

Hamilton 2-29

Proposed Schematic

30-Jul-12

Field: WFU	AFE / Network #: 0	LAT: 0
County: Moffat	Shell Working Interest: 100%	LONG: 0
Township: Sec 29, T5N, R91W	AFE Drilling Cost: \$0	Ground Elevation: 6343 ft (surveyed)
Rig: Nabors 64	Plan Days: 0	RKB to Ground: 16.5 ft
Permit API: 0		RKB Elevation: 6359.5 ft

Objectives: Drill Surface followed by production casing
Drill Lateral to total MD without losses

30" Hole drilled to	90
20" pipe (0.25") set @	90
Cement to surface	
13-1/2" Hole drilled to	800
10-3/4" 40.5# J-55 STC @	800
Cement to surface	
7-7/8" Hole drilled to	5590
5-1/2" 17# N-80 H-511 @	5590
Cement 2191' to 2691'	

NOTES	Casing
Notify COGCC according to NW Notifications Test BOPs to 2000 psi Test 10-3/4" csg to 1500 psi for 30 min Test 5-1/2" csg to 1500 psi for 30 min	Surface: 10 3/4" 40.5# J-55 R3 ST&C 0-800 ft Production: 5 1/2" 17# N-80 R3 H511 0-2881' TVD/5590' MD
Cement	DRILLING FLUIDS
Surface: Lead: 14.5 ppg Class G/Pozmix Blend-254 Sacks Tail: 15.8 ppg Class G-185 sacks TOC: Surface, Cement Btm: 800' TVD Production: 9.5 ppg LiteCrete, Hole Size: 7-7/8", Cement TOC: 2191' MD, Cement Btm: 2691' MD. Est Sacks: 58 Stage tool: 2691' MD	Surface: Clear Gyp Water Hi-Vis Sweeps as needed Intermediate: Clear Gyp Water + Air Begin with 350 SCFM + 350 GPM Watch Cuttings return to gauge cleaning Production: Aerated OBM Follow WFT Program use PWD to watch BHP. Consult Engineer as needed.

Stage Tool 2691'

TOE AT 2881' TVD / 5590' MD

HEEL AT 3073' TVD / 3623' MD

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Contingency Schematic

30-Jul-12

Field: WFU	AFE / Network #: 0	LAT: 0
County: Moffat	Shell Working Interest: 100%	LONG: 0
Township: Sec 29, T5N, R91W	AFE Drilling Cost: \$0	Ground Elevation: 6343 ft (surveyed)
Rig: Nabors 64	Plan Days: 0	RKB to Ground: 16.5 ft
Permit API: 0		RKB Elevation: 6359.5 ft

Objectives: Drill Surface and Intermediate into top of Niobrara
Drill Lateral to total MD without losses

30" Hole drilled to	90
20" pipe (0.25") set @	90
Cement to surface	
13-1/2" Hole drilled to	800
10-3/4" 40.5# J-55 STC @	800
Cement to surface	
9-7/8" Hole drilled to	2691
7-5/8" 29.7# P-110 LTC @	2691
Cement to 2191	

NOTES	Casing
Notify COGCC according to NW Notifications Test BOPs to 2000 psi Test 10-3/4" csg to 1500 psi for 30 min Test 7-5/8" csg to 1500 psi for 30 min	Surface: 10 3/4" 40.5# J-55 R3 ST&C 0-800 ft Intermediate: 7 5/8" 29.7# P-110 R3 LT&C 0-2691 ft Production: 5 1/2" 17# N-80 R3 H511 2150-5590 ft MD
Cement	DRILLING FLUIDS
Surface: Lead: 14.5 ppg Class G/Pozmix Blend-254 Sacks Tail: 15.8 ppg Class G-185 sacks TOC: Surface, Cement Btm: 800' TVD Intermediate: 9.5 ppg LiteCrete, Hole Size: 9-7/8", Cement TOC: 2191' MD, Cement Btm: 2691' MD, Est Sacks: 22 Production: Uncemented, slotted liner	Surface: Clear Gyp Water Hi-Vis Sweeps as needed Intermediate: Clear Gyp Water + Air Begin with 350 SCFM + 350 GPM Watch Cuttings return to gauge cleaning Production: Aerated OBM Follow WFT Program use PWD to watch BHP. Consult Engineer as needed.

Production liner at 2491' MD

TOE AT 2881' TVD /5590' MD

HEEL AT 3073' TVD / 3623' MD