell, sting into retainer, pressure up back side to 330 psi - held OK. Establish injection rate at 3 BPM at 400 psi after pumping 18 bbls water. Mix 150 sx class G with 2% CaCl₂, 0.5% FLA. Displace cement at 3 BPM at 150 psi. Slow pump rate to 2 BPM with 60 bbl displacement gone.

Lower pump rate to 1 1/2 BPM at 0 psi, for 5 bbl, shut down for 15 minutes. Resume displacement at 1/2 BPM for 3 bbls, pressure increased to 3000 psi, pressure did not fall off.

Pull out of retainer with 3000 psi on drill pipe, pressure dropped to zero. Hole circulated. Pick up 15' and reverse circulate with 80 bbl water, recovered 7 bbls cement. Placed 16 bbls (286') outside perfs. Pull 5 stands of drill pipe, lay down all drill pipe to level sub. Strip celler and lay down mast.

Mix 400 bbls mud, wait on daylight.

8-05-90 Condition mud to begin milling liner hanger.

Remove water saturated soil under substructure with backhoe, place 2" of dry soil down and compact with loaded rig up truck. Add 3/4" road base 6" at a time and compact with truck, total of 18 inches under rig area.

Build matting boards 14' X 16' under sub and drilling beam. Used 2" of bedding sand and 24 3" X 12" X 14' oak planks, raised V door end of sub and placed 12 planks

8-05-90 under sub. Sub raised 8" on rig side and 6" on V door
(con't.) side.

Move unit back in and rig up. Pick up mill and BHA and
4 1/2" drill pipe. Tag liner top at 3621' and displace
hole with 300 bbl mud, mix additional 300 bbl mud.

8-06-90 Trip in after dressing mill.

Circulate hole and condition mud. Mill on liner hanger
and mill out 7' to top of packing element. Mill stopped
cutting.

TOH and check mud. Dress mill and sharpen blades.

TIH, average milling rate 1' in 125 minutes

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LOCATION: 990' FSL, 1600' FWL
Section 36, T31N, R8W
San Juan County, New Mexico

8-07-90 TIW 5152'. Fishing to jar liner hanger loose.

Fininsh trip after checking mill. Mill on liner hanger, mill 1-1/2' in 13-1/4 hrs. Milled up rubber packing element and mill quit. POOH and check mill. Mill worn near inside of outer blades approximately 2-1/2".

Call HOMCO wireline and rig up. Run jet cutter and cut 9-5/8" casing at 3686'. Pick up 9-5/8" casing spear bumper sub, jars, start in hole. Liner lap squeeze cement top at 3794'. Present top of liner hanger at 3629'.

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LOCATION: 990' FSL, 1600' FWL
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San Juan County, New Mexico

8-08-90 Mill on 9-5/8" at 3696'.

RIH with 8.858" spear, bumper sub, jars, 6-8" drill collar, accelerator sub, 2-8" drill collars, and 6 jts heavy wall 4-1/2" then 4-1/2" drill pipe. Replace drilling line, and catch liner hanger. Pull up, fish came loose with 50,000# over pull.

POOH with fish, lay down same. Fish consisted of liner hanger (5.4'), 9-5/8" pup (4.1'), 1 jt 9-5/8" 40# (40.91'), 9-5/8" cut off (7.51'). Bottom of fish belled out to 12" OD. Dress 12" mill and RIH. Mill off casing for 4", POOH and pick up pitot mill. Mill on 9-5/8" casing. Milled 9' in 1-3/4 hr, average rate 5-6' per hour.

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Drilling Report

Northeast Blanco Unit Pump Mesa SWD #1 - Water Disposal Well

LOCATION: 990' FSL, 1600' FWL
Section 36, T31N, R8W
San Juan County, New Mexico

8-09-90 POOH with 8-3/4" bit.

Mill 9-5/8" casing to 3767'. Wore off mill blades. POOH and found bottom 6' of pitot mill broken off, broke off at lower edge of cutting blades.

Pick up 8-3/4" bit and TIH. Work bit into 9-5/8" casing stub, push junk down hole for 6 jts. Circulate hole, POOH. Have 105' of casing left to mill.

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Drilling Report

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LOCATION: 990' FSL, 1600' FWL
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REVISED

8-09-90 POOH with 8-3/4" bit.

Mill 9-5/8" casing to 3767'. Wore off mill blades. POOH and found bottom 6' of pitot mill broken off, broke off at lower edge of cutting blades.

Pick up 8-3/4" bit and TIH. Work bit into 9-5/8" casing stub, push junk down hole for 6 jts. Circulate hole, POOH. Have 105' of casing left to mill.

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LOCATION: 990' FSL, 1600' FWL
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8-10-90 Mill 9-5/8" at 3795'.

Lay down 8-3/4" bit. Pick up 11-3/8" pitot mill. TIH to dress casing, ream out 70' cement. Mill on 9-5/8" casing, mill 5' in 5 1/2 hrs.

POOH, pick up metal muncher pilot mill. RIH, mill on casing, average 4.2' per hour.

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LOCATION: 990' FSL, 1600' FWL
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8-11-90 Circulate and condition hole prior to trip for cement plug.

Mill out 9-5/8" to 3877', circulate casing 1-1/4 hr. POOH, lay down dill. Pick up 12-1/4" bit. TIH, ream from 3675'-3877'. Circulate hole 1/2 hr. Large cement over shaker. About 4" of mill blade used up.

8-12-90 Dressing off cement plug at 3775'.

Finish circulating metal out and trip out. Stand back drill collars and 6 jts of weight pipe. Trip in open ended to 3877' and set cement plug for kick off. Pumped a total 195 sx of densified class G cement mixed at 17.5 lb/gal. Preceded cement with 30 bbl water and flushed with 3 bbl water and 47 bbl mud.

Work drill pipe while cementing. Pull 2 stands slowly and pull 5 more at normal rate. REverse circulate drill pipe using 55 bbl water. Recovered approximately 2 bbl contaminated cement. Trip out and WOC. CLean mud tanks, and go through pumps. Check rotary table and make up bit. Trip in and check cement after 12 hrs. Cement firm. Drilling cement at 3775', steady at about 3-4 minutes/foot. Plan to drill 3795', circulate and trip out for downhole motor.

NEBU Pump Mesa SWD #1
August 13, 1990

8-13-90 Drill cement and dress off plug to 3795'. Circulate and condition hole for 2 hrs. Trip out and pick up Dyna-drill with 2-1/2" bent sub. Trip in and orient tool by surveying at 3760'. Break circulation and wash to bottom. Drill ahead to 3835' and run survey at 3800'. Survey 1" indicating direction off low side of hole. Began getting shale in samples first five foot. 50% shale in first 15 feet, 70% shale in 25 feet, 100% shale in 45 feet, very dark gray or black shale.