

## PLUG AND ABANDONMENT PROCEDURE

September 6, 2013

### Dye Hard #3

#### Red Mesa Gas Field

585' FNL, 1795' FWL, Section 13, T33N, R12W, LaPlata County, Colorado

API #05-067-06230 / Long: -108.10403 W Lat:37.10975 N

Note: All cement volumes use 10% excess per 1000 foot of depth or 100% excess outside pipe and 50' excess inside pipe, whichever is greater. The stabilizing wellbore fluid will be 8.3 ppg, sufficient to balance all exposed formation pressures. All cement will be Class B, mixed at 15.8 ppg with a 1.18 cf/sx yield.

1. This project will use of an A-Plus steel tank to handle waste fluids circulated from the well and cement wash up.
2. Install and test location rig anchors. Comply with all COGCC, BLM, and Operator safety regulations. MOL and RU daylight pulling unit. Conduct safety meeting for all personnel on location. Record casing, tubing and bradenhead pressures. NU relief line and blow down well. Kill well with water as necessary and at least pump tubing capacity of water down the tubing. ND wellhead and NU BOP. Function test BOP.
3. Rods: Yes ?, No       , Unknown       .  
Tubing: Yes X, No       , Unknown       , Size 2-3/8", Length 3478'.  
Packer: Yes       , No X, Unknown       , Type       .
4. **Plug #1 (Dakota perforations and top, 3646' – 3451')**: RIH with open ended tubing to 3646' or as deep as possible. Mix 19 sxs Class B cement (30% excess due to long plug) and spot a plug to fill the Dakota perforations and cover DK top. PUH and WOC. TIH and tag; if tag is low then spot additional cement as required. TOH.
5. **Plug #2 (Gallup top, 2710' – 2610')**: Round trip 4.5" gauge ring to 2660' or as deep as possible. TIH and set 4.5" CR at 2660'. Pressure test tubing to 1000#. Attempt to pressure test casing to 800#. If casing does not test then spot or tag subsequent plugs as appropriate. Mix 30 sxs Class B cement, squeeze 18 sxs outside and leave 12 sxs inside to cover the Gallup top. TOH.
6. **Plug #3 (Point Lookout top, 1085' – 985')**: Perforate 3 squeeze holes at 1085'. Attempt to establish rate if the casing pressure tested. Set 4.5" cement retainer at 1035'. Establish rate into squeeze holes. Mix and pump 30 sxs Class B cement, squeeze 18 sxs outside casing and leave 12 sxs inside casing to cover the Point Lookout top. TOH with tubing.
7. **Plug #4 (Cliff House top, 586' – 486')**: Perforate 3 squeeze holes at 586'. Attempt to establish rate if the casing pressure tested. Set 4.5" cement retainer at 536'. Establish rate into squeeze holes. Mix and pump 30 sxs Class B cement, squeeze 18 sxs outside casing and leave 12 sxs inside casing to cover the Cliff House top. TOH with tubing.

8. **Plug #5 (9-5/8" surface casing shoe, 134' - Surface):** Perforate 3 squeeze holes at 134'. Establish circulation out bradenhead with water and circulate the BH annulus clean. Mix approximately 45 sxs Class B cement and pump down the 4.5" casing to circulate good cement out bradenhead. Shut in well and WOC.
7. ND BOP and cut off wellhead below surface casing flange. Install P&A marker with cement to comply with regulations. RD, MOL and cut off anchors. Restore location per BLM stipulations.