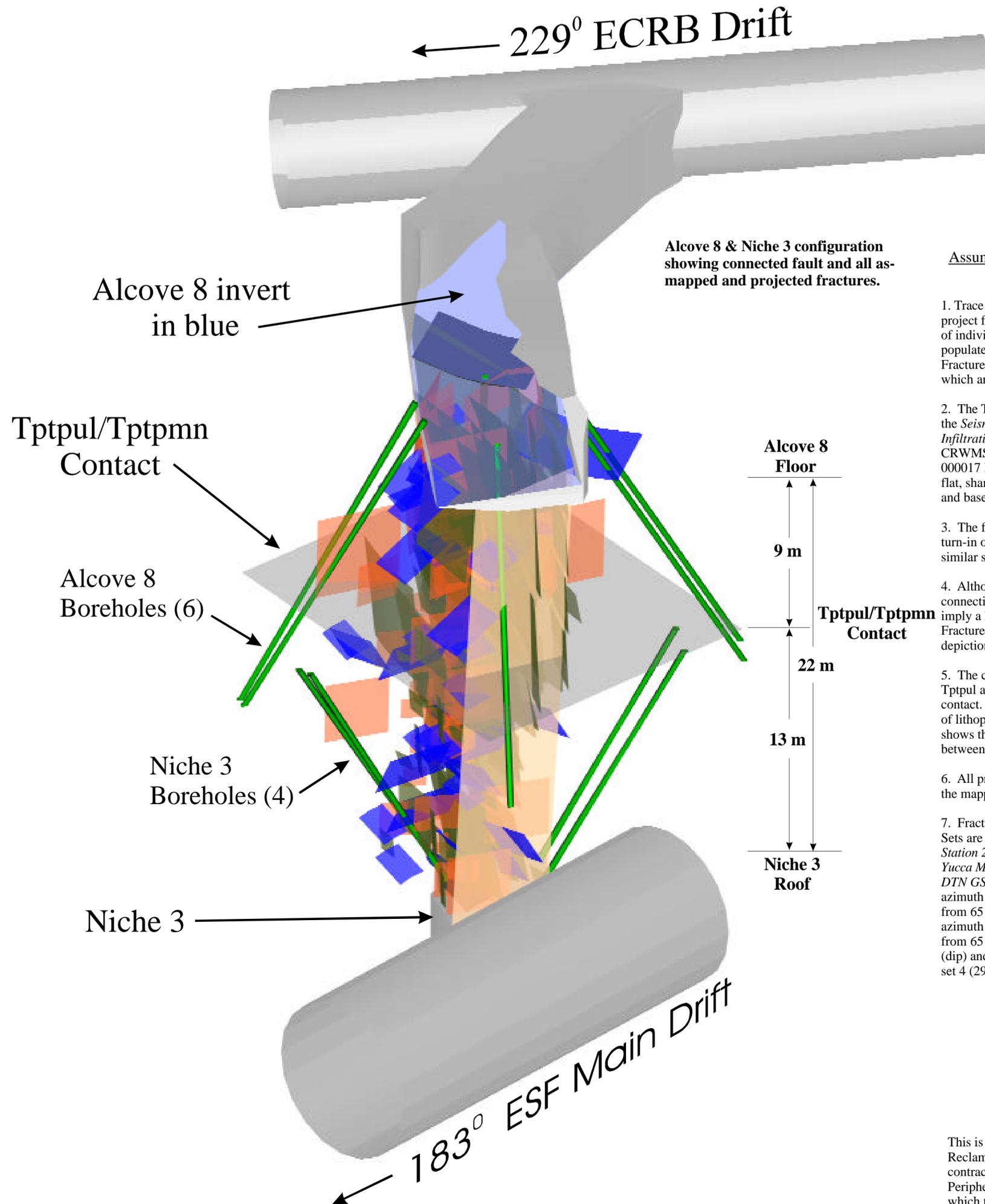


# 3D Depiction of Fractures between Alcove 8 & Niche 3



Alcove 8 & Niche 3 configuration showing connected fault and all as-mapped and projected fractures.

## Assumptions and Guidelines used to generate this depiction

- Trace lengths of mapped fractures were used to project fracture planes into 3 dimensions. Trace lengths of individual fractures were also used as the distance to populate projected fractures in the vertical dimension. Fractures are depicted as square planes, the size of which are based on the mapped trace length.
- The Tptpul/Ttpmnn contact is taken directly from the *Seismic Tomography Technology for the Water Infiltration Experiment* report. Prepared by the CRWMS M&O, document number TDR-EBS-MD-000017 REV 00B. Although the contact is shown as a flat, sharp plane, in actuality the contact is gradational and based on lithophysae percentage.
- The fault drawn from the heading of Alcove 8 to the turn-in of the crown of Niche 3 is connected based on similar strike and dip, and similar throw.
- Although this depiction shows a high degree of connectivity between the two excavations it does not imply a high degree of porosity or permeability. Fracture aperture is not a factor considered in this depiction.
- The characteristics of the fracture network of the Tptpul are similar to that of the Ttpmnn near the contact. The contact is based on a decreasing amount of lithophysae not the fracture network. Experience shows that the differences in the fracture network between these subunits occurs above Alcove 8.
- All projected fracture locations have been based on the mapped fractures characteristics.
- Fractures are color coded according to orientation. Sets are taken from the *Geology of the Main Drift - Station 28+00 to 55+00, Exploratory Studies Facility, Yucca Mountain Project, Yucca Mountain, Nevada. DTN GS970208314224.005*. Green fractures (set 1) azimuth range from 069 to 185 degrees and dip ranges from 65 to 90 degrees. Orange fractures (set 2) azimuth range from 191 to 250 degrees and dip ranges from 65 to 90 degrees. Blue fractures are low-angle (dip) and represent a combination of set 3 (325/13) and set 4 (293/49) fractures.



This is a non-Q product produced by the Bureau of Reclamation, Underground Mapping Team, under contract with the U.S. Geologic Survey. The Full-Periphery Geologic Maps of Alcove 8 and Niche 3 upon which this depiction is based are TBV pending submittal to the TDMS.