# August 10, 1990

#### Day No. 1

Summary: MI Rig and equipment. TIH w/ cement retainer and 2-3/8" tbg to 2400'. Mix 9 PPG mud.

Detail: MIRU Ram. ND wellhead. NU BOP. Spot pump & pit. Unload tbg and tally. TIH w/ 74 jts of 2-3/8" tbg with 4-1/2" cement ratiner to 2400'. Mix 9 PPG mud @ 100 Bbl. (ARM)

Daily Cost: \$4,155

AFE Number 90014: \$62,700 Cumulative Costs: \$ 4,155

## August 13, 1990

#### Day No. 2

Summary: Set 4-1/2" circ at 2,409'. Pump cement across Entrada, Morrison, Dakota and Gallup formations. Pump cement above CICR. RunCRBL from 2,390' to 1,300'.

Detail: Set CICR. at 2,409'. RU Cementers, Inc. Establish pump in rate of 3.5 Bbl/ min at 800 psi. Mix and pump 25 sx class "B", displace with 5 Bbl 9 PPG mud. Pumped 50 sx dis/ 15.3 Bbl. Pump 25 sx, dis/ 4.3 Bbl. Displace tbg w/ 9.3 Bbl. Sting out of retainer, spot 5 sx plug above retainer. Pull 60' above retainer. Reverse clean with produced water. TOH w/ tbg & setting tool. Pressure test casing. Pumped into 3 Bbl/ min @ 325 psi. RU Petro to run CBL. Tag bottom @ 2,390'. Run Bond Log from 2,390' to 1,300'. SDON. (ARM)

Daily Costs: \$8,508

AFE Number 90014: \$62,700 Cumulative Costs: \$12,213

## August 14, 1990

#### Day No. 3

Summary: Isolate holes in csg w/ Packer & Bridge plug.

Detail: TIH w/ 4-1/2" packer. Pressure test csg going in hole. Found holes in csg @ 2220' to 2390'. TOH w/ packer. TIH w/ Packer & Bridge plug. Set BP @ 2000'. Pressure test csg to 750 psi. Found hole @ 28' from surface. Csg held good from 28' to 2000'. Had trouble getting packer out of hole. Slip on packer hung up in bad spot in csg @ 28'. Lost 1/2 of slip die downhole. Tried to dress off bad spot w/ 4-1/2" blade bit, could not run retrieving head through bad spot. SDON. (ARM)

Daily Cost: \$3,400

AFE Number 90014: \$62,700 Cumulative Costs: \$15,613

11. Check Appropriate Box to Indicate N NOTICE OF INTENTION TO:			Nature of Notice, Report, or Other Data SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK TEMPORARILY ABANDON PULL OR ALTER CASING OTHER:	PLUG AND ABANDON CHANGE PLANS		REMEDIAL WORK  COMMENCE DRILLING OPNS  CASING TEST AND CEMENT  OTHER:		ALTERING CASING PLUG AND ABANDONMENT Plugback	
work) SEE RULE 1103.  We have r	recompleted the subject	well	to the Mesaverde.	Attach	ned is a recompletion	)n

MAY2 3 1991,

OIL CON. DIV.

Federal Medio #1 111-14-19N-3W

August 15, 1990

Day No. 4

Summary: Pulled parted csg from 25' GL.

Detail: Pull csg. Slips pulled on csg (no weight). Already parted @ 25' GL. Pulled 25' of badly corroded csg (23' of top landing jt and 2' of 2nd jt). Corroded in two. NU wellhead and BOPS. SDON. (CCM)

Daily Cost: \$1,700

AFE Number 90014: \$62,700 Cumulative Costs: \$17,313

## August 16, 1990

Day No. 5

Summary: Backed off csg @ 123'.

Detail: TIH 3 stands. Swabbed dn. TOH. Could see the top of the fish. It looked like it was bent over on top in 3 places, but not completely closed. TIH w/ overshot w/ 4.5" grapples. Worked over fish, pulling off of fish w/ 8,000 # pulled. Called for Wireline Spec. to come out bringing overshot extension. Ran extension and 4.5" grapple. Got a good bite, then wireline tools would not go through fish top. Release overshot. TOH. Ran Tapered mill, opened I.D. and re-ran overshot. Ran wireline back off of 4.5" csg @ 123' GL. POH w/ fish. Installed BOP. SDON. (CCM)

Daily Cost: \$5,674

AFE Number 90014: \$62,700 Cumulative Costs: \$22,987

## August 17, 1990

Day No. 6

Summary: Run 3 jts of 4-1/2" csg and screw into remaining csg. Set slips, cut off csg. Retrieve BP, set @ 1,500. TIH to cement @ 2,370'.

Detail: Tally and run 3 jts of 4-1/2" csg. Screw onto csg. Pressure test csg to 750 psi, okay. Set slips, cut off csg. Nipple up wellhead and BOP. TIH w/ retrieving head. Clean sand off of BP. TOH w/ BP. TIH to 2,370' open ended w/ 2-3/8" tbg. SDON. (ARM)

Daily Cost: \$2,195

AFE Number 90014: \$62,700 Cumulative Costs: \$25,182

August 18, 1990 Day No. 7

Summary: Perforate and squeeze casing.

Detail: RU Dowell. Mix and pump 25 sx of class "B" cement from 2376' to 2021'. Pull tbg to 2120'. Reverse clean. TOOH.

RU Petro and perforate. Squeeze hole @ 1870' and two holes @ 1550'.

RIH w/ 4-1/2" CICR set @ 1800'. Pressure test tbg to 3000 psi - okay. RU Dowell. Try to establish circulation to holes @ 1500'. No circulation, injection rate 2.5 Bbl/min @ 850 psi. Mix and pump 50 sx of class "B" cement. Displace to CICR w/ 7 Bbl H<sub>2</sub>0. Pull out of CICR. Reverse clean. TOOH w/ setting tool. TIH open ended to 1562'. Establish injection rate of .25 Bbl/ min @ 750 psi. Mix and pump 30 sx of class "B" cement. Spot from 1562' to 1,145'. Pull tbg to 1207'. Rverse clean. TOOH. Squeeze away cement with water to 1500.

Note: While displacing cement after 3.5 Bbl, displacement pressure dropped from 1000 psi to 580 psi then slowly increased to 750 psi. 15 min after shut down the pressure was 450 psi. (ARM)

Daily Cost: \$8,141

AFE Number 90014: \$62,700 Cumulative Costs: \$33,773

August 19, 1990 Day No. 8

Summary: Drill cement and CICR.

Detail: TIH w/ 3-7/8" bit. Tag cement @ 1468'. Drill cement out to below squeeze holes @ 1550'. Pressure test csg to 750 psi, okay. Continue in hole. Drill CICR @ 1800'. Drill 20' cement below retainer. Power swivel locked up. Circulate hole clean. SDOWE. (ARM)

Daily Cost: \$1,575

AFE Number 90014: \$62,700 Cumulative Costs: \$35,348

August 21, 1990 <u>Day No. 9</u>

Summary: Drill out cement to 2020'. Perforate 1890' - 1900' and 1945' - 1950'.

Detail: RU Swivel. Drill out cement from 1820' to 2020'. Circulate hole clean w/ produced water. Swab FL down to 1400'. TOOH. RU Petro and run Bond Log from 2020' to 1450'. Perforate intervals 1890' - 1900' and 1925' - 1950', 2 SPF with total of 70 holes. TIH w/ tbg to 1980'. RU to swab. SDON. (ARM)

August 22, 1990 Day No. 10

Summary: Swab test interval 1890'-1900', 1925'-1950'.

Detail: Check pressure, 25 psi tubing, casing 0. FL 100' from surface. Swab FL down to 1700'. One hour test swabbed 19 Bbls, no gas, skim of oil. Total fluid recovered 72 Bbl. Made 61 swab runs. Fluid cut less than 1% oil. Average 19 Bbl/ hr. No gas. RD. Swab. TOOH. (ARM)

August 23, 1990 Day No. 11

Summary: Set CTBP @ 1865'. Perforate 1815'-1835', 1735'-1745', 1620'-1635'. Swab test.

Detail: RU Petro. RIH w/ CIBP, set @ 1865'. FL @ 1125'. Perf intervals 1815'-1835', 1735'-1745', 1620'-1635', w/ 2 SPF total of 90 holes. TIH w/ tbg to 1830'. RU to swab. FL 1st run 500' from surface. Swabbed FL down to 1650'. 1 hr test made 11 runs, recovered 7.5 Bbl fluid. FL stayed @ 1650'. Continue swabbing. 2nd 1 hr test made 11 runs, recovered 5.8 Bbl fluid. FL @ 1700'. All fluid drilling mud, no oil or gas. Load hole w/ water. Breakdown perfs, max pressure 400 psi. Had two pressure breaks while pumping into perfs, 400 psi to 200 psi. Pumped @ 6.8 Bbls FL into perfs. ISIP 200 psi. Total fluid to load hole and pump into perfs 26 Bbls. RU to swab. Made 14 swab runs. Last 7 runs the FL @ 1400'. Resqueezed 36 Bbls. Started getting oil show, increasing every run. Last run @ 5% oil, 95% drilling mud. 63 total runs for the day. 79 Bbl total fluid swabbed. 53 Bbl total fluid out of formation. (ARM)

August 24, 1990

Day No. 12

Summary: Swab test intervals 1815' - 1835', 1735'-1745', 1620'-1635'.

Detail: Check pressures, 0 tbg and 0 csg. First run FL 600' from surface. Swab FL down to 1400', 1 hr test (10:00-11:00) FL 1400'. Made 10 swab runs, recovered 15 Bbl fluid. Oil cut 5% to 7%. Continue swabbing. After first hr test, returns of drilling mud thickened for 4 runs then started to clear up and continued to clear up throughout the day. The second 1 hr test (3:00-4:00) FL 1200', fluid gas cut, drilling mud clearing up. Recovered 23 Bbl/ hr. Oil cut 10%. Continue swabbing. Total runs 61, total Bbl swabbed 139, total Bbls out of formation 192. SWI. SDON. (ARM)

<u>August 25, 1990</u>

Day No. 13

Summary: Swab test and isolate perforated intervals.

Check pressures, 25 psi on tbg, 0 csg. First run 400'. Swabbed FL down to 1400', cut 20% oil, mud getting lighter. Swabbed total 45 Bbls. Load hole w/ water. Clean out to CIBP @ 20' fill. Circulated up grayish sludge. TOOH. TIH w/ packer. Set packer @ 1765'. Check for communications. Pumped 1 Bbl @ 300 Zones communicated 1815'-1835' and 1735'-1745'. packer to 1667'. Check for communications. Pumped 1 Bbl, communicated O psi. Pulled packer above perf. Check csg, 500 psi, okay. Set packer @ 1765'. RU. Swab, made 3 runs. FL dropped to , oil cut 1%. Made 2 more runs, tbg dry. After 15 min. had 175' fluid entry. Moved packer to 1600'. Swabbed FL down to 1525'. Recovered 20.5 Bbl @ 12 Bbl/ hr, 1% oil and drilling muck. SDON. (ARM)

August 26, 1990 Day No. 14

Summary: Swab test.

Check pressure, 25 psi on tbg. First run FL @ 200'. Detail: Release packer, POH. TIH w/ tbg. Pump barrel and 2-3/8" tbg. Tag fill, clean out 40' fill. RU to swab. Swab FL down to 1650'. Made 25 runs, recovered 34 Bbls. Load hole w/ water. Pumped 10 Bbls into perfs @ 400 psi. Swabbed FL down to 1750'. Recovered 21 Bbls in 23 runs, drilling mud and a trace of oil. Total fluid recovered, 81 Bbls, total runs, 48. SDON. (ARM)

## August 28, 1990

## Day No. 15

Summary: Squeeze interval 1815' - 1835'. Establish CICR between interval 1735' - 1745' and 1620' - 1635'. Squeeze interval behind pipe.

Detail: POH w/ tbg pump and 2-3/8" tbg. TIH open ended to CIBP @ 1865'. RU Dowell. Spot 10 sx plug from 1863' to 1724'' w/ 0.1% retarder in cement. Pull tbg to 1758'. Reverse clean. POH. TIH w/ 4-1/2" CICR set @ 1670'. RU Dowell. Establish circulation from 1735' - 1745' behind pipe to 1620' - 1635' @ rate of 1.5 Bbl/min @ 200 psi. Mix and pump 50 sx class "B" cement. Displace to CICR w/ 6.5 Bbl water. (Pressure increased to 720 psi.) Sting out of retainer. Pull tbg to 1412'. Reverse clean @ 1/4 Bbl cement to surface. TOOH w/ setting tool. Squeeze cement away w/ 1.3 Bbl water. TOC @ 1477'. SWI w/ 500 psi on csg. (ARM)

## August 29, 1990

#### Day No. 16

Summary: Drill cement and cement retainer.

Detail: TIH w/ 3-7/8" bit. Tag cement @ 1612'. Clean out to CICR @ 1670'. First cement soft mixed w/ drilling mud. Last 20' above CICR good cement. Pressure test perfs 1620' - 1635'. Pumped into 2.5 Bbl/min @ 350 psi. Drill CICR @ 1670'. Drill cement out to 1722' cement (green). Circulate hole clean. Pull off bottom 60'. SDON. (ARM)

## August 30, 1990

## <u>Day No. 17</u>

Summary: Drill cement. Pressure test and swab test perforated intervals.

Detail: RIH. Tag cement @ 1722'. Drill cement to 1758'. Fell out of cement. Circulate hole clean. TIH. Tag cement @ 1806'. POH w/tbg and bit. Pickup 4-1/2" packer. TIH. Set packer @ 1570'. Load hole, pressure test perfs 1735' - 1746' to 500 psi, okay. Release packer. Pull tbg to 1600'. Swab test for fluid entry. Made 7 runs to swab tbg dry. Wait 15 min, had 600' fluid entry @ 9.2 Bbl/ hr. Swab tbg down 2 runs. Wait 15 min, had 500' fluid entry @ 7.7 Bbl/hr. Release packer. TOOH. RIH w/ bit to 1806'. Drill cement to 1850'. Circulate hole clean. Pull off bottom. SDON. (ARM)

## <u>August 31, 1990</u>

### Day No. 18

Summary: Drill out cement to CIBP 1865'. Perforate intervals 1815'-1835', 1735'-1745'. Swab test interval 1815'-1835'.

Detail: RIH. Drill out cement from 1850' to CIBP at 1865'. Circ hole clean. TOOH with bit and 2-3/8" tbg. RU Petro. Perforate intervals 1815'-1835', 1735'-1745' with 2 SPF - Total 30' - 60 holes. RIH with 4-1/2" packer to 1765'. RUTS. Made 2 runs to swab tbg dry, wait 15 mins - 350' fluid entry, made 2nd run - 25' fluid entry, wait 15 mins between runs. Averaged 350' fluid entry, no show of oil, no gas. Recovered 23 bbls fluid out of perfs. Total 18 swab runs. (ARM)

## September 2, 1990

### Day No. 19

Summary: Swab test interval 1815' - 1835'. Swab test interval 1735' - 1745'. Isolate and check for communication.

Detail: Check pressure, 0 tbg, 0 csg. FL first run 550' from surface, second run FL @ 1550'. FL stayed @ 1700'. Made swab runs 5 min. apart @ 3 Bbl/ hr. Fluid entry. Trace oil (.1%). Swabbed 8.5 Bbls for a total of 31 Bbl out of formation.

Moved packer to 1700'. RUTS. First run FL 900' from surface, second run FL @ 1300'. FL stayed @ 1500'. Made swab runs 5 min apart. Made about 8 runs per hr. Averged 6.2 Bbl/hr, oil cut 10% to 15%. Total fluid recovered was 24 Bbl out of formation.

Release packer. RIH, set @ 1765'. Load csg pump into perfs 1815' - 1835'. Pumped 8 Bbl water at 250 psi with no communication. Release packer. TOOH. SDON. (ARM)

# September 3, 1990 Day No. 20

Summary: Set CIBP over intervals 1815' - 1835'. Set RBP over interval 1735' - 1745'. Squeeze perfs 1620' - 1635'.

Detail: TIH. Set CIBP 1800'. POH. TIH. Set RBP 1715'. Pull 4 jts. Drop 15 gal sand. Displace sand to bottom of tbg w/ water. POH w/ retrieving head. TIH to 1650' open ended w/ 2-3/8" tbg. RU Dowell. Establish injection rate of 2 Bbl/ min @ 500 psi. Mix and pump 35 sx class "G" cement w/ 0.6% fluid loss. Spot cement plug from 1650' to 1204'. Pull tbg to 1234'. Reverse clean. Pull 4 jts. Squeezing cement away .5 Bbl/ min @ 500 psi. Pressure increased to 750 psi after 2 Bbl gone. Slowly pumped cement away as pressure would permit. Pressure would drop slowly from 750 psi to 500 psi @ 2 min. Would pump @ 1/8Bbl to regain pressure. Kept process up until 4.5 Bbl squeezed away. SD 15 min. Pressure dropped slowly to 250 psi. Pumped .25 barrel to pressure. Increased to 750 psi. SD 15 min. Pumped .25 Bbl, pressure 750 psi, slowly dropping. Shut well in, 500 psi. Displace 5 Bbl cement. TOC @ 1544'. SDON. (ARM)

# September 5, 1990 Day No. 21

Summary: Drill out cement. Pressure test interval 1620' - 1635'.

Detail: POH w/ 2-3/8" tbg. TIH w/ 3-7/8" bit & tbg. Tag cement @ 1350'. Drill cement to 1660'. Fell out of cement. Circulate hole clean. POH. Pressure test csg to 500 psi, okay. Start in hole w/ retrieving head. SDON. (ARM)

# September 6, 1990 Day No. 22

Summary: Isolate and swab test interval 1735' - 1745'.

Detail: TIH w/ retrieving head. Clean out 25' sand on RBP. Pickup RBP. POH. TIH w/ packer and 2-3/8" tbg. Set packer @ 1700'. RUTS. Swab test interval 1735' - 1745'. Swab well down, fluid stabilized @ 1550'. Made swab runs 5 min apart @ 8 runs/ hr. Recovered 100' fluid per run @ 3.1 Bbls fluid/ hr. Oil cut 5%-10%. Total fluid recovered this day 12 Bbl out of formation. SDON. (ARM)

## September 7, 1990 Day No. 23

Summary: Swab test interval 1735'-1745'. Pump acid job, interval 1735'-1745'.

Detail: Swab well first run FL 800'. Made 5 runs, swabbed tbg dry, recovered 4.5 Bbl. RD swab, RU Western. Pumped 500 gal 15% HCl. Started pumping acid. Pressure increased to 700 psi. Acid on at 7 Bbl pumped. Pressue broke to 400 psi, pumped acid away at 1 Bbl/ min at 400 psi. Displaced acid to top perf w/ H<sub>2</sub>0. Pressure at end of displacement, 475 psi, ISIP 400 psi. 5 min 250 psi. Bleed well off. RUTS. Swab well down. FL stabilized 1450'. Made 8 runs/ hr. Avg fluid per hr, 7.5 Bbl. Total fluid pumped acid job, 20 Bbl. Total fluid swabbed after acid job, 39 Bbl. 19 Bbl out of formation. Oil cut 1:00 pm, 10%. Oil cut 5:30 pm, 15% -20%. SDON. (ARM)

### September 9, 1990 Day No. 24

Summary: Swab test. Perforated interval 1735'-1745'.

Detail: Check pressure. Tbg 50 psi. Bleed well off. RUTS. First run FL 500' from surface, 75% oil. Swab FL dn to 1450'. FL stabilized. Made swab run 5 min apart, avg 8 runs/ hr.

10:30 recovered 15 Bbl fluid, oil cut 15% - 20%.

12:00 total fluid 19 Bbl, 20% solids, 45% water, 35% oil. FL dropping to 1550'.

2:40 FL 1600'. Recovered 25 Bbl, 20% solids, 35% water, 45% oil. Started making swab run 15 min apart.

5:40 FL 1650', 15% solids, 15% water, 70% oil. 32 Bbl recovered, avg 2.2 Bbl/ hr.

#### September 10, 1990 Day No. 25

Summary: Swab test.

Detail: Check pressure, 50 psi tbg. Bleed pressure off. Swab test. First run FL @ 1100'. Swabbed FL dn to 1650'. Made swab runs 15 min apart. Oil cut 70%, 15% water, 15% sediment, slight blow of gas after each run. Made total of 14 runs, FL entry declining each run. Total fluid recovered this day, 6 Bbl. Avg 2 Bbl/ hr. (ARM)

#### September 11, 1990

Well shut in, waiting on frac equipment. (ARM)

#### September 12, 1990

Waiting on frac crew. (SSD)

#### September 13, 1990

Waiting on frac crew. (SSD)

## September 14, 1990 Day No. 26

Summary: Frac interval 1735'-1745'. Swab test.

Detail: Check pressure. O psi on tbg. Made one swab run, fl 300' from surface, 75% oil. RD, swab, release packer, RIH to 1760;. No fill, pull packer to 1695', set packer. Load csg w/  $\rm H_2O$ . RU Western to wellhead.

Frac well:

pumped 2000 gal 30# gel pad, 700 psi @ 4.5 Bbl/min.
pumped 1000 gal 30# gel w/. 5 ppg 20/40 sand, 880 psi, 4.5 Bbl/min
pumped 1000 gal 30# gel w/1.0 ppg 20/40 sand, 880 psi, 4.5 Bbl/min
pumped 750 gal 30# gel w/2.0 ppg 20/40 sand, 890 psi, 4.5 Bbl/min
pumped 280 gal 30# gel as flush, 870 psi @ 4.5 Bbl/min.
ISIP 650 psi, 5 min 500 psi, 10 min 370 psi. SWI 4 hrs. Open
well up: on vaccum. RUTS, 1st run fl @ surface, made 2 more runs,
fl stabilized @ 800' from surface. Made swab run 10 min apart,
averaged 6 runs per hr @ 20 Bbl fluid/ hr, 5% oil, show of gas
(slight blow all the time). Recovered 55 Bbl total for day. Made
17 swab runs.

Note: Did not communicate with upper perfs during frac.
Total fluid pumped during frac, 120 Bbl (65 Bbl left to recover.) (ARM)

September 15, 1990

Day No. 27

Summary: Swab test.

Detail: Check pressures, 0 psi tbg. FL first run 300'. Fluid stabilized at 800', made 6 runs per/ hr. Swabbed @ 75 Bbl, fluid cut 25% ( 15% sediment) FL started dropping slowly, end of day FL 1100', making 6 runs per/ hr @ 14 Bbl per/ hr. fluid entry. Oil cut 40% (15% sediment). Total swabbed Thursday, 116 Bbl, total fluid recovered after frac, 171 Bbl. SWI. SDON.

Well making small amount of gas, blowing between runs.) Note: (ARM)

# September 16, 1990

Day No. 28

Summary: Clean out sand, land tbg. RDMO.

Detail: Check pressure, 0. FL first run 300' from surface. Well flowed for 25 min, making @ 75% oil. RD. Swab. Release packer and POH. TIH w/ pumping string. Tag fill @ 1750'. Clean out fill to 1800'. Circulate hole clean. Land tbg, ND BOPs, NU wellhead. RDMO. (ARM)

1,763.22' KE	Production String:	1 2-3/8" sawtooth collar 1 jt 2-3/8" tbg 1 2-3/8" seating nipple 53 jts 3-3/8" tbg 12' KB	33.00 1.10 1,716.67 12.00	KВ
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# September 18, 1990

Waiting on rig.

## September 19, 1990

Summary: Run rods.

TIH with Pampa Pump, 1 - 2' pony, 67 - 3/4" rods with SN, DETAIL:

boxs 2 - 6', 1 - 8', 1 - 2', pony. Space out. RDMO.

(Fizz)

# September 28, 1990

Summary: Hookup in progress.