

SANTOS to Sierra/SM Migration



PRESENTED BY

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Migration to Sierra/Solid Mechanics

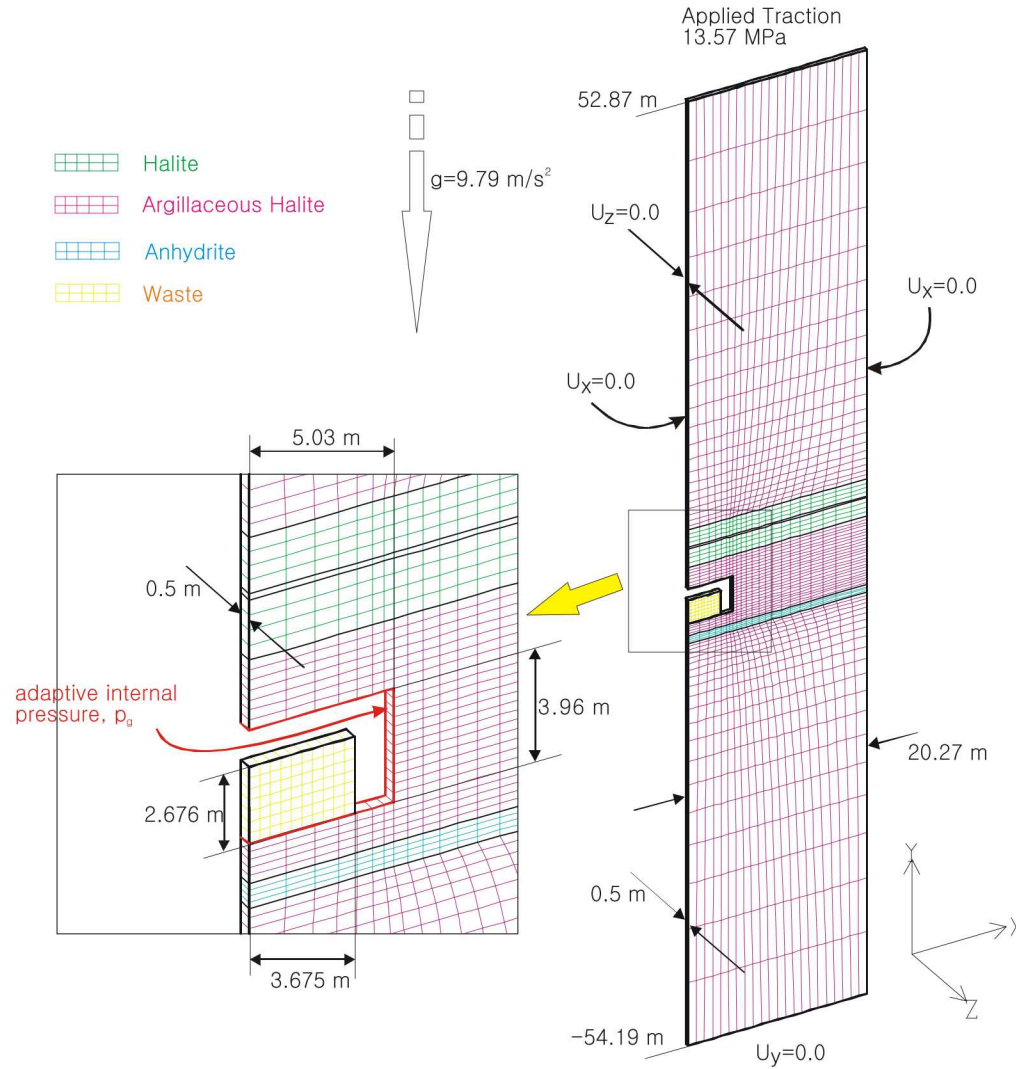
Phase I: Reproduce SANTOS porosity surface. (FY19)

Phase II: Improve simulation numerics. (FY20)

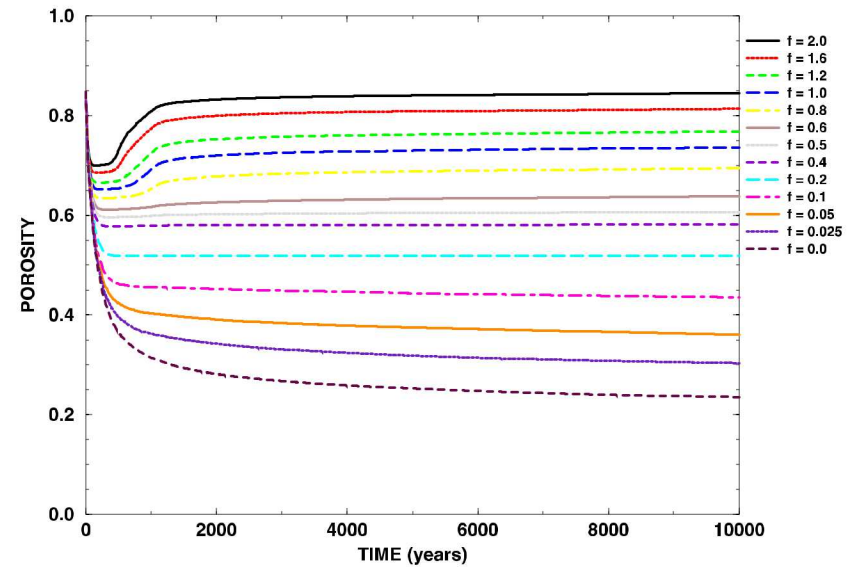
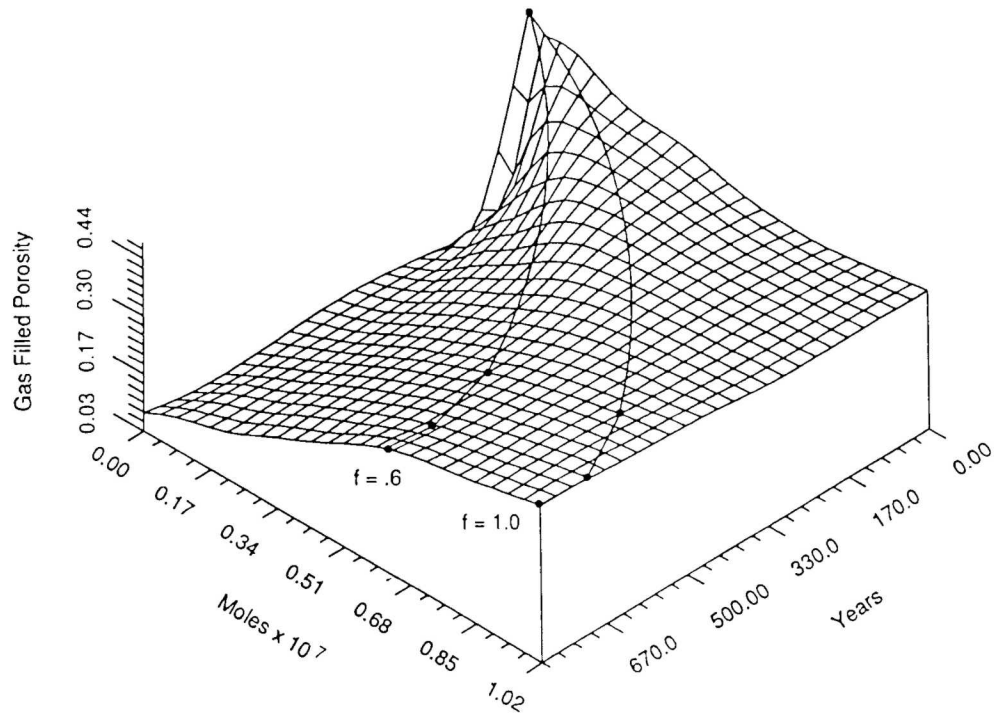
Phase III: Update stratigraphy and geomechanical model. (FY20-21)

SANTOS Model

Model geometry and stratigraphy



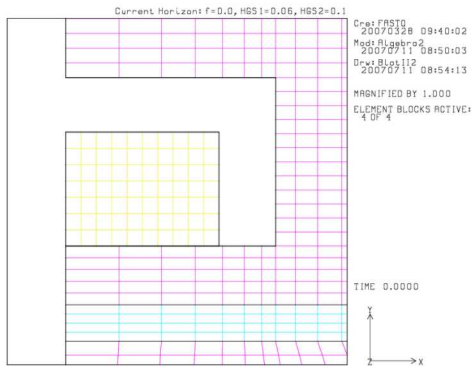
Porosity surface



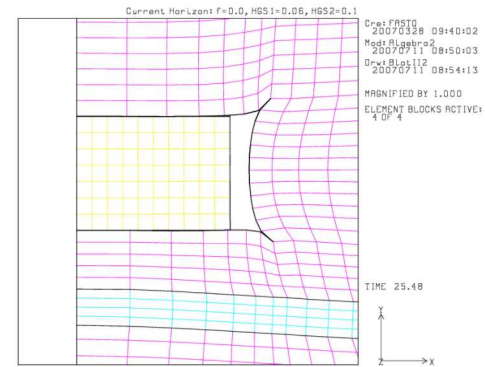
SANTOS Model

Room closure (no gas generation)

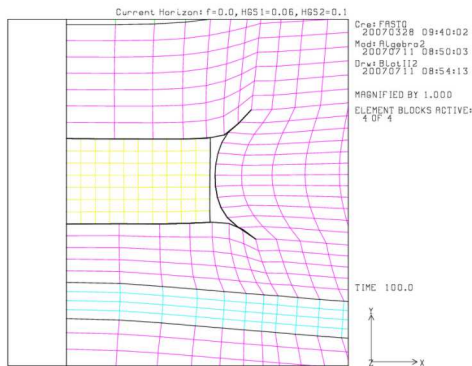
T = 0 years



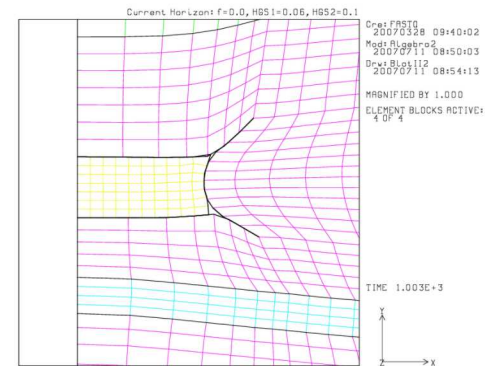
T = 25 years



T = 100 years



T = 1000 years

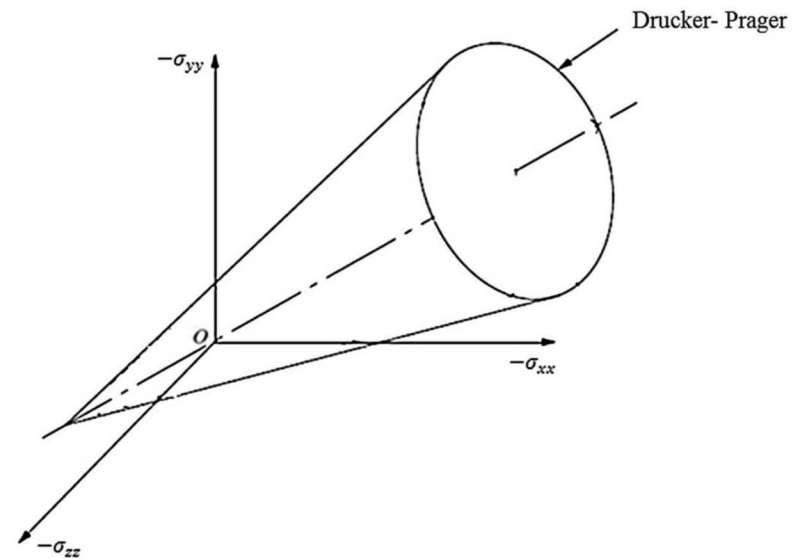


Soil and foam elastic-plastic constitutive model

Isotropic elasticity

Two-surface plasticity

- (1) Non-hardening shear surface
(Drucker-Prager non-associative flow)
- (2) Planar cap plasticity (associative flow)



Qualification requirements document drafted. Needs constitutive model specification.

(Soil and foam, Weidlinger, Kayenta)

Numerics and Geomechanical Model

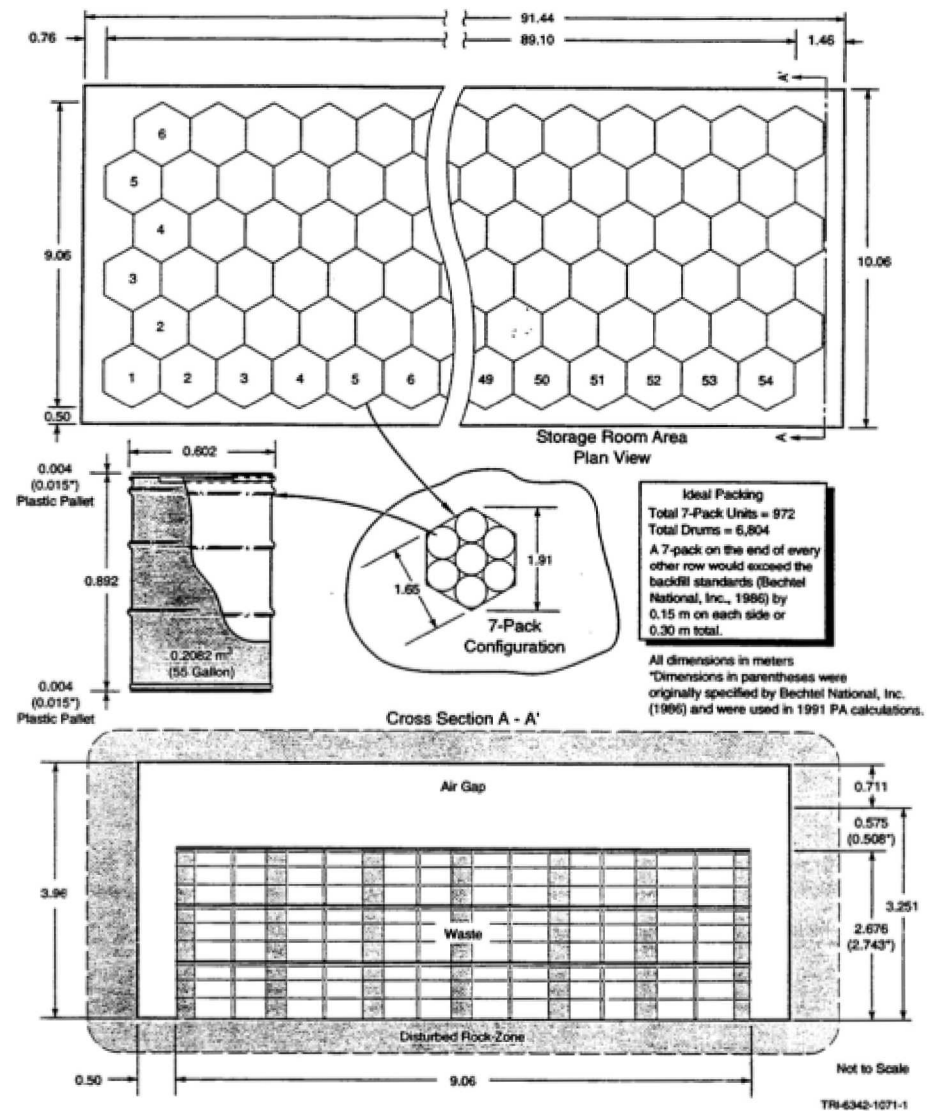
Solution tolerances

Mesh convergence

Stratigraphy

Waste representation

Extended Munson-Dawson model



[2] Butcher, SAND97-0794