



## STAGE/TOP OUT/REMEDIAL CEMENT

Cement work date: 06/29/2015

Method used	String	Cementing tool setting/perf depth	Cement volume	Cement top	Cement bottom
PERF & PUMP	1ST	2,303	345		

Details of work:

Top of Cement f/ Cutter Wireline CBL run 6/28/2015 : 2,450 ft  
 Annular / Hole Size: 9-7/8? Open Hole X 7-5/8? 29.7#/ft N-80 LT&C  
 Annular / Casing Size: 10-3/4? 40#/ft J-55 ST&C X 7-5/8?29.7#/ft N-80 LT&C  
 10-3/4? 40#/ft J-55 ST&C Surface Casing set at 1,116 ft MD  
 Cement Retainer: Weatherford set at 2,141 ft  
 Perforated: 2,303 ft to 2,300 ft, 3 spf; 90? ?; 0.5? entry Diameter  
 CIBP: Weatherford set at 2,364 ft  
 Circulated 7-5/8? annulus with 10.2ppg drilling mud prior to cementing  
 Sacks/Yield/Wts:  
 Pressure tested lines to 4000psi. Pumped 20 bbl Mud Flush III spacer, 101 bbls 275sk @ 12.8ppg, 2.07 yield, 11.58gal/sxs, Varicem Lead Cement, 14 bbls 70 sxs @ 15.9ppg, 1.15 yield, 5 gal/sk Varicem Tail. Displaced w/ 24.8 bbl 10.2 ppg drilling mud, stopped and un-stung from Cement Retainer. 100' of tail outside perfs, 100' tail inside csg, Circulated 7 bbl lead cement to surface. Good returns during entire job.

## FORMATION LOG INTERVALS AND TEST ZONES

FORMATION NAME	Measured Depth		Check if applies		COMMENTS (All DST and Core Analysis must be submitted to COGCC)
	Top	Bottom	DST	Cored	
MANCOS			NO	NO	

Comment:

I hereby certify all statements made in this form are, to the best of my knowledge, true, correct, and complete.

Signed: \_\_\_\_\_

Print Name: Jessica Donahue

Title: Regulatory Technician

Date: \_\_\_\_\_

Email: Jessica.Donahue@blackhillscorp.com

### Attachment Check List

Att Doc Num	Document Name	attached ?	
<b><u>Attachment Checklist</u></b>			
	CMT Summary *	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Core Analysis	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
400891227	Directional Survey **	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	DST Analysis	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Logs	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
	Other	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<b><u>Other Attachments</u></b>			
400890502	PDF-CEMENT BOND	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
400890505	PDF-CEMENT BOND	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
400890529	DIRECTIONAL DATA	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

### General Comments

<u>User Group</u>	<u>Comment</u>	<u>Comment Date</u>

Total: 0 comment(s)