

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Form Approved.
Budget Bureau No. 42-R1424

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 Form 9-331-C for such proposals.)

1. oil ☐ gas ☐ other ☒ Drilling Well

2. NAME OF OPERATOR
Marathon Oil Company

3. ADDRESS OF OPERATOR
P. O. Box 2659, Casper, WY 82602

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 1,025' FNL & 1,050' FEL, Unit A
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

PULL OR ALTER CASING

MULTIPLE COMPLETE

CHANGE ZONES

ABANDON*

(other) Please See Below

SUBSEQUENT REPORT OF:

5. LEASE

NM 020501-Dakota

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Ohio "C" Government

9. WELL NO.

2E

10. FIELD OR WILDCAT NAME

Basin Dakota

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

Sec. 26, T28N, R11W

12. COUNTY OR PARISH 13. STATE

San Juan

New Mexico

14. API NO.

30-045-24395

15. ELEVATIONS (SHOW OF, KDB, AND WD)

5,709' GL, 5,719' KB

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

PROGRESS REPORT
See Attachments

From 9/17/80 To 5/26/81



Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

Drilling

SIGNED

JNE Bingham

TITLE

Superintendent

DATE

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL IF ANY:

ACCEPTED FOR RECORD

AUG 11 1981

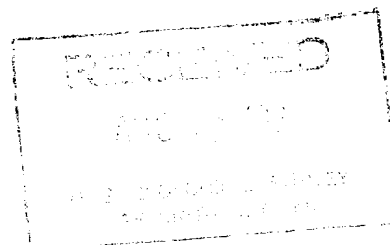
NMOCC

*See Instructions on Reverse Side

FARMINGTON DISTRICT

BY

[Signature]



9-17-80 472⁺ MADE 462⁺ IN SAND & SHALE FORMATION. MW 8.9, VIS 45. PMP PRESS 600, GPM 282. BIT NO 1, 12-1/4", HTC, OSC34, JETS 12/12/12, DEPTH IN 0, 472 FT, 7-3/4 HRS, 61 FT/HR. OPERATION: NONE. RPM 60, WT ON BIT 30,000#. DEV DEPTH 290⁺ INC 1/4°.

COMPONENT	LENGTH	O.D.	I.D.
BIT	.75 ⁺	12-1/4"	
X OVER	4.10 ⁺	7-7/8"	2-1/2"
16 DC ⁺ S	572.00 ⁺	6-1/2"	2-3/8"

TOTAL BHA 576.85⁺. FINISHED MOVING IN, RURT. DRLD RAT & MOUSE HOLES. MIXED SPUD MUD. SPUDDER WELL @ 11:00 AM 9-16-80. DRLD 0-472⁺. PRESENTLY DRLG AHEAD.

9-18-80 510⁺ MADE 38⁺ IN SAND FORMATION. MW 8.8, VIS 38. PMP PRESS 900, GPM 256. BIT NO 1, 12-1/4", HTC, OSC34, JETS 12/12/12, DEPTH IN 0, DPETH OUT 500⁺, 490 FT, 9-3/4 HRS, 51.2 FT/HR, COND 4-3-I. OPERATION: PULLED. BIT NO 2, 8-3/4", SMITH, F-2, JETS 12/12/12, DEPTH IN 500⁺, 10 FT, 1/2 HRS, 40 FT/HR. OPERATION: NONE. RPM 55, WT ON BIT 25,000#. DEV DEPTH 500⁺ INC 1°.

COMPONENT	LENGTH	O.D.	I.D.
BIT	.75 ⁺	8-3/4"	
16 DC ⁺ S	490.25 ⁺	6-1/8"	2-3/8"

TOTAL BHA 491.00⁺. DRLD 12-1/4" HOLE 472⁺-500⁺. CIRC 1-1/2 HRS, SHORT TIRP 5 STDs, HOLE OK. CIRC 1 HR, POH. DRLD SHOE + 5⁺ OF FORMATION. CSG RAN AS FOLLOWS.

NO.	JTS	SIZE	OVERALL LENGTH	EFFECTIVE LENGTH	SETTING FROM	DEPTH TO
1		9-5/8" RUCKER	.85	.85	499.15	500.00
		GUIDE SHOE				
1		9-5/8" 36# 8RD	37.31	37.11	462.04	499.15
		K-55 STC R-3 C-1				
1		9-5/8" RUCKER			462.04	
		INSERT FLOAT				
13		9-5/8" 36# 8RD	494.54	492.04	+3 KB	462.04
		K-55 STC R-3 C-1				
14			531.85	529.15		

NO. CENTRALIZERS: 3; DEPTHS OR JTS: 8FT ABOVE SHOE 2, 3. LANDED SHOE AT 500⁺ KB. 1ST STAGE: CMT CSG W/300 SKS CLASS "B" W/2% CACL. USED 100% EXCESS VOLUME. PMPD 20 BBLs WTR AHEAD, 0 BBLs BEHIND. MIXING TIME 12 MINS, PMPG TIME 0 MINS, TOTAL TIME 0 MINS. CIRC PRESS 250, DISPLACEMENT PRESS 350, MAX PRESS 350. DISPLACE CMT W/38 BBLs WTR W/BJ PMP. BMPD PLUG W/700 PSI. PLUG DOWN @ 2:30 PM 9-17-80. GOOD RETURNS WHILE CMTG. CIRC 50 BBLs SKS TO SURFAC. FLOAT EQUIP CHECKED OK. WOC 4 HRS. EST'D CMT TOP IN ANNULUS SURFACE.

9-19-80 1,550[±] MADE 1,040[±] IN SAND & SHALE FORMATION. MW 10.0, VIS 48, WL 36, PH 8.4, PV 41, YP 14, 10/18 GELS, 6.4 SOLIDS, 190 CHLORIDE, 224 CALCIUM. PMP PRESS 1,200, GPM 288, ANNULAR VELOCITY 120/174. BIT NO 2, 8-3/4", SMITH, F-2, JETS 12/12/12, DEPTH IN 500[±], 1,050 FT, 22-1/4 HRS, 47.2 FT/HR. OPER: DRLG. RPM 60, WT ON BIT 35,000#. DEV DEPTH 1,010[±] INC 1-1/4°.

COMPONENT	LENGTH	O.D.	I.D.
BIT	1.00 [±]	8-3/4"	
17 DC [±] S	518.75 [±]	6-1/8"	2-1/4"

TOTAL BHA 519.75[±]. CONT DRLG & SURV TO PRESENT DEPTH, NO PROBLEMS.

9-20-80 1,950[±] MADE 400[±] IN SHALE FORMATION. MW 10.1, VIS 52, WL 10, PH 9.5, PV 20, YP 14, 5/18 GELS, 10 SOLIDS, 100 CHLORIDE, TR CALCIUM. PMP PRESS 1,200, GPM 288, ANNULAR VELOCITY 120/174. BIT NO 2, 8-3/4", SMITH, F-2, JETS 12/12/12, DEPTH IN 500[±], DEPTH OUT 1,950[±], 1,450 FT, 34-1/4 HRS, 42.3 FT/HR, COND 5-4-1/8. OPER: PULLED. RPM 60, WT ON BIT 35,000#. DEV DEPTH 1,560[±] INC 1-1/2°. TOTAL BHA 519.75[±]. DRLD TO 1,950[±], FIN 8-3/4" HOLE 8:30 PM 9-19-80, CIRC 1-1/2 HRS, SHORT TRIPPED TO SURF CSG, TIH, WASHED & REAMED 150[±] TO BTM, CIRC 1 HR, POH, L/D DP, R/U CSG CREW, PRESENTLY RUNNING 7" CSG.

9-21-80 2,137[±] MADE 187[±] IN SAND & SHALE FORMATION. MW 8.8, VIS GEL & WTR. PMP PRESS 1,200, GPM 279, ANNULAR VELOCITY 120/174. BIT NO 3, 6-1/4", SMITH, F-2, JETS 16/16/16, DEPTH IN 1,950[±], 187 FT, 3-3/4 HRS, 49.9 FT/HR. OPER: DRLG. RPM 60, WT ON BIT 28,000#.

COMPONENT	LENGTH	O.D.	I.D.
BIT	0.70 [±]	6-1/4"	
6 PT RMR	7.26 [±]	6-1/4"	
1 DC	30.40 [±]	4-3/4"	
IBS	5.38 [±]	6-1/4"	
1 DC	30.25 [±]	4-3/4"	
IBS	7.00 [±]	6-1/4"	
26 DC [±] S	770.39 [±]	4-3/4"	

TOTAL BHA 851.38[±]. RAN 47 JTS, 7" 20# 8RD K-55, STC CSG, WASHED THROUGH BRIDGE @ 1,910[±], LANDED SHOE @ 1,950[±], CIRC 1 HRS, RU BH & CMTD W/125 SKS BH LIGHT W/2% CACL2, FOLLOWED BY 125 SKS CLASS "B" W/2% CACL2, CIP @ 10:15 FAM 9-20-80. WOC 4 HRS, SET SLIPS W/90,000#, CUT OFF CSG, INSTALLED WELDHEAD, TESTED BLIND RAMS TO 2,200 PSI 15 MINS OK, RIH, TAG CMT @ 1,880[±], TEST PIPE RAMS TO 2,200 PSI 15 MINS OK. DRLD FLOAT COLLAR, TESTED CSG TO 2,200 PSI 15 MINS OK. DRLD OUT TO 1,955[±], TESTED SHOE TO 800 PSI OK (16.7 PPG EQUIVALENT), PRESENTLY DRLG AHEAD.

9-22-80 3,045[±] MADE 908[±] IN SAND & SHALE FORMATION. MW 8.5, VIS 27 BENEX & WTR. PMP PRESS 1,250, GPM 297, ANNULAR VELOCITY 423/304. BIT NO 3, 6-1/4", SMITH, F-2, JETS 16/16/16, DEPTH IN 1,950[±], 1,095 FT, 26-1/2 HRS, 41.3 FT/HR. OPER: NONE. RPM 60, WT ON BIT 30,000#. DEV DEPTH 2,421[±] INC 3/4°, DEV DPETH 2,920[±] INC 3/4°. TOTAL 851.38[±]. DRLD & SRUV 2,137[±]-3,045[±], PRESENTLY DRLG AHEAD.

9-23-80 3,779[±] MADE 734[±] IN SAND & SHALE FORMATION. MW 8.6, VIS 28 BENEX & WTR. PMP PRESS 1,300, GPM 298, ANNULAR VELOCITY 423/304. BIT NO 3, 6-1/4", SMITH, F-2, JETS 16/16/16, DEPTH IN 1,950[±], DPETH OUT 3,067[±], 1,117 FT, 27-1/2 HRS, 40.6 FT/HR, COND 5-8-0. OPER: PULLED. BIT NO 4, 6-1/4", SMITH, F-2, JETS 16/16/16, DEPTH IN 3,067[±], 712 FT, 18-1/2 HRS, 385 FT/HR. OPER: DRLG. RPM 60, WT ON BIT 30,000#. DEV DEPTH 3,390[±] INC 1°. TOTAL BHA 851.38[±]. DRLD TO 3,067[±], ROP SLOWED, POH FOR BIT #4, TIH, WASHED 20[±] OF FILL TO TD. PRESENTLY DLRG AHEAD @ 3,779[±].

9-24-80 4,535[±] MADE 756[±] IN MARQUIS FORMATION. MW 8.6, VIS 28 WTR & BENEX. PMP PRESS 1,400, GPM 298, ANNULAR VELOCITY 423/304. BIT NO 4, 6-1/4", SMITH, F-2, JETS 16/16/16, DEPTH IN 3,067[±], 1,468 FT, 41-1/2 HRS, 35.6 FT/HR. OPER: NONE. RPM 60, WT ON BIT 30,000#. DEV DEPTH 3,911[±] INC 1-1/2°, DEV DEPTH 4,494[±] INC 3-3/4°. DRLD & SURV 3,779[±]-4,535[±], PRESENTLY DRLG @ 4,535[±] W/20,000# WAS ATTEMPTING TO CORRECT DEV, DRLG @ 2-1/2 MIN/FT. NOT HAVING TIGHT CONNECTION.

9-25-80 4,864[±] MADE 329[±] IN MARCOS FORMATION. MW 8.7, VIS 28, WTR & BENEX. PMP PRESS 1,550, GPM 298, ANNULAR VELOCITY 423/304. BIT NO 4, 6-1/4", F-2, SMITH, JETS 16/16/16, DEPTH IN 3,067[±], 1,797 FT, 62-1/2 HRS, 28.8 FT/HR. RPM 60, WT ON BIT 20,000#. DEV DEPTH 4,590[±] INC 4-1/4°, DEV DEPTH 4,677[±] INC 3-1/2°, DEV DPETH 4,797[±] INC 3°. TOTAL BHA 851.38[±]. DRLD & SURV FROM 4,535[±]-4,864[±], DLRG AHEAD @ 5 MIN/FT.

9-26-80 5,390⁺ MADE 526⁺ IN MARCOS FORMATION. MW 8.6, VIS 28. PMP PRESS 1,300, GPM 270, ANNULAR VELOCITY 383/275. BIT NO 4, 6-1/4", SMITH, F-2, JETS 16/16/16, DEPTH IN 3,067⁺, 2,323 FT, 84-1/2 HRS, 27.5 FT/HR. OPER: NONE. RPM 60, WT ON BIT 25,000#. DEV DEPTH 4,904⁺ INC 2-1/2°, DEV DEPTH 5.-31⁺ INC 2°, DEV DEPTH 5,289⁺ INC 1-3/4°. TOTAL BHA 851.38⁺. DRLD & SURV FROM 4,864⁺-5,390⁺ AT THIS AM, DRLG AHEAD @ 3 MPF.

9-27-80 5,537⁺ MADE 147⁺ IN SAND & SHALE FORMATION. MW 8.6, VIS 28 WTR & BENEX. PMP PRESS 1,300, GPM 270, ANNULAR VELOCITY 383/275. BIT NO 4, 6-1/4", SMITH, F-2, JETS 16/16/16, DEPTH IN 3,067⁺, DEPTH OUT 5,537⁺, 2,470 FT, 89-3/4 HRS, 27.3 FT/HR, COND 6-4-IN. OPER: PULLED. BIT NO 5, 6-1/4", HTC, J-33, JETS 16/16/16, DEPTH IN 5,537⁺. OPER: RIH. DEV DPETH 5,497⁺ INC 1-1/2°. DRLD 5,390⁺-5,537⁺, POH, CHANGED BITS WHILE INSTALLING FLOAT IN BH COLLAR. CROPPED CROW'S FOOT FOR TOTCO IN HOLE. WAIT ON FISHING TOOLS (3-1/2 HRS), RIH W/5-3/4" OD MAGNET & 5-3/4" BOOT BASKET, HAD 1⁺ OF FILL, CIRC BTMS UP. S/O PUMP & SAT DOWN W/10,000#, POH & RECOVERED CROW'S FOOT ON MAGNET. PRESENTLY RIH W/BIT #5.

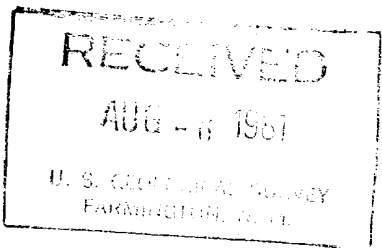
9-28-80 5,892⁺ MADE 355⁺ IN SANASTEE FORMATION. MW 9.1, VIS 50, WL 8.4, PH 9, YP 18, 11/18 GELS, 5 SOLIDS, 100 CHLORIDE, TR CACLIUM. PMP PRESS 1,400, GPM 284, ANNULAR VELOCITY 416/274. BIT NO 5, 6-1/4", HTC, J-33, JETS 16/16/16, DEPTH IN 5,537⁺, 3,055 FT, 22-1/4 HRS, 16 FT/HR. OPER: NONE. RPM 60, WT ON BIT 28,000#. FIN RIH W/BIT #5, HOLE IN GOOD SHAPE. HAD 1⁺ OF FILL. DRLD 5,537⁺-5,892⁺ (355⁺), NO TIGHT HOLE ON CONNECTIONS. DRLG AHEAD @ 5:00 AM (LOGGING DEPTH 6,380⁺).

9-29-80 6,096⁺ MADE 204⁺ IN GRANEROS FORMATION. MW 9.3, VIS 45, WL 8.4, PH 9, PV 17, YP 18, 11/13 GELS, 6 SOLIDS, 100 CHLORIDE, TR CALCIUM. PMP PRESS 1,400, GPM 261, ANNULAR VELOCITY 398/256. BIT NO 5, 6-1/4", HTC, J-33, JETS 16/16/16, DEPTH IN 5,537⁺, 559 FT, 44-3/4 HRS, 12-1/2 FT/HR. OPER: NONE. RPM 60, WT ON BIT 20,000#. DEV DEPTH 5,995⁺ 6° TOOK RUBBER CENTRALIZER FINGERS OFF TOTCO TOOL. TOTAL BHA 851.38⁺. DRLD 5,872⁺-6,096⁺ (204⁺), PRESENTLY DLRD @ 7 MINS/FT.

9-30-80 6,182⁺ MADE 86⁺ IN DAKOTA FORMATION. MW 9.1, VIS 47, WL 6.8, PH 10, PV 17, YP 15, GELS 3/11, 8.8 SOLIDS, 100 CHLORIDE, 20 CALCIUM. PMP PRESS 1,400, GPM 287, ANNULAR VELOCITY 416/274. BIT NO 5, 6-1/4", HTC, J-33, JETS 16/16/16, DEPTH IN 5,537⁺, 645 FT, 60-1/2 HRS, 10.7 FT/HR. OPER: STUCK. RPM 60, WT ON BIT 20,000#. DEV DEPTH 6,060⁺ INC 6-1/4°. TOTAL BHA 851.38⁺. DRLD FROM 6.096⁺-6,182⁺, LOST 300 BBLs MUD, MIXED LCM PILL, REGAINED CIRC BUT PIPE WAS STUCK, CONTINUED TO CIRC & WORK PIPE, SPOTTED 750 GALLS DIESEL, 60 GASL BARIOD "EZ" SPOT AROUND DC, CONTINUE TO WORK PIPE & WAIT ON OIL (PULLING 160,000# W/NO RESULTS).

10-1-80 6,182⁺ MADE 0⁺ IN DAKOTA FORMATION. MW 9.1, VIS 35, WL 6.8, PH 10, PV 17, YP 15, GELS 3/11, SOLIDS 8.8, CHLORIDE 100, CALCIUM 20. BIT NO 5, 6-1/4", HTC, J-33, JETS 16/16/16, DEPTH IN 5,537⁺, 655 FT, 60-1/2 HRS, 10.7 FT/HR. OPER: STUCK.

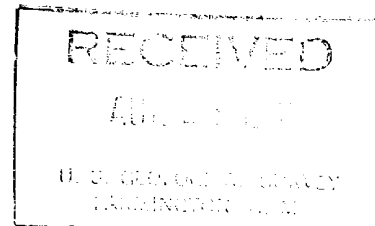
COMPONENT	LENGTH	O.D.	I.D.
BIT	.70		
6 PT RMR	7.26 ⁺		
1 DC	30.40 ⁺		
IBS	5.38 ⁺		
1 DC	30.40 ⁺		
IBS	7.00 ⁺		
2 DC+S	61.06 ⁺		
SCREW IN SUB	1.75 ⁺		
BUMPER SUB	6.13 ⁺		
BOWEN JARS	6.80 ⁺		
X/O SUB	1.10 ⁺		
23 DC+S	678.93 ⁺		
X/O SUB	1.18 ⁺		
ACC SUB	10.83 ⁺		
X/O SUB	.72 ⁺		



TOTAL BHA 849.64⁺. LET OIL SOAK IN FORMATION IN ATTEMPT TO FREE PIPE, PMPD 5 BBLs EVERY 1/2 HR & PULLED 50,000# OVER STING WT EVERY 15 MINS FOR 4-3/4 HRS, STILL SUTCK. RU NOWSCO, DISPLACED DP W/30,000 CU FT N2, RU BJ HUGHES & DISPLACED N2 AROUND ANNULUS, CONT'D WORKING PIPE, AFTER N2 CAME TO SURFACE, PIPE STILL STUCK, REGAINED FULL CIRCULATION W/MUD, CIRC FOR 1/2 HR, RU GO WL, RAN FREE PT, FOUND PIPE STUCK @ 6,135⁺, RIH TO BACK OFF, 1ST CHANGE BECAME LODGED IN FLOAT WHEN TAGGING VTM, HAD TO DETONATE TO FREE TOOL, POH, RIH W/2ND CHARGE, SET OFF @ 6,025⁺, BACKED OFF ALL BUT 4 DC+S, 2 IBS, 6 PT RMR & BIT (142.20⁺), POH, MADE UP FISHING TOOLS, RIH W/TOOLS SCREWED INTO FISH, BEGAN JARRING FOR 1-3/4 HRS, NO MOVEMENT, PRESENTLY CIRC & W/O ORDERS.

10-2-80 6,182⁺ MADE 0⁺ IN DAKOTA FORMATION. MW 9.1, VIS 35, WL 6.8, PH 10, PV 17, YP 15, 3/11 GELS, 9 SOLIDS, 100 CHLORIDE, 20 CALCIUM.

COMPONENT	LENGTH	O.D.	I.D.
BIT	.70 ⁺	6-1/4"	
6 PT RMR	7.26 ⁺	6-1/4"	
1 DC	30.40 ⁺	4-3/4"	
SHOE	4.00 ⁺	5-3/4"	
WASH PIPE	32.43 ⁺	5-3/4"	
X/O SUB	1.25 ⁺	5-3/4"	
JARS	6.80 ⁺	4-3/4"	
X/O SUB	1.10 ⁺	4-3/4"	
23 DC ⁺ S	678.93 ⁺	4-3/4"	



TOTAL BHA 762.87⁺. MIXED 1,000 GALS DIESEL W/150 GALS "PIPE LAX" SPOTTED ON BTM, WAITED 2 HRS, JARRED EVERY 15 MINS, PMPD 30 SKS W/RIG PUMP EVERY 30 MINS, DISPLACE DIESEL W/MUD & CIRC BTMS UP, RU GO WL, RAN FREE PT, SHOWED NO MOVEMENT @ 6,135⁺, BACKED OFF @ 61,23⁺, FISH NOW CONSISTS OF BMT HOLE COLLAR, 6 PT RMR & BIT (38.36), POH, PICKED UP SCALLOPED BMT SHOE, 1 JT WASH PIPE, JARS, & DC⁺S. PRESENTLY TRIPPING IN HOLE W/FISHING TOOLS.

10-3-80 6,182⁺ MADE 0⁺ IN DAKOTA FORMATION. MW 9.1, VIS 46, WL 4.2, PH 7.5, PV 33, YP 27, 6/14 GELS, 5.6 SOLIDS, 210 CHLORIDE, 89 CALCIUM. BIT NO 6, 6-1/4", HTH, J-33, JETS 16/16/16, DEPTH IN 6,182⁺. OPER: TRIP.

COMPONENT	LENGTH	O.D.	I.D.
BIT	.70 ⁺	6-1/4"	
26 DC ⁺	770.94 ⁺	4-3/4"	

TOTAL BHA 771.64⁺. FIN TIH W/WASHOVER PIPE, WASH & REAM 330⁺, TOP OF FISH @ 6,123⁺, WASH 15⁺ OVER FISH, FISH MOVED 12⁺ DOWN THE HOLE, WASH TO BTM HOLE REAMER, CIRC 1/2 HR, POH, L/D WASHOVER PIPE, TIH W/SCREW-IN SUB, JARS & ACCELERTOR. WASHED 210⁺ TO TOP OF FISH, SCREWED INTO FISH, ATTEMPT 3 TIMES W/JARS @ 40,000 LBS OVER STRING WT, POH W/FISH DRAGGING 40-50 PTS FOR 1ST 200 FT, L/D FISH, PRESENT OPERATION - TRIP IN HOLE W/BIT #6, HOLE COND NOT GOOD.

10-4-80 6,225⁺ MADE 42⁺ IN DAKOTA FORMATION. MW 9.1, VIS 46, WL 4.2, PH 7.5, PV 33, YP 27, 6/14 GELS, 5.6 SOLIDS, 210 CHLORIDE, 86 CALCIUM. PMP PRESS 1,200, GPM 260, ANNULAR VELOCITY 416/274. BIT NO 6, 6-1/4", HTC, J-33, JETS 16/16/16, DEPTH IN 6,182⁺, 42 FT, 11 HRS, 4.0 FT/HR. OPER: MIX MUD. RPM 60, WT ON BIT 30,000#. TOTAL BHA 771.64⁺. FIN TIH, REAM 310⁺ TO BTM, DRLD TO 6,225⁺, LOST COMPLETE RETURNS, PRESENTLY MIXING MUD & LCM TO REGAIN CIRC AFTER PULLING 10 STDs.

10-5-80 6,420⁺ MADE 195⁺ IN SAND FORMATION. MW 9.1, VIS 48, WL 7.6, PH 7.5, PV 28, YP 15, 4/12 GELS, 5.6 SOLIDS, 190 CHLORIDE, 86 CALCIUM. PMP PRESS 1,400, GPM 287, ANNULAR VELOCITY 254/410. BIT NO 6, 6-1/4", HTC, J-33, JETS 16/16/16, DEPTH IN 6,782⁺, 237 FT, 33 HRS, 7.1 FT/HR. OPER: CIRC. RPM 60, WT ON BIT 28,000#. TOTAL BHA 771.64⁺. LOST CIRC @ 6,225⁺, POH 10 STDs, MIX MUD FOR LOST CIRC, BROUGHT LCM UP TO 10%, RIH, CONT'D DRLG W/FULL RETURNS, DRLG BREAK 6,390⁺-6,590⁺, FIN 6-1/4" HOLE @ 7:00 AM 10-5-80, PRESENTLY CIRC, PRIOR TO SHORT TRIP FOR LOGS.

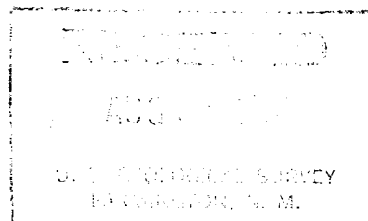
10-6-80 6,420⁺ MADE 0⁺ IN DAKOTA FORMATION. MW 9.1, VIS 67, WL 6.4, PH 7.5, PV 31, YP 22, 6/10 GELS, 5.6 SOLIDS, 210 CHLORIDE, 50 CALCIUM. PMP PRESS 1,400, GPM 220, ANNULAR VELOCITY 254/410. BIT NO 6, 6-1/4", HTC, J-33, JETS 16/16/16, DEPTH IN 6,182⁺, DEPTH OUT 6,420⁺, 237 FT, 33 HRS, 7.1 FT/HR, COND 4-E-IN. OPER: PULL. DEV DEPTH 6,420⁺ INC 5-3/4". CIRC 1 HR, MADE 15 STD SHORT TRIP NO FILL. CIRC 3/4 HRS, POH. RU DRESSER ATLAS, RAN DIL TO LOGGERS TO @ 6,436⁺, TOOL DRAGGED @ 6,380⁺ & HUNG UP @ 6,370⁺, WORKED TOOL LOOSE W/5,000# PULL. PULLED TOOL OUT OF HOLE & RD DRESSER ATLAS. RIH W/BIT, REAMED 200⁺ TO BTM FOR SAFETY, NO BAD SPOTS. CIRC 1-1/4 HRS, POH. RU DRESSER ATLAS, RAN DIL LOG 6,436⁺-1,900⁺. PRESENTLY RUNNING CNL/DENSITY.

10-7-80 6,421⁺ CORRECTED DEPTH. MADE 0⁺ IN DAKOTA FORMATION. MW 9.1, VIS 67, WL 6.4, PH 7.5, PV 33, YP 21, 6/10 GELS, 5.6 SOLIDS, 210 CHLORIDE, 60 CALCIUM. FIN RUNNING CNL/DEN 6,436⁺-1,900⁺, RD LOGGERS, RIH & CIRC 2 HRS. POH L/D DP & DC⁺S, CSG RAN AS FOLLOWS:

NO. JTS	SIZE	OVERALL LENGTH	EFFECTIVE LENGTH	SETTING FROM	DEPTH TO
0	4-1/2" RUCKER GUIDE SHOE	1.25	1.25	6419.75	6421.00
1	4-1/2" 10.5 8RD K-55 STC R-3 C-1	42.95	42.75	6377.00	6419.75
0	4-1/2" RUCKER FLOAT COLLAR	1.75	1.55	6375.45	6377.00
40	4-1/2" 10.5 8RD K-55 STC R-3 C-1	1678.26	1670.26	4705.19	6375.45
1	RUCKER STAGE CEMENTER	3.45	3.25	4701.94	4705.19
80	4-1/2" 10.5 8RD K-55 STC R-3 C-1	3397.31	3381.31	1320.63	4701.94
<u>31</u>	4-1/2" 11.6 8RD K-55 STC R-3 C-1	<u>1331.01</u>	<u>1324.81</u>	+4.15 KB	1320.63
152		6449.53	6419.13		

NO. CENTRALIZERS: 10; DEPTHS OR JTS: 1,3,5,7,9,11,13,15,40,42, CMT BASKET ON JTS #38. LANDED SHOE @ 6,421⁺ KB. 1ST STAGE: CMT CSG W/150 SKS BJ 50/50 POX W/6% GEL, .8% D-19, 1/2# FLOCELE, FOLLOWED BY 100 SKS CLASS "B" W/NEAST. USED 50% EXCESS VOLUME. PMPD 10 BBLS WTR AHEAD, 0 BBLS BEHIND. MIXING TIME 0 MINS, PMPG TIME 0 MINS, TOTAL TIME 0 MINS. CIRC PRESS 250, DISPLACEMENT PRESS 350, MAX PRESS 750. DISPLACED CMT W/103 BBLS WTR W/BJ PMP. BUMPED PLUG W/750 PSI. PLUG DOWN @ 4:00 AM 10-7-80. GOOD RETURNS WHILE CMT⁺D. CIRC 20 SKS CMT TO SURFACE THROUGH DV TOOL. 2ND STAGE: CMT CSG W/385 SKS OF 65/35 POS W/6% GCL, .5% D-19, 1/3# FLOCELE. USED 50% EXCESS VOLUME. PMPD 10 BBLS WTR AHEAD, NONE BEHIND. MIXING TIME 0 MINS, PMPG TIME 0 MINS, TOTAL TIME 0 MINS. CIRC PRESS 250, DISPLACMENT PRESS 450, MAX PRESS 1,200. DISPLACE CMT W/76 BBLS WTR W/BJ PUMP. BUMPED PLUG W/1,200 PSI. PLUG DOWN @ 6:45 AM 10-7-80. GOOD RETURNS WHILE CMT⁺G. CIRC 0 CMT TO SURFACE. FLOAT EQUIP CHECK OK. WOC 0 HRS. LANDED CSG ON SLIPS W/90,000#. EST CMT TOP IN ANNULUS 1,500 FT.

10-8-80 6,421⁺ MADE 0⁺ IN DAKOTA FORMATION. SET 4-1/2" CSG ON SLIPS W/90,000#. N/D BOP. RIG RELEASED @ 3:00 PM 10-7-80. RIG PRESENTLY MOVING TO OHIO "A" GOV⁺T #2E.



- 12-6-80 Move Drake rig #25 on location. Tally tbg & begin running in hole w/3-3/4" bit & 2 drill collars.
- 12-7-80 RIH w/2-3/8" tbg. Drill out stage collar @ 4702'. POH. RIH w/bit & 4 1/2" csg scraper. Drilled out rubber plug @ 6402'. SDN.
- 12-8-80 Static. Sunday.
- 12-9-80 Circ hole w/2% KCl wtr. POH. RU McCullough & ran bond log from 6396' to 3400' w/no press on csg. Log showed 100% bond from 6396' to 5214'. Press tested csg to 3500 psi. Press held ok. Didn't run bond log under 1000 psi press as per procedure due to good bond w/no press on csg.
- 12-10-80 RU McCullough & perf Dakota Fmtn from 6282' - 6288' & 6316' - 6321'. RU Western Co for Frac. Fraced as follows:
- | Rate | Conc | Amt Pmpd | Press | # Sand |
|------|------|--------------------------|-------|--------|
| 20 | Pad | 10,000 gal | 2,400 | 0 |
| 20 | 1/2 | 8,000 | 2,400 | 4,000 |
| 20 | 1 | 5,000 | 3,400 | 5,000 |
| 20 | 2 | 3,300 (amt put into fmn) | 3,500 | 6,600 |
- Frac Sanded Out 15,600#
RIH w/tbg & circ out sand in csg. Attempted to refrac well. Pmpd 5 BPM @ 3500 psi but could not break down tmtn. Released Western. SDN.
- 12-11-80 RU McCullough. RIH w/retrievable bridge plug. BP would not go thru stage collar @ 4702'. COH w/BP. RIH w/bit & scraper & clean out hole to 6402'. POH. RIH w/BP, BP would still not go through stage collar. POH. SDN.
- 12-12-80 RU McCullough to perf Dakota from 6200' - 6249' w/a 10' gun, a 19' gun, & a 20' gun.
Run #1 - 20' gun wouldn't fire. POH. Gun full of wtr.
Run #2 - 10' gun wouldn't fire. POH. Ground wire disconnected.
Run #3 - RIH w/10' gun again, still wouldn't fire.
Run #4 - RIH w/20' gun again, still wouldn't fire.
Run #5 - RIH w/19' gun, gun FIRED!
Run #6 - RIH w/20' gun, didn't fire.
Run #7 - RIH w/10' gun, gun fired.
Run #8 - RIH w/20' gun, gun fired.
Electrical short in collar locator probable cause of misfires on Runs #3, #4, & #6.
- 12-13-80 RU Western to frac Dakota perfs from 6200' - 6249'. Frac as follows:
- | Rate | Cond | Amt Pmpd | Press | # Sand |
|--------|---------|----------|---------|--------|
| 13 BPM | Pad | 309 bbl | 800 psi | 0 |
| 23 | 1/2 ppg | 238 | 800 | 5000 |
| 22 | 1 | 167 | 800 | 7000 |
| 22 | 2 | 190 | 800 | 16000 |
| 22 | 3 | 332 | 800 | 41800 |
| 21 | Flush | 98 | 1150 | 0 |
| | | | | 69800# |
- Western Sand transport truck broke down, could not complete treatment. SD sand 25,200# short of planned design.
- 12-14-80 Cleaned out well to 6402' w/nitrogen & soap. Landed tbg @ 6182' w/profile nipple @ 6174'. NU tree. Unloaded well w/nitrogen. SWI, SDN.
- 12-15-80 Well SI overnight for 14 hrs. SITP=SICP=325 psi. Well flowed to pit 4 min before dying. TP 0, CP 170 psi. Avg rate approx 25 MCFPD.
- 12-16-80 Swabbed 75 BW 7 cond. In morning well would flow for 10 min between swab runs. In afternoon, well flowed a 10' flare for 1 hr between runs. CP built to 900 psi.

12-17-80 Made a swab run @ 8 a.m., well flowed till 3 p.m. before dying. Made 2nd swab run, well flowed till 6 p.m. when well was SI. Recovered 12 BW. Well flows a 10' flare between swab runs.

12-18-80 Flowed well to pit all day & night. Approx rate 50 MCFPD, 2 gal/min wtr & cond. FCP - 415 psi. RD Drake #25.

12-19-80 Flowing well to pit. Approx rate 50 MCFPD, 2 gal/min fluid (10-15% cond, 90-85% wtr.)

12-20-80 CP 250, approx rate 50 MCFDP 1½ gal/min wtr & cond.

12-21-80 FCP = 250 psi, FTP = 1 psi. Approx rate 50 MCFPD, 1½ gal/min wtr w/a trace of cond.

12-22-80 CP - 210 psi, FTP 1 psi. Approx rate 70-75 MCFPD, 1 gal/min wtr & cond.

12-23-80 Csg 200#. Approx rate 100 MCF, small amt wtr & cond.

12-24-80 Csg 200, Tbg 0. 100 MCF w/small amt wtr & cond.

12-25-80 FCP 200, tbg 0, MCF 100, Small stream w/cond & wtr.

12-26-80 FCP 200, FTP 0, MCF 100. Flowing small stream of wtr & cond.

12-27-80 FCP 200, FTP 0, MCF 100. Small stream wtr & cond.

12-28-80 FCP 200, FTP 0, MCF 100. Flowing small stream of wtr w/cond.

12-29-80 FCP 200, FTP 100. Approx 100 MCF w/stream of wtr & cond.

12-30-80 FCP 190, FTP 0, MCF 130. Small stream of wtr & cond.

12-31-80 FCP 210 psi, FTP 10 psi. Small stream of wtr, not measured, 150 MCFD/D.

1-1-81 FCP 260, FTP 0, 150 MCF, small stream of wtr & oil.

1-2-81 SD for holiday.

1-3-81 FCP 225, FTP 12, MCF 150, small stream of wtr w/trc of oil.

1-4-81 FCP 210, FTP 10, 150 MCF, small stream of wtr w/trc of oil.

1-5-81 FCP 225, FTP 12, MCF 150, small stream of wtr w/trc of oil.

1-6-81 CP 200 psi, FTP 10 psi. Approx 150 MCFPD w/small trickle of wtr & Cond.

1-7-81 FCP 190, FTP 10, 170 MCF, small stream of wtr w/trace of oil.

1-8-81 FCP 170, FTP 10, 150 MCF, small stream ov wtr w/trace of cond.

1-9-81 FCP 170, FTP 8, 125 MCF, small stream of wtr w/trace of cond.

1-10-81 FCP 150, FTP 7, 100 MCF, small stream of wtr w/trace of cond.

1-11-81 FCP 130, FTP 7, 100 MCF, small trickle of wtr w/trace of cond.

1-12-81 No report.

1-13-81 FTP 6 psi, FCP 123 psi. Approx 100-125 MCFPD. Trickle of wtr & cond.

1-14-81 FCP 125, FTP 6, 100 MCF, small trickle of wtr w/trace of cond.

1-15-81 SI w/soap sticks dropped down tbg to stimulate well. Will open to pit 1-19-81.

1-16-81 SI w/soap sticks down hole until 1-19-81. CP in 24 hrs 425.

1-17-81 SI w/soap sticks down hole until 1-19-81.

1-20-81 SICP 580, SITP 580. Opened well to pit. Unloaded foam & cond. No wtr.

1-21-81 FCP 130, FTP 18, MCF 150, small stream of fluid & fine mist.

1-22-81 FCP 120, FTP 5, 125 MCF. Small stream of fluid w/trace of cond.

1-23-81 FCP 110, FTP 5, 125 MCF. Small stream of wtr w/tracd of cond.

1-24-81 SI w/soapsticks down tbg to stimulate well.

1-27-81 SITP 550, SITP 535. Opened well to pit. Moved swab unit from Ohio Gov't #2-E to Ohio "C" Gov't #2-E.

1-28-81 Well blowing to pit, FCP 130, FTP 10, 150 MCF. Small stream of wtr & cond w/light mist. Released swab unit @ Ohio "C" Gov't #2-E. Unable to swab w/well flowing.

1-29-81 FCP 100, tbg = 5. 200 MCF, small stream of wtr & cond.

1-30-81 FCP 100, FTP 5 175 MCF, small stream of wtr w/tract of cond.

1-31-81 FCP 90, FTP 5, 175 MCF, small trickle of wtr & cond.

2-1-81 FCP 90, FTP 5, 150 MCF, small trickle of cond & wtr.

2-2-81 FCP 90, FTP 5, 150 MCF, small trickle of wtr & cond.

2-3-81 FCP 90, FTP 5, 150 MCF, small trickle of cond to pit, little or no wtr.

2-4-81 FCP 90, FTP 5, 125 MCF, small stream of cond. Very little wtr.

2-5-81 FCP 90, FTP 5, 125 MCF. Small stream of cond, light mist.

2-6-81 FCP 130, FTP 5, 125 MCF, 5' flare w/small trickle of fluid.

2-7-81 SWI.

2-8-81 Static.

2-10-81 SI for buildup.

2-11-81 SITP=SICP=470 psi.

2-18-81 SI.

2-24-81 SI for press buildup.

2-26-81 SICP 565, SITP 565. Opened well to pit thru 1/2" choke nipple. After well blows down & stabilizes Tefteller Resv. Eng. will RIH for flow & press survey.

2-27-81 Open to pits 1/2" choke. Tefteller to run 7 day BHP survey.

2-28-81 Open to pits thru 1/2" choke. Observed CP 155 psi. Tefteller to run 7 day BHP survey starting 3-2-81.

3-1-81 Open to pits thru 1/2" choke. CP 155 psi. Tefteller to run 7 day BHP survey starting 3-2-81.

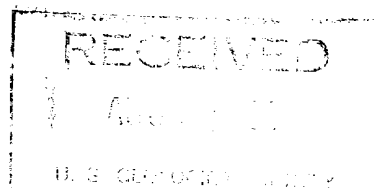
3-2-81 Open to pits thru 1/2" choke. CP 155 psi. Tefteller to run 7 day BHP survey starting 3-2-81.

3-3-81 Tefteller started BHP buildup test 1:00 p.m.

3-4-81 Tefteller bomb in hole 3-2-81 @ 1:00 p.m. Running BHP buildup test for 7 days.

3-5-81 Tefteller bomb in hole 3/2/81 @ 1 p.m. Running 7 day BHP buildup test.

3-12-81 Static



- 3-20-81 Static. Tefteller reservoir eng has sent BHP data & AOF to Casper District office.
- 3-21-81 Static.
- 3-31-81 Static - SICP = 576#
- 4-3-81 Will blow well down, run prod log with Schlumberger well services.
- 4/7/81 SICP 2550 psi. RU Schlumberger mast truck and production logging tools. RIH with fullbore flowmeter, temperature tool, caliper and collar locator. Ran shut in temperature log and flow survey. Collar locator was bad and couldn't correlate to McCullough's bond log, flowmeter would not work and temperature log would only work part of the time. Pull tools out of hole and call for collar locator - Gamma ray and new temp. tools. Ran collar locator - Gamma ray for correlation. Ran temp. log with well shut in and made 2 runs with well flowing (FCP = 350 psi) at different line speeds. Logged from 6388' KB (PBTD) to 6150' KB. SWI. RD Schlumberger. Will attempt interpretation of logs this a.m. NOTE: Well mists high volumes of heavy condensate. Logs indicate upper half perfs in top zone open and flowing, (perfs 6200 - 6249' KB), lower perfs 6282' KB - 6288' KB, and 6316 - 6321' KB not contributing much to production.
- 4/8/81 Waiting on prod. logs run by Schlumberger with Lance Galvin to be evaluated and recommendations, etc.
- 4/9/81 Static. Waiting on prod logs to be evaluated.
- 4/10/81 Preparing to run additional prod logs.
- 4/11/81 Preparing to run prod logs.
- 4/12/81 Move in and rig up Bell Petroleum Surveys for running production logs. SICP = 590. RU tools with fluid identification log, temperature log, tracer ejector log, gamma ray, collar locator, and gamma ray tracer detector. Run tools in hole with well shut in and log shut in temperature delta temperature, and fluid identification log. Open well with 1/2" choke and logged as follows:
- | Flow Time | Log | Pressure (psi) |
|---------------|---------------------|----------------|
| 5 min. | Temp. & Delta Temp. | 225 |
| 15 min. | Fluid I.D. log | 150 |
| 30 min. | Temp. & Delta Temp. | 110 |
| 45 min. | | 100 |
| 1 hour | Fluid I.D. log | 100 |
| 1 hr. 15 min. | Temp. & Delta Temp. | 100 |
| 1 hr. 30 min. | | 100 |
| 1 hr. 45 min. | | 100 |
| 2 hours | | 90 |
| 2 hr. 15 min. | Fluid I.D. log | 90 |
| 2 hr. 30 min. | Temp. & Delta Temp. | 90 |
| 2 hr. 45 min. | R/A Tracer log | 90 |
| 3 hours | | 90 |
- Shut well in. Rig down and release Bell Petroleum Surveys. Preliminary evaluation indicates: Major gas entry 6,200'-6,244' KB (98 holes) 6,282'-88' KB, 6,316'-6,321' KB (22 holes). Well flowing approx. 100 MCFD, 30 gal cond. & 10 gal water per day.
- 4/13/81 SI. Evaluating production logs.
- 4/14/81 Evaluating production logs while well is shut in.
- 4/16/81 Will drop from report until work resumes.
- 5/7/81 B & R wireline service set blanking plug in profile nipple. Moved rig on location, rigged up. Installed BOP & began pulling tbg. Will tally tbg as we pull out of hole.

5/8/81 Finished POOH with tbg. Rigged up McCullough. RIH w/gauge ring found restriction at 4702 - Rucker stage collar had been drilled out RIH with cone buster mill & reamed out restriction. RIH with gauge ring to PBDT. Set Baker model "M" cement retainer at 6310 KB. SDN.

5/9/81 RIH w/Baker model "A" packer. "F" nipple & Tbg string. Set packer at 6,259' KB. Began flowing both zones to pit. Unable to keep flares lit due to high wind. SDN.

5/10/81 FCP 60, MCF 150, No fluids. Tbg 0. Small blow, no fluids. Shut tbg in for press buildup.

5/11/81 FCP 60, 150 MCF, SITP 295.

5/12/81 Shut csg in, swab tested tbg. No fluids. Tbg would go on vacuum after each run then return to sleight blow - shut tbg in for press buildup. 12 hrs. Tbg 345, 22 hrs. Csg 500.

5/13/81 Blew tbg & csg to pit. Released packer. Pulled up hole & reset at 6176.5 KB Unloaded tbg to pit. Heavy mist of water & cond. Let well flow until 4:30 pm then put .500' choke nipple on end of blow line. FTP 80. Well blowing mist with water & cond above reading taken at 7:00 am.

5/14/81 Pulled out hole with tbg string & Baker model "R" prod packer. RIH with 10' mule shoe, Baker 1.81 profile nipple & tbg string with 10' blast jt on top of string. Total effective length 6166.29, KB 6173.39. Tbg hanger is 3' above ground level. At 7:00 am, FCP 160, FTP 5, MCF 100.

5/15/81 FCP 120, FTP 5, MCF 150, small trickle of cond & water, med. mist.

5/16/81 FCP 90, FTP 5. Approx 100 MCF with small trickle of cond. Gas blow medium mist. Released Drake completion unit.

5/17/81 FCP 85, FTP 5, 100 MCF with small trickle of cond. Removed choke nipple & installed adjustable choke.

5/18/81 FCP 120, Tbg 20, 3/4" choke, 100 MCF. Light mist, small trickle of cond.

5/19/81 FCP 90, FTP 36, 1/2" choke, light flare 125 MCF. Small stream of cond & water.

5/20/81 FCP 90, FTP 36, 1/2" choke, (set choke on 3/8" after taking pressures). Light flare, small stream of cond. & water.

5/21/81 ~~FCP 105, FTP 55, choke 24/64" (3/8").~~ Light flare, 100 MCF. Small stream of cond & water.

5/22/81 FCP 105, FTP 155, choke 24/64", 100 MCF, light mist cond & water.

5/23/81 CP 110#, FTP 60#, 24/64" choke, 150 MCF, light mist, burning flare.

5/24/81 CP 115#, FTP 30#, 24/64" choke, light mist 150 MCF, trace of cond, flare burning

5/25/81 CP 110#, FTP 62#, choke 24/64", very light mist. 150 MCF, trace of cond. Flare burns continually.

5/26/81 CP 110#, FTP 62#, 24/64" choke, light mist. (Wtr w/trace of cond). (Rate 150 MCF est.)

