

D.J. SIMMONS INC.
Stateline No. 22-2
 1980' FNL, 1118' FWL
 Sec. 22 T-39-N R-20-W
 Dolores County, Colorado

Drilling Program

1. **ESTIMATED FORMATION TOPS: (GL: 6588', KB: 6600')**

| <u>Formation Name</u> | <u>Depth</u> | <u>Sub Sea Depth</u> |
|-------------------------|--------------|----------------------|
| Dakota Sandstone | Surface | 6600 |
| Morrison Formation | 225 | 6375 |
| Entrada Sandstone | 1105 | 5495 |
| Navajo Sandstone | 1285 | 5315 |
| Chinle Formation | 1985 | 4615 |
| Cutler Group | 3160 | 3440 |
| Honaker Trail Formation | 4652 | 1948 |
| Upper Ismay | 5970 | 630 |
| Desert Creek | 6214 | 386 |
| Total Depth | 6378 | 222 |

2. **NOTABLE ZONES**

| <u>Formation Name</u> | <u>Depth</u> | <u>Contents</u> |
|-------------------------|--------------|--|
| Dakota Sandstone | Surface | Sandstone, water possible |
| Morrison Formation | 225 | Mixed sand, shale, siltstone |
| Entrada Sandstone | 1105 | Sandstone, water possible |
| Navajo Sandstone | 1285 | Sandstone, water possible |
| Chinle Formation | 1985 | Shale, siltstone |
| Moenkopi Formation | 2805 | Red-brown shale, siltstone |
| Cutler Group | 3160 | Red Arkose sandstone |
| Honaker Trail Formation | 4652 | Limestone, sandstone, gas and water possible |
| Upper Ismay | 5970 | Limestone, anhydrite, oil, gas, water possible |
| Desert Creek | 6214 | Limestone, anhydrite, oil, gas, water possible |
| Total Depth | 6378 | Paradox salt |

Water zones will be protected with casing, cement, and weighted mud. Fresh water found while drilling will be recorded. Oil or gas shows will be tested for commercial potential based on the evaluation of data recovered during drilling.

3. **PRESSURE CONTROL:**

Maximum expected pressure is 2800 psi. The drilling contract has not yet been awarded, thus the exact BOP model to be used is not yet known. A diagram of a typical 11" 3,000 psi model BOP is attached.

BOP equipment and all accessories will meet or exceed BLM requirements in 43 CFR Part 3160 for a 3000 psi system. A 3000 psi double ram hydraulic BOP. Accumulator system capacity will be sufficient to close all BOPE with a 50% safety factor. Fill, kill, and choke manifold lines will be 2". Accessories will include upper and lower Kelly cocks with handles, stabbing valve to fit drill pipe on floor at all times, 3000 psi choke manifold with

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2" adjustable and 2" positive chokes, and pressure gauge (diagrams attached). BOP rams will be cycled every 24 hours. Tests will be recorded on IADC log.

4. CASING & CEMENT

| <u>Hole Size</u> | <u>O.D.</u> | <u>Weight (lb/ft)</u> | <u>Grade</u> | <u>Age</u> | <u>Connection</u> | <u>GL Setting Depth</u> |
|------------------|-------------|-----------------------|--------------|------------|-------------------|-------------------------|
| 17 1/2" | 13 3/8" | 48# | J55 | New | ST&C | Ground level – 50'+/- |
| 12 1/4" | 8 5/8" | 24# | J55 | New | ST&C / LT&C | Ground level - 2025'+/- |
| 7 7/8" | 5 1/2" | 17# | N80 | New | LT&C | Ground level - 6378'+/- |

Conductor casing will be cemented to the surface with 36 cuft of construction cement. WOC = 12 hours.

Surface casing will be cemented to surface through a float shoe and float collar. **Lead cement:** ~ 1206 cu. ft. (600 sx) and **Tail cement:** ~ 150 cu.ft. (120 sx). Volumes are calculated at 50% excess. A wiper plug will be displaced to the float collar leaving the shoe joint full of cement. WOC = 12 hours. Casing will be pressure tested to 2000 psi for 30 minutes.

Cement recipe (**Lead**): Premium Lite High Strength FM w/2% KCl, 1/4#/sx Cello flake, 0.2% CD-32, 3#/sx LCM-1, 0.5% FL-52, or equal, mixed at 10.32 gpc, 12.5 ppg for a yield of 2.01 cu. ft. per sx. Volume based on 50% excess.

Cement recipe (**Tail**): Type III cmt or equivalent (1.27 ft³/sx yield, 15.2 ppg, & 5.8 gpc) with 2% CaCl₂ and 1/4#/sx cellophane. Volume based on 50% excess.

Cementing equipment will include a float shoe, float collar and will be run with a centralized shoe joint and centralizers on each of the next five joints.

Production casing will be cemented to ensure cement circulation to surface. **Lead cement:** ~ 1590 cu. ft. (791 sx) and **Tail cement:** ~ 127 cu.ft. (100 sx). Volumes are calculated at 50% excess. A wiper plug will be displaced to the float collar leaving the shoe joint full of cement. A cement bond log will be run during completion operations to insure cement coverage. Casing will be pressure tested to 3000 psi for 30 minutes during completion operations.

Optional: Stage tool to be set near 4300' and lead cement volumes split accordingly with an additional tail cement at end of 2nd cement stage.

Cement recipe (**Lead**): Premium Lite High Strength FM w/2% KCl, 1/4#/sx Cello flake, 0.2% CD-32, 3#/sx LCM-1, 0.5% FL-52, or equal, mixed at 10.32 gpc, 12.5 ppg for a yield of 2.01 cu. ft. per sx. Volume based on 50% excess.

Cement recipe (**Tail**): Type III cmt or equivalent (1.27 ft³/sx yield, 15.2 ppg, & 5.8 gpc) with 2% CaCl₂ and 1/4#/sx cellophane. Volume based on 50% excess.

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Cementing equipment will include a float shoe, float collar and will be run with a centralized shoe joint and next five joints. Centralizers will also be run across the producing zones.

5. MUD PROGRAM

| <u>Depth</u> | <u>Type</u> | <u>Wt./ppg.</u> | <u>Vis.</u> | <u>Fluid Loss</u> | <u>PH</u> |
|----------------|----------------------|-----------------|-------------|-------------------|-----------|
| 0'-50'+/- | FW gel/lime spud mud | 8.4-8.7 | 30-50 | as needed | 10 |
| 50'-2080'+/- | FW gel/lime spud mud | 8.4-8.9 | 30-50 | as needed | 10 |
| 2080'-4300'+/- | FW gel/Polymer/LSND | 8.3-8.9 | 30-55 | as needed | 9.5 |
| 4300'-6378'+/- | FW gel/Polymer/LSND | 8.3-8.9 | 30-55 | <10cc's | 9.5 |

Lost circulation and absorption material will be on location.

6. CORING, TESTING, & LOGGING

Drill stem tests are planned. Sidewall core samples may be taken from selected sections over productive sections from Honaker Trail to TD. Whole core may be taken across the Hovenweep and Gothic formations. Open hole Resistivity and Neutron –Density logs will be run from 2400' to TD with gamma ray and neutron to surface. This well will be mud logged from 4300' to TD.

7. DOWN HOLE CONDITIONS

No abnormal pressures, temperatures, or hydrogen sulfide are expected. Maximum pressure will be 3400 psi.

8. OTHER INFORMATION

The anticipated spud date is April 30, 2014. It is expected it will take ~15 days to drill and ~20 days to complete the well. Completion will start about one month after the spud and may include hydraulic fracturing.

Prepared By:

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