

## COGCC OIL AND GAS FIELD SCOUT CARD

Date 04/18/2016  
Document No. 2056119

FIELD NAME SHEEP CREEK  
FIELD NUMBER 77200

### LOCATION

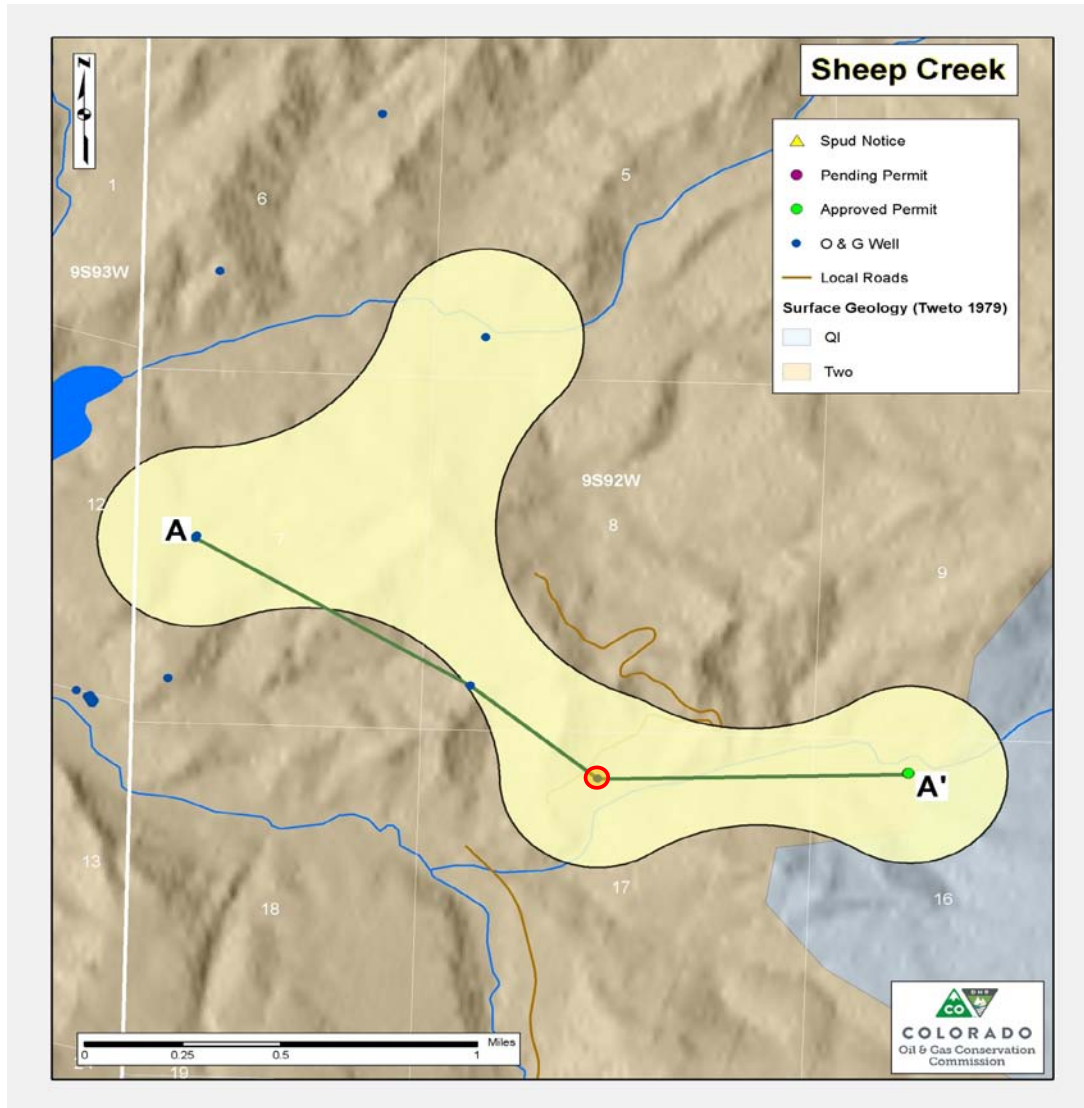
Basin Piceance  
Township(s) 9S  
Range(s) 92W

### SURFACE GEOLOGY

Surface Geology consists of alluvium at the northwest end of the field and landslide deposits at the southeast end of the field, underlain by the Wasatch Formation. The Wasatch Formation outcrops at surface throughout most of

### GEOLOGIC STRUCTURE

None present within this field or nearby on COGCC's 250K GIS Geology layer.



○ Type Log Well

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SHEEP CREEK #7720**

STRATIGRAPHY				A - Northwest		A' - Southeast		
				API Number =>	077-08569	077-05097	077-08500	077-08435
All depths are measured depths				Surface Elevation =>	7,602	7,652	7,620	7,838
				Well Type =>	Vertical	Vertical	Vertical	Vertical
Group	Formation	Interval/Member	Isolation Concern	Log Top	Log Top	Log Top	Log Top	
	Alluvium		Water	0				
	Landslide deposits		Water					
	Wasatch	Upper	Shallow Water		0	0	0	
	Wasatch	G-Sand*	None	2,598/2,780*		2,438/2,614*	2,352/2,510*	
	Wasatch	Fort Union*	None	3,044*		2,934*	2,806*	
	Wasatch	Middle	None					
	Wasatch	Lower*	Water	4,090*		3,885*	3,780*	
Mesaverde	Williams Fork	Ohio Creek	Water	4,360*		4,215*	4,290*	
Mesaverde	Williams Fork	U. Mesaverde	Water	4,900*		4,698	4,775*	
Mesaverde	Williams Fork	Top of Gas	Gas					
Mesaverde	Williams Fork	Cameo	Gas					
Mesaverde	Iles	Rollins	Gas	7,919	7,802*	7,690*	7,800	
Mesaverde	Iles	Cozzette	Gas	8,443	8,393	8,252	8,330	
Mesaverde	Iles	Corcoran	Gas	8,627	8,562*	8,412	8,490	
	Mancos		Possible Gas					
	Niobrara		Possible Gas					

**Annotated Type Log for 077-08500: COGCC Document Number 2056077**

Stippled cells indicate that the respective log top was not apparent on logs or the top may be covered by a shallower casing string above the logged interval. "Middle Wasatch" is an interval that may include multiple formation members, and therefore, log tops are not presented for the Middle Wasatch.

\* COGCC log picks (Wasatch G-Sand [top of upper and lower intervals] and Fort Union are not commonly recognized by operators in this field; "Lower" Wasatch, as shown herein for water isolation, is not recognized in geologic literature)

**WATER RESOURCE ISOLATION**

Alluvium, Landslide Deposits, Upper Wasatch (weathered portion in which water supply wells are screened), Lower Wasatch, Ohio Creek, and Upper Mesaverde  
The deepest water well within the vicinity of the field is 310' (likely Wasatch)

**PRODUCING ZONE ISOLATION**

Primary Objectives: Mesaverde Group (Williams Fork, Cameo, Rollins, Cozzette, and Corcoran)

**UNDERGROUND INJECTION CONTROL**

None in this field.

**COMMISSION ORDER SUMMARY (Significant Engineering and Spacing Issues)**

1-107 (9/20/2004)	Establishes a Bradenhead Monitoring Area, including the Sheep Creek Field.
386-1 (6/21/1982)	Mesaverde: Recognizes Cozzette and Corcoran as a <b>Common Source</b> of supply. Establishes 640-acre drilling and spacing units, 600' from unit line.
386-2 (11/27/2006)	Mesaverde: Amends Order 386-1 to allow 4 wells per quarter-quarter (10-acre spacing), with wells 100 feet from unit lines and one pad per quarter-quarter.
Various	Mesaverde: Amends Order 386-1 to allow 10-acre density in the Williams Fork, Rollins, Cozzette, and Corcoran, with wells 100 feet / 200 feet from unit lines and one pad per quarter-quarter.

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**HISTORIC WELL CONSTRUCTION**

Surface casing setting depths generally range from 400' to 1,000'. Production casing generally terminates in the lles or underlying Mancos formations. Production casing cement may be limited to coverage of the producing intervals, and coverage may be lacking across parts of the Mesaverde Group and Wasatch Formation.

**NEW WELL CONSTRUCTION (effective 04/18/2016)**

Minimum surface casing of 5% TVD required for well control in Mesa County (10% TVD recommended) and to cover water resources in the upper interval of the Wasatch Formation. Recommend setting depth of 1,000' or greater, based on potential water resources apparent on induction logs with shallow-set surface casing. Full cement coverage of the Mesaverde Group and Ohio Creek is required in the Piceance Basin through 2015. New Standards require cementing intermediate (if used) or production casing at least 200' above Lower Wasatch sands, as shown on the annotated type log for this field.

**PLUGGING OBJECTIVES**

Plug(s) above Mancos and other deeper formations (if penetrated) to address potential future horizontal wells; plug above Mesaverde Group completions; plug above Ohio Creek and across Lower Wasatch (squeeze to 200' above Lower Wasatch if no annular cement coverage); stray gas isolation squeezes (if no annular cement) or in-casing stabilization plugs (if annular cement present) at 3,000' intervals if plugs are not already planned in those intervals as described above; surface casing shoe plug and surface plug. Larger surface casing shoe plugs should be considered for wells with less than 1,000' of surface casing.

**NOTES**

This field is located within the Bradenhead Monitoring Area. Special requirements and Form 2 Conditions of Approval apply.