

7/19/2017

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COGCC UIC-Lead

Mull Drilling Company Inc.                      Form 31 Doc # 401302996  
Quiver Unit #2  
SWNE 1-17S-48W  
Kiowa County  
API: 061-06763

#### Maximum Surface Injection Pressure Calculation

Operator estimated pressure is 100-500 psi.

Assume fracture gradient of 0.6 psi/ft.

Head for fresh water is 0.433 psi/ft.

Top perforation is at 5050 ft

Pressure Calculation:

(Fracture Gradient – Head for Water) x Perforation Depth = Maximum Surface Injection Pressure

MSIP = (0.6 psi/ft – 0.433 psi/ft) x 5050 ft = 843 psi

COGCC will allow 850 psi in permit