FRACTURE GRADIENT AND MAXIMUM INJECTION PRESSURE

Claimed as PBI

Fracture Gradient

Within the project AoR, there is no site-specific fracture pressure or fracture gradient for the Injection Zones. Claimed as PBI [redacted] For the computational simulation modeling and well performance modeling, a fracture gradient of 0.80 psi/ft was assumed for all zones.

At this time, no fracture gradient information has been found for the Confining Zone. CTV will determine a site-specific fracture pressure for the Confining Zone as described in **Attachment I: Pre-Operational Testing Plan**. For computational modeling, a frac gradient of 0.80 psi/ft was used.

Maximum Injection Pressure

CTV will ensure that the injection pressure is beneath 90% of the fracture gradient at the top of perforations in the injection wells. CTV expects to operate the wells with a planned bottom hole injection pressure well below the maximum allowable injection pressure calculated using the fracture gradient and safety factor.

Table 1 – Fracture gradient and maximum injection pressure for Claimed as PBI

Injection Pressure Details	**Injection Well 1** Claimed as PBI
Fracture gradient (psi/ft)	0.80
Maximum allowable bottomhole injection pressure (90% of fracture pressure) (psi)	3,393
Elevation corresponding to maximum injection pressure (ft TVD)	Claimed as PBI
Elevation at the top of the perforated interval (ft TVD)	Claimed as PBI