

**WHITING OIL & GAS CORPORATION
WRD 23-33 DRILL PLAN
Lease Number COC-45291**

Surface Location: 1,927' FSL & 2,237' FEL
NESW Section 33-T2N-R97W
Rio Blanco County, Colorado

Summary:

The WRD (White River Dome) 23-33 will be a vertical test to the Weber formation. Primary pay section to test will be the Niobrara and the Weber formations. A conventional core will be taken in the Niobrara formation and sidewall cores will be taken in the Weber formation.

Surface section will be 17-1/2" OH with 13-3/8" casing set at 500'. The first intermediate section will be drilled with a 12-1/4" bit from 500' to 3,900' and 9-5/8" casing set into the Mesaverde formation. The well will be drilled vertically to the Curtis formation and 7" casing set at that depth. A 6" openhole will be drilled to TD at 14,861' in the Weber formation and a 4-1/2" liner run in that section.

1. ESTIMATED TOPS OF GEOLOGICAL MARKERS

Ground Level 6,167' Estimated KB 6,197' (30')

Formation	Est Top-TVD	Sub-Sea	Lithology	Potential
Wasatch	0'	6,197'	Sh	
Mesaverde	3,830'	2,367'	Ss, Sh	
Mancos	6,573'	-376'	Sh	Oil
Niobrara	9,673'	-3,476'	Sh	Oil
Frontier	11,423'	-5,226'	Silts, Ss	Oil
Mowry	11,640'	-5,443'	Sh	Oil
Dakota	11,723'	-5,526'	Ss	Oil & Gas
Morrison	11,911'	-5,714'	Ss, Sh	
Curtis	12,317'	-6,120'	Ss, Sh	
Entrada	12,398'	-6,201'	Ss	
Chinle	12,937'	-6,740'	Ss, Sh	
Moenkopi	13,203'	-7,006'	Silts, Sh	Cond & Gas
Park City (Phosphoria)	13,672'	-7,475'	Ls, Sh	Cond & Gas
Weber	13,861'	-7,664'	Ss	Cond & Gas
TD	14,861'	-8,664'		

2. PRESSURE CONTROL EQUIPMENT

A. Type: BOPE

Thirteen and five eights (13-5/8") inch 10,000 psi double ram hydraulic BOP with Blind and Pipe rams.

Thirteen and five eights (13-5/8") inch 10,000 psi single ram hydraulic BOP with Pipe rams.

Thirteen and five eights (13-5/8") inch 10,000 psi annular preventer

*See attached drawing

Rotating Head
13-3/8", 2,500 psi

Wellhead
13-3/8" casing, 5,000 psi Casing head, (A Section)
9-5/8" casing, 10,000 psi Casing spool, (B Section)

After the 13-3/8" casing is landed at 500', the 5,000 psi casing head will be welded on and the 10,000 psi casing spool (B Section) will be bolted up to the casing head. The 10,000 psi BOP stack will be bolted up to the upper 10,000 psi flange on the B Section. Once the 9-5/8" casing is landed at 4,300', the packoff will be placed around the 9-5/8" casing in the B Section. This will give a full 10,000 psi working pressure through the B Section and the BOP. *See attached drawings.

B. Testing Procedure:

The annular preventer will be pressure tested to 50% of stack rated working pressure for ten (10) minutes or until provisions of test are met, whichever is longer. The BOP, choke manifold, and related equipment will be pressure tested to approved BOP stack working pressure (if isolated from surface casing by a test plug) or to 70% of surface casing internal yield strength (if BOP is not isolated by a test plug). Pressure will be maintained for ten (10) minutes or until the requirements of the test are met, whichever is longer. At a minimum, the Annular and Blow-Out Preventer pressure tests will be performed:

1. When the BOPE is initially installed;
2. Whenever any seal subject to test pressure is broken;
3. Following related repairs; and
4. at thirty (30) day intervals.

Annular will be function tested weekly, and pipe & blind rams activated each trip, but not more than once per day. All BOP drills & tests will be recorded in IADC driller's log.

C. Choke Manifold Equipment:

All choke lines will be straight lines whenever possible at turns, tee blocks will be used or will be targeted with running tees, and will be anchored to prevent whip and vibration. *See attached drawing.

D. Accumulator:

Accumulator will have sufficient capacity to open a hydraulically-controlled choke line valve; close all rams plus annular preventer, and retain a minimum of 200 psi above pre-charge on the closing manifold without the use of closing unit pumps. The fluid reservoir capacity will be double accumulator capacity and the fluid level will be maintained at manufacturer's recommendations. Accumulator pre-charge pressure test will be conducted prior to connecting the closing unit to the BOP stack.

E. Miscellaneous Information:

Choke manifold and BOP extension rods with hand wheels will be located outside rig sub-structure. Hydraulic BOP closing unit will be located at least twenty-five (25) feet from the wellhead but readily accessible to the driller. Exact locations and configurations of the hydraulic BOP closing unit will depend upon the particular rig contracted to drill this hole.

A flare line will be installed after the choke manifold with the discharge point of the flare line to a separate pit located at least 125 feet away from the well bore and any existing production facilities.

3. PROPOSED CASING DESIGN PROGRAM**A. Casing Program:**

Section Surface	Interval 0' – 500'	Hole Size 17-1/2"	Footage 500'	Description 13-3/8" 54.50# J-40 STC
1 st Intermediate	0' – 3,900'	12-1/4"	3,900'	9-5/8" 40# L-80 LTC
2 nd Intermediate	0' – 11,000'	8-3/4"	11,000'	7" 29# L-80 LTC
	11,000' – 12,380'	8-3/4"	1,380'	7" 29# HCL-80 LTC
Production	12,380' – 14,861'	6"	2,481	4-1/2" 11.6# P-110 LTC

4. PROPOSED CEMENTING PROGRAM

All slurries tested for compatibility, compression strengths, and pumping times based on actual job conditions.

Surface, 13-5/8" Casing: TOC Surface, (100% Excess)

Lead: 732 cu-ft; 355 sx Rockies LT
0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)
0.25 lbm/sk Kwik Seal (Lost Circulation Additive)

Cement Properties	Tail Slurry
Slurry Weight (ppg)	12.80
Slurry Yield (cf/sack)	2.08

1st Intermediate, 9-5/8" Casing: TOT 3,400', TOL Surface, 50% excess

Lead: 1550 cu-ft; 530 sacks Rockies LT
0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)
0.25 lbm/sk Kwik Seal (Lost Circulation Additive)

Tail: 235 cu-ft; 200 sacks Premium Cement
94 lbm/sk Premium Cement (Cement)
2 % Calcium Chloride (Accelerator)
0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)

Cement Properties	Tail Slurry	Lead Slurry
Slurry Weight (ppg)	15.60	11.50
Slurry Yield (cf/sack)	1.20	2.94

2nd Intermediate, 7" Casing: TOT 9,500', TOL 3,600', (35% Excess)

Lead: 1186 cu-ft; 580 sacks Foamed Lead Cement
ELASTISEAL (TM) SYSTEM
1.5 % FDP-C760-04 (Foamer)

Tail: 585 cu-ft; 398 sacks ELASTISEAL (TM) SYSTEM

Cement Properties	Tail Slurry	Lead Slurry
Slurry Weight (ppg)	14.30	14.30
Slurry Yield (cf/sack)	1.47	1.47

Foam Output Parameter Summary:

Foamed Lead Cement, Unfoamed Volume 163.20bbl, Beginning Density 10.5 ppg, Ending Density 10.5 ppg, Beginning Rate 249.2 scf/bbl, Ending Rate 726.8 scf/bbl

Foam Design Specifications:

Foam Calculation Method: Constant
 Backpressure: 200 psig
 Bottom Hole Circulating Temp: 180 degF
 Mud Outlet Temperature: 140 degF

Density Calculated Gas = 80317.3 scf
 Additional Gas = 40000 scf
 Total Gas = 120317.3 scf

Production Liner, 4-1/2" Casing: TOC at liner hanger at 12,230', (25% Excess)

Lead: 350 cu-ft; 200 sx Primary Cement
 BONDCEM (TM) SYSTEM
 0.5 % HR-601 (Retarder)

Cement Properties Tail Slurry
 Slurry Weight (ppg) 13.50
 Slurry Yield (cf/sack) 1.76

5. MUD PROGRAM

Depth	Mud System	MW (ppg)	PV (cp)	YP (lb/100ft ²)	FL (ml/30min)
0 -3,900'	Spud Mud	8.5 – 8.8	6 - 10	15 - 25	NA
3,900'-12,380'	LSND/Asphalt	8.7 – 10.8	6 - 15	10 - 15	6
12,380' –14,861'	LSND/Asphalt	8.8 – 9.2	6 - 10	10 - 12	6

6. TESTING, LOGGING AND CORE PROGRAMS

Cores: 200' in Niobrara
 Sidewall cores in Weber
 DST: None planned

Surveys: Deviation surveys every 500' to TD in both surface and production hole.

Mud Logger: From 4,700' to TD.

Samples: 30' samples 4,700' to TD

Open Hole Logging Program: Induction w/GR Log TD to Surface Casing
 Density Compensated Neutron TD to 4,700'

7. ANTICIPATED ABNORMAL PRESSURES OR TEMPERATURES:

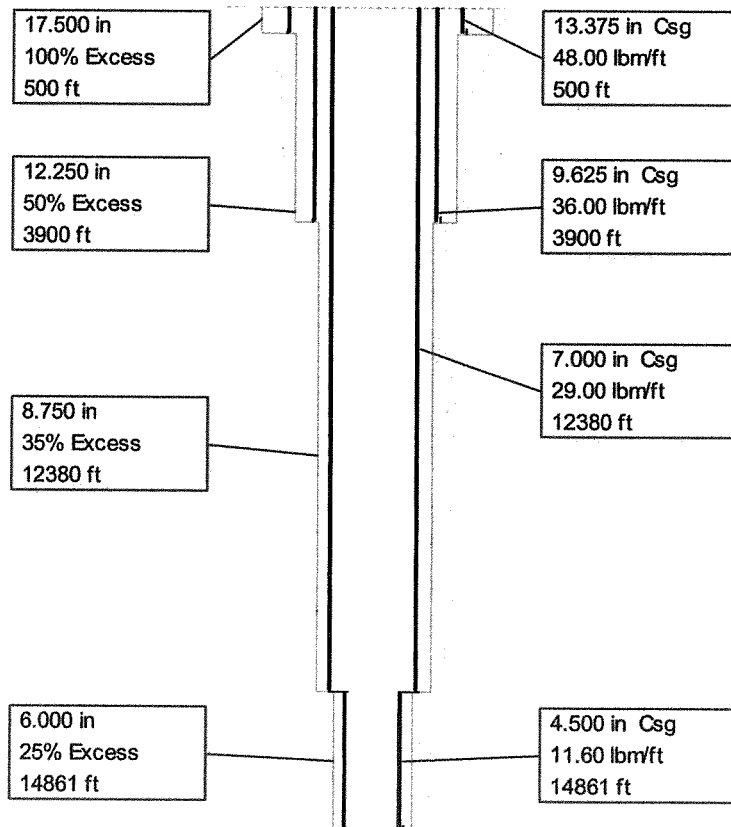
No abnormal temperatures are anticipated. No H₂S is anticipated.

Maximum anticipated bottom hole pressure equals approximately 6,438 psi (calculated at 0.433 psi/foot) at TD in the Weber formation at 14,861'.

8. ANTICIPATED STARTING DATE AND DURATION:

Dirt work startup: October 1, 2010
 Spud: October 15, 2010
 Duration: 60 - 90 days

WRD 23-33
Whiter River Dome Weber Test
NESW 33 2N 97W
Rio Blanco County, CO
Wellbore Design



i-Handbook* - *a mark of Schlumberger