

BLACK HILLS PLATEAU PRODUCTION COMPANY

DRILLING PROGRAM

Homer Deep Unit 9-11CH

SHL: 300' FNL, 200' FWL, NWNW Sect. 9 T8S R98W

BHL: 1350' FSL, 2100' FEL NWSE Sect. 15 T8S R98W

Garfield & Mesa Counties, Colorado

NOTE: This drilling program is as of February 26, 2014. Well is being proposed as a horizontal in the Mancos/Niobrara formation.

1) Estimated Formation Tops of Important Geological Markers:

Location GL: 5,521.2' (Graded), KB: 5,545.2' (Estimated)

| Formation | MD | TVD | Subsea TVD | Lithology | Oil/Gas/Water |
|-------------|---------|---------|------------|-------------------------|-------------------|
| Wasatch | Surface | Surface | Surface | Shale w/ SS Stringers | Possible Gas |
| Mesaverde | 1013 | 1013 | 4523 | Sandstone & Shale | Gas or Water |
| Cameo Coal | 2956 | 2956 | 2580 | Coal, Silt & Sandstone | Oil, Gas or Water |
| Rollins | 3285 | 3285 | 2251 | Sandstone | Oil, Gas or Water |
| Cozzette | 3466 | 3466 | 2070 | Sandstone & Silt | Oil, Gas or Water |
| Corcoran | 3685 | 3685 | 1851 | Sandstone & Silt | Oil, Gas or Water |
| Mancos | 3967 | 3967 | 1569 | Shale & Silt | Oil, Gas or Water |
| Mancos 'A'* | 4352 | 4352 | 1184 | Shale & Silt | Oil, Gas or Water |
| Moab | 5106 | 5106 | 430 | Bentonite Marker | Bentonite |
| Mancos 'B'* | 5536 | 5536 | 0 | Shale & Silt | Oil, Gas or Water |
| Niobrara* | 6618 | 6567 | -1031 | Calcareous Shale & Silt | Oil, Gas or Water |
| Target* | 8203 | 7221 | -1685 | Calcareous Shale & Silt | Oil, Gas or Water |
| Permit TD | 18,724 | 7041 | -1505 | | |

* Projected completion intervals.

2) Proposed Casing and Cementing Program

| Hole Size (in) | Casing Size (in) | Depth Set MD | Wt./Ft., Grade, & Joint | Cement |
|----------------|--|--------------|--|---|
| 30 | 20 | 120 | Line Pipe | To surface w/ Class 3; 320 sx |
| 14-3/4 | 10-3/4 | 1000 | 40.5#, J55, ST&C | Cemented to surface w/ Lead: 198 sx Class G (12.5 ppg) Tail: 271 sx Class G (14 ppg) |
| 9-7/8 | 7-5/8 | 6,410 | 29.7#, N-80, LTC | Cemented 200' above TOG w/ Lead: 735 sx TXI (12 ppg) Tail: 170 sx Class G (15.8 ppg) |
| 6-3/4 | 4-1/2 x 5-1/2 Tapered String (x-over @ 6,200') | 18,724 | 4-1/2: 11.6#, P-110, LTC 5-1/2: 17#, P-110, LTC | Cemented 200' into intermediate shoe w/ Lead: 85 sx ExpandaCem (12.6 ppg) Tail: 1418 sx ExpandaCem (13.5 ppg) |

| | | | |
|---------|-------------------|------------|---|
| Yields: | Surface Lead | Class G | Yield = 2.11 ft ³ /sk (12.5 ppg) |
| | Surface Tail | Class G | Yield = 1.54 ft ³ /sk (14.0 ppg) |
| | Intermediate Lead | TXI | Yield = 2.88 ft ³ /sk (12.0 ppg) |
| | Intermediate Tail | Class G | Yield = 1.16 ft ³ /sk (15.8 ppg) |
| | Longstring Lead | ExpandaCem | Yield = 1.60 ft ³ /sk (12.6 ppg) |
| | Longstring Tail | ExpandaCem | Yield = 1.36 ft ³ /sk (13.5 ppg) |

- The proposed casing and cementing program has been designed to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressures zones, and any prospectively valuable deposits of minerals. Any isolating medium other than cement shall receive approval prior to use.
- The surface casing shall be set at 1,000' and cemented back to surface either during the primary cement job or by remedial cementing. Cementing to surface will isolate all potential fresh water zones. Slurry designed for full coverage with 50% excess.
- Intermediate casing is designed to have cement lifted at least 200' above TOG. Actual cement volumes will be determined by caliper log plus 10% excess. If caliper logs are not available, volume will be assumed hole size to TD plus 25% excess.
- Production casing is designed to have cement lifted at least 200' into the intermediate shoe. Actual cement volumes will be determined by caliper log plus 10% excess. If caliper logs are not available cement volumes will be calculated at 25% excess.
- Centralizers will be installed per approved centralizer program from cement vendor.
- All waiting on cement times will be adequate to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out. 2,500 psi compressive strength in 72 hours.

Casing Design (All casing will be new or reconditioned and tested to meet or exceed API standards):

| Casing String | | | | Casing Strength Properties | | | Minimum Design Factors | | |
|---------------|----------------|--------|------------|----------------------------|-------------|-------------------|------------------------|-------|---------|
| Size (in) | Weight (lb/ft) | Grade | Connection | Collapse (psi) | Burst (psi) | Tensile (1000 lb) | Collapse | Burst | Tension |
| 10-3/4 | 40.5 | J/K-55 | STC | 1,580 | 3,130 | 420 | 1.10 | 1.10 | 1.80 |
| 7-5/8 | 29.7 | N-80 | LTC | 4,790 | 6,890 | 575 | 1.10 | 1.10 | 1.80 |
| 5-1/2 | 17.0 | P-110 | LTC | 7,460 | 10,640 | 546 | 1.10 | 1.10 | 1.80 |
| 4-1/2 | 11.6 | P-110 | LTC | 7,560 | 10,690 | 367 | 1.10 | 1.10 | 1.80 |

Casing Design Considerations/Safety Factors:

A. Surface Casing @ 1,000' MD; 10-3/4" 40.5# J/K-55 STC

Purpose: Protect shallow fresh water and contain MASP to TD

| | |
|--|--------------|
| Maximum anticipated mud weight at surface casing depth: | 9.0 ppg |
| Maximum anticipated mud weight at intermediate TD: | 9.8 ppg |
| Maximum anticipated equivalent formation pressure at TD: | 11.0 ppg |
| TVD at intermediate casing point: | 6,398 ft |
| Surface setting depth: | 1,000 ft |
| Max pore pressure: | 0.572 psi/ft |

Collapse Design:

Evacuated casing with 9.0 ppg drilling fluid density

| | |
|----------------------------------|------------|
| Load = 9.0 ppg * 0.052 * 1000 ft | 468 psig |
| Rating | 1,580 psig |
| Safety Factor | 3.38 |

Burst Design:

Assume kick with partially evacuated hole and influx gradient of 0.22 psi/ft

(Calculations assume shoe will not break down)

| | |
|--|------------|
| MASP (Load) 6,398 ft * (0.572-0.22) psi/ft | 2,252 psig |
| Rating | 3,130 psig |
| Safety Factor | 1.39 |

Tensile Design:

Designed on Air Weight * Buoyancy + OverPull Margin

| | |
|---|-------------|
| Load = 1000 ft * 40.5 lb/ft * 0.862 + 100,000 lbs (OPM) | 134,911 lbs |
| Rating | 420,000 lbs |
| Safety Factor | 3.11 |
| OverPull with S.F. = 420,000 lbs / 1.8 – 34,911 lbs | 198,422 lbs |

B. Intermediate Casing @ 6,410' MD; 7-5/8" 29.7# N-80 LTC

| | |
|--|-------------|
| Maximum anticipated mud weight at Total Depth: | 9.8 ppg |
| Maximum anticipated equivalent formation pressure at TD: | 11.0 ppg |
| TVD at intermediate casing point: | 6,398 ft |
| Assumed Gas Gradient for Production Operations: | 0.22 psi/ft |

Collapse Design:

Designed on evacuated casing properties with 9.8 ppg drilling fluid density with no internal back-up

| | |
|-----------------------------------|------------|
| Load = 9.8 ppg * 0.052 * 6,398 ft | 3,260 psig |
| Rating | 4,790 psig |
| Safety Factor | 1.47 |

Burst Design:

Maximum Surface Shut-In Pressure

| | |
|--|------------|
| MASSIP (Load) = 6,398 ft * (0.572-0.22) psi/ft | 2,252 psig |
| Rating | 6,890 psig |
| Safety Factor | 3.06 |

Tensile Design:

Designed on Air Weight * Buoyancy + OverPull Margin

| | |
|--|-------------|
| Load = (6,410 ft * 29.7 lb/ft * 0.850) + 100,000 lbs (OPM) | 216,820 lbs |
| Rating | 575,000 lbs |
| Safety Factor | 2.65 |
| OverPull with S.F. = 575,000 lbs / 1.8 – 116,820 lbs | 202,625 lbs |

C. Production Casing @ 18,724' MD; 5-1/2" 17# P-110 x 4-1/2" 11.6# P-110

| | |
|---|-------------|
| Maximum anticipated mud weight at Total Depth: | 11.5 ppg |
| Maximum anticipated equivalent formation pressure at TD: | 11.0 ppg |
| TVD at production casing point: | 7,206 ft |
| Cross-Over Location | 6,200 ft |
| Maximum Surface Treating Pressure for Fracture Operations | 7,000 psig |
| Assumed Gas Gradient for Production Operations: | 0.22 psi/ft |

Collapse Design:

Designed on evacuated casing properties with 11.5 ppg drilling fluid density with no internal back-up

| | |
|------------------------------------|------------|
| Load = 11.5 ppg * 0.052 * 7,206 ft | 4,309 psig |
| Rating | 7,460 psig |
| Safety Factor | 1.73 |

Burst Design:**Design Consideration #1: Maximum Surface Shut-In Pressure**

| | |
|--|-------------|
| MASSIP (Load) = 7,206 ft * (0.572-0.22) psi/ft | 2,536 psig |
| Rating | 10,640 psig |
| Safety Factor | 4.20 |

Design Consideration #2: Maximum Surface Treating Pressure During Frac Operations

| | |
|---------------|-------------|
| MSTP | 6,500 psig |
| Rating | 10,640 psig |
| Safety Factor | 1.64 |

Tensile Design:

Designed on Air Weight * Buoyancy + OverPull Margin

| | |
|--|-------------|
| Load = (6,410 ft * 17.0 lb/ft + 1,790 ft * 11.6 lb/ft) * 0.824 + 100,000 lbs (OPM) | 206,900 lbs |
| Rating | 546,000 lbs |
| Safety Factor | 2.64 |
| OverPull with S.F. = 546,000 lbs / 1.8 – 106,900 lbs | 196,400 lbs |

3) Operator's Minimum Specifications for Pressure Control:

Please reference enclosed BOP Diagram.

The blowout preventer assembly shall consist of one 11" 5,000 psi double ram preventer, and an 11" 5,000 psi annular preventer. All will be hydraulically operated. The BOP pipe and blind rams will be hydraulically tested to 100% of working pressure (if isolated from the surface casing with a test plug) or to 70% of the internal yield of the surface casing after nipping up. The annular preventer will be tested to 50% of its' working pressure rating for 10 minutes or until provisions for the test are met. The pipe rams and blind rams will be function tested on each trip out of the hole, but not more than once per day. All such checks will be noted on the daily Tour Sheets.

Accessories to the BOPE include an upper and lower kelly cock, a sub on the floor with a full opening valve to be stabbed into the drill string when the kelly is not in the drill string, a drill pipe float (except for lost circulation conditions), and a choke manifold with a pressure rating equivalent to the BOP stack. An accumulator with a minimum of 1.5 times the volume of fluid necessary to close all BOP equipment will be part of the BOP system.

Remote controls capable of both opening and closing all preventers will be readily accessible to the driller. A manual locking device (i.e., hand wheels) or automatic locking devices shall be installed as part of the system. The BOP will be kept in good mechanical working order. Checks and inspections will be recorded on daily Tour Sheets.

Primary BOP actuating control will be located either in the doghouse or on the rig floor.

Sufficient mud volume and weight material will be maintained on location to overcome any flows.

Auxiliary Equipment:

- a) A Kelly Cock will be kept in the drill string at all times.
- b) A float will be used at the bit at all times (except for lost circulation drilling condition).
- c) A full-opening drill pipe stabbing valve (inside BOP) with proper drill pipe connection will be on the rig floor at all times.
- d) The drilling fluids systems will be visually monitored at all times.

4) Mud Program:

| Hole (in) | Depth (ft) | Type | Weight (ppg) | Viscosity (cps) | Fluid Loss (cc) | Solids (%) |
|-----------|------------|-------------|--------------|-----------------|-----------------|------------|
| 30 | 120 | Spud Mud | 8.9-9.4 | 60 - 80 | <10 | 1 - 5 |
| 14-3/4 | 1,000 | Gel/Polymer | 9.0-10.0 | 50 - 65 | ≤6 | ≤6 |
| 9-7/8 | 6,410 | Gel/Polymer | 9.5-11.5 | 45 - 55 | ≤5 | ≤5-6 |
| 6-3/4 | 18,724 | Gel/Polymer | 10.0-12.0 | 40 - 45 | ≤5 | ≤5-6 |

* Sufficient mud material(s) to maintain mud properties, control lost circulation and contain a blowout will be available at the well site during drilling operations.

** A closed loop system will be utilized during drilling operations.

5) Auxiliary Equipment:

1. A Kelly Cock will be kept in the drill string at all times.
2. A float will be used at the bit at all times (except for lost circulation drilling condition).
3. A full-opening drill pipe stabbing valve (inside BOP) with proper drill pipe connection will be on the rig floor at all times.
4. The drilling fluids systems will be visually monitored at all times.

6) Testing, Logging and Core Programs:

Deviation Surveys:

0' to 1,000'

1,000' to 4,000'

4,000' to TD

Totco (7⁹) – survey every $\pm 210'$
Totco (7⁹) – survey every $\pm 300'$
 ± 90 ft MWD w/ INC, AZM , & GR

Mud Log:

2-Man Unit with chromatograph

3000' to TD

Samples:

100 ft samples

30 ft samples

10 ft samples

10-30 ft samples

3,000' to 3,500'

3,500' to 6,300'

7,200' to 8,200'

8,200' to TD

M/LWD Logging Program:

MWD Gamma Ray and/or Resistivity with surveys from 3,500' – TD

Open Hole Logging Program:

Triple Combo w/Spectral GR/DIL/FDC/CNL-Sonic

1,000' to 6,410'

Cores: Possible sidewall cores in Williams Fork and/or Mancos

DST's: None planned

7) Anticipated Abnormal Pressures or Temperatures:

1. No abnormal pressures or temperatures are anticipated.
2. No H₂S gas has been encountered in or known to exist in the general area.
3. Pressures; Mancos pressure 0.572 psi/ft.
4. Estimated bottom-hole pressure is 3,528 psi.

8) Anticipated Starting Dates and Approximate Duration:

Starting Date:

May 1, 2014

Spud Date:

January 1, 2015

Drilling Days:

45 days

Completion Days:

30 days

Notes: Per OnShore Order 1, 3/7/07 the former 8 point drilling plan (also referred to as the Subsurface Use Plan)

Due to the voluminous requirements of horizontal drilling, a larger well pad and pit are being proposed. The pit will be lined with 2 synthetic liners, each having a minimum of 24 mil thickness as per COGCC regulation 904.c.(1). The pit will contain freshwater and/or recycled flowback water for makeup water during drilling and fracture stimulation during completions.