Pilot Study Areas in San Juan Basin
Comparison of Well Drainage Areas

Isotropic

$k_{\text{min}}$

$k$

$\text{Anisotropic}$

$k_{\text{max}}$

$a$

$b$
Infill Drilling Will Increase Gas Recovery

- Current wells: 1 well per section
- 1 well per section
- 2 wells per section
- 3 wells per section
- 4 wells per section

160 acre spacing

80 acre spacing

BCF
Well Drainage Area in Reservoir with Anisotropic Permeability

- Deviation from north
- New infill well
- Existing well
- Drainage
- $K_{\text{max}}$
- $K_{\text{min}}$
Formation Pressure in Offset Wells Increases with Increasing Rotation from Direction of Maximum Permeability
Elliptical Drainage of Wells Is Aligned With Maximum Permeability Direction

Model boundary

K\(_{\text{max}}\)

K\(_{\text{min}}\)

Drainage

Existing well

1 mile
Rotation of Offset Wells Eliminates Drainage Overlap and Increases Drainage of Reservoirs with Anisotropic Permeability
Fracture Swarms Enhance Reservoir Permeability Anisotropy