ISOLATION REQUIREMENTS FOR TYPICAL WELLS

Date 04/18/2016 **COGCC Document No.** 2056111

FIELD NAME **ALKALI CREEK**
FIELD NUMBER **1950**

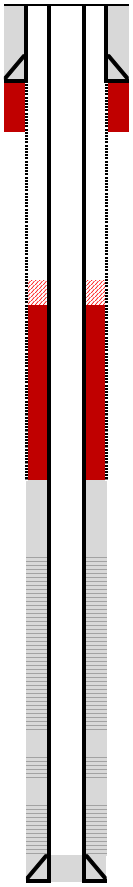
LOCATION
Basin Piceance
Township(s) 7S to 9S
Range(s) 92W

Notes:

Depths to formation tops differ significantly with changes of ground surface elevation and geologic structure across the field. Refer to the Stratigraphy chart on the Field Scout Card. These wellbore diagrams reflect average depths.

Cement isolation requirements of 200' above L. Wasatch are for Township 9S-92W, and cement isolation requirements of 500' above L. Wasatch are for 7S-92W and 8S-92W.

Depth	Formation/Member
0	Alluvium/ U. Wasatch
1,000	
	Wasatch G
2,000	
3,000	
	L. Wasatch
	Ohio Creek
4,000	U. Mesaverde
5,000	
	Top of Gas
6,000	
	Cameo
7,000	
	Rollins
8,000	Cozzette Corcoran



New Surface Casing Standard
Minimum 10% TVD or cover all apparent water resources in the U. Wasatch, whichever is more stringent.

New Cement Standard
Cement must provide coverage across Ohio Creek and Lower Wasatch (200'/500' above Lower Wasatch), in addition to productive interval coverage.

Typical Older Well Configuration
TOC covers productive intervals, but cement coverage of U. Mesaverde, Ohio Creek and L. Wasatch may be lacking

Depth	Formation/Member
0	Alluvium/ U. Wasatch
1,000	
	Wasatch G
2,000	
3,000	
	L. Wasatch
	Ohio Creek
4,000	U. Mesaverde
5,000	
	Top of Gas
6,000	
	Cameo
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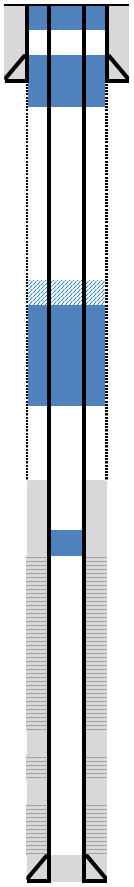
	Rollins
8,000	Cozzette Corcoran



Plug Placement

Surface plug

Surface casing shoe plug
Set deeper shoe plug if casing depth < 900 ft

Stabilization squeeze plug (use if separation between plugs above and below are > 3,000 feet); not shown on this figure

Squeeze plug across Ohio Creek and L. Wasatch (top of plug 200'/500' above L. Wasatch)

Plug in casing above Mesaverde Group Completions