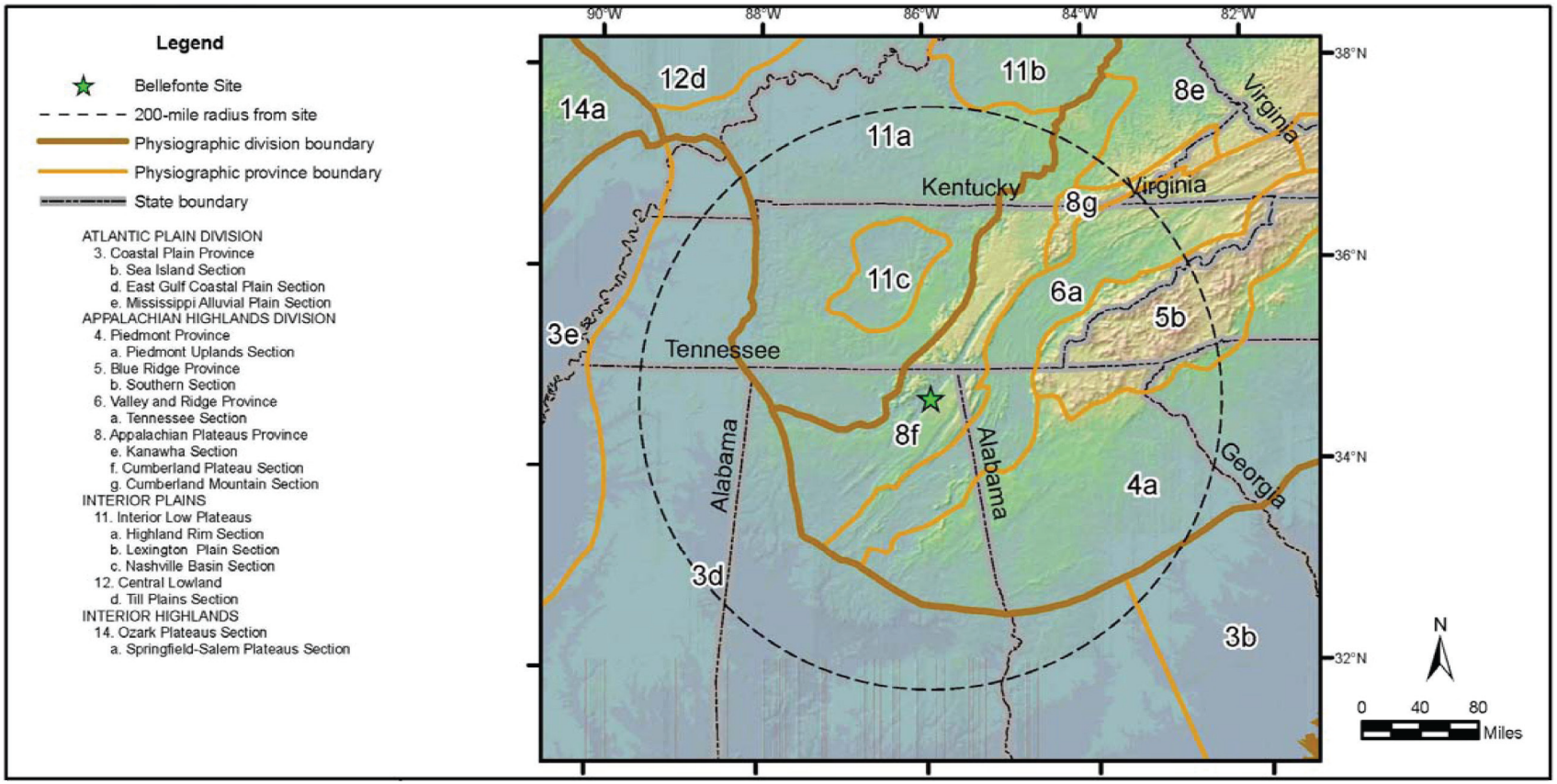
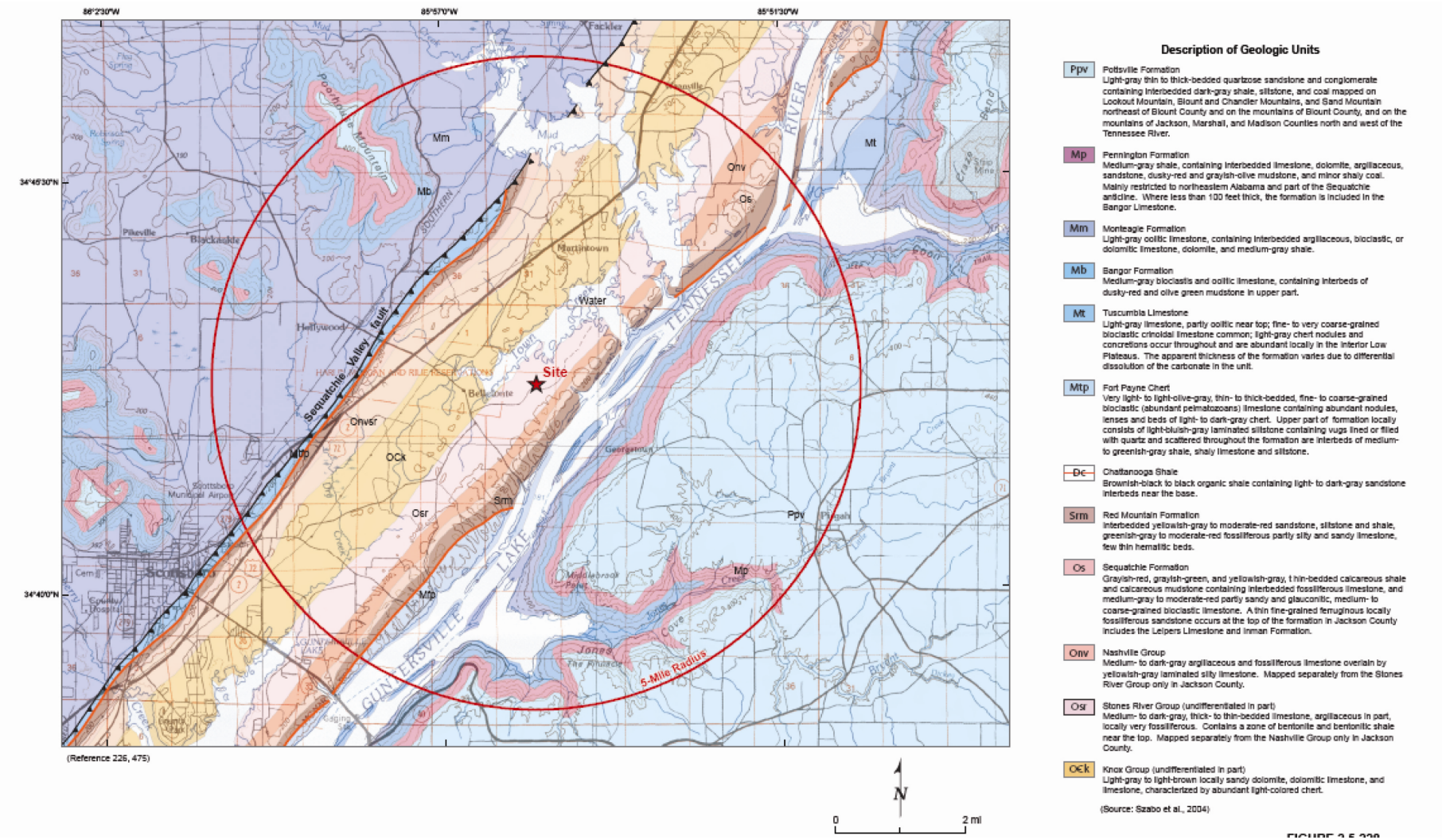


Figure 2.5.1-1 Regional Physiographic Map (320 km, 200-mile radius) (reproduced from FSAR Figure 2.5-202)



SER Figure 2.5.1-2 Geologic Map of the 5-mile BLN Site Radius (reproduced from FSAR Figure 2.5-228)

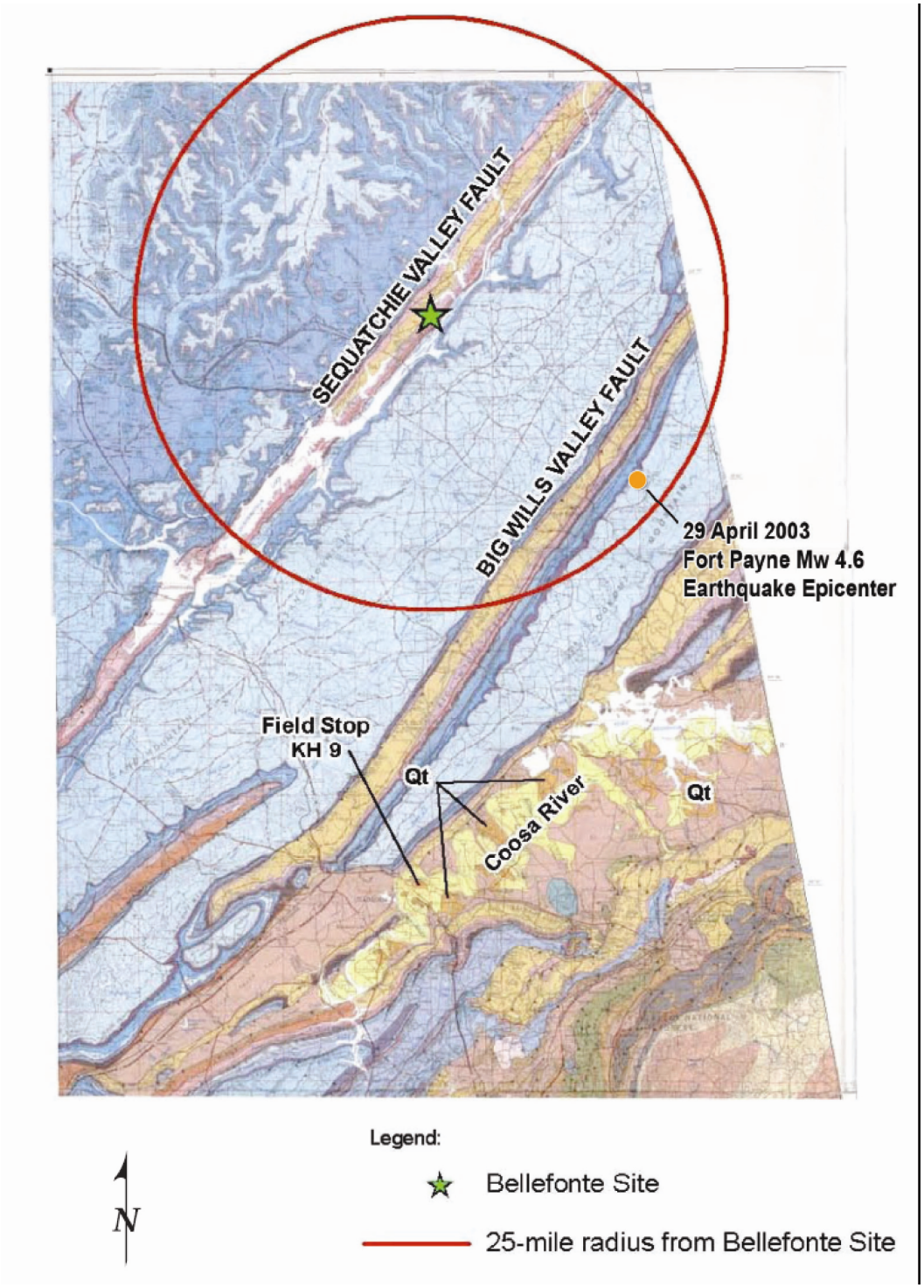


Figure 2.5.1-3 Geologic Map of the BLN 25-mile Site Radius (reproduced from FSAR Figure 2.5-208a)

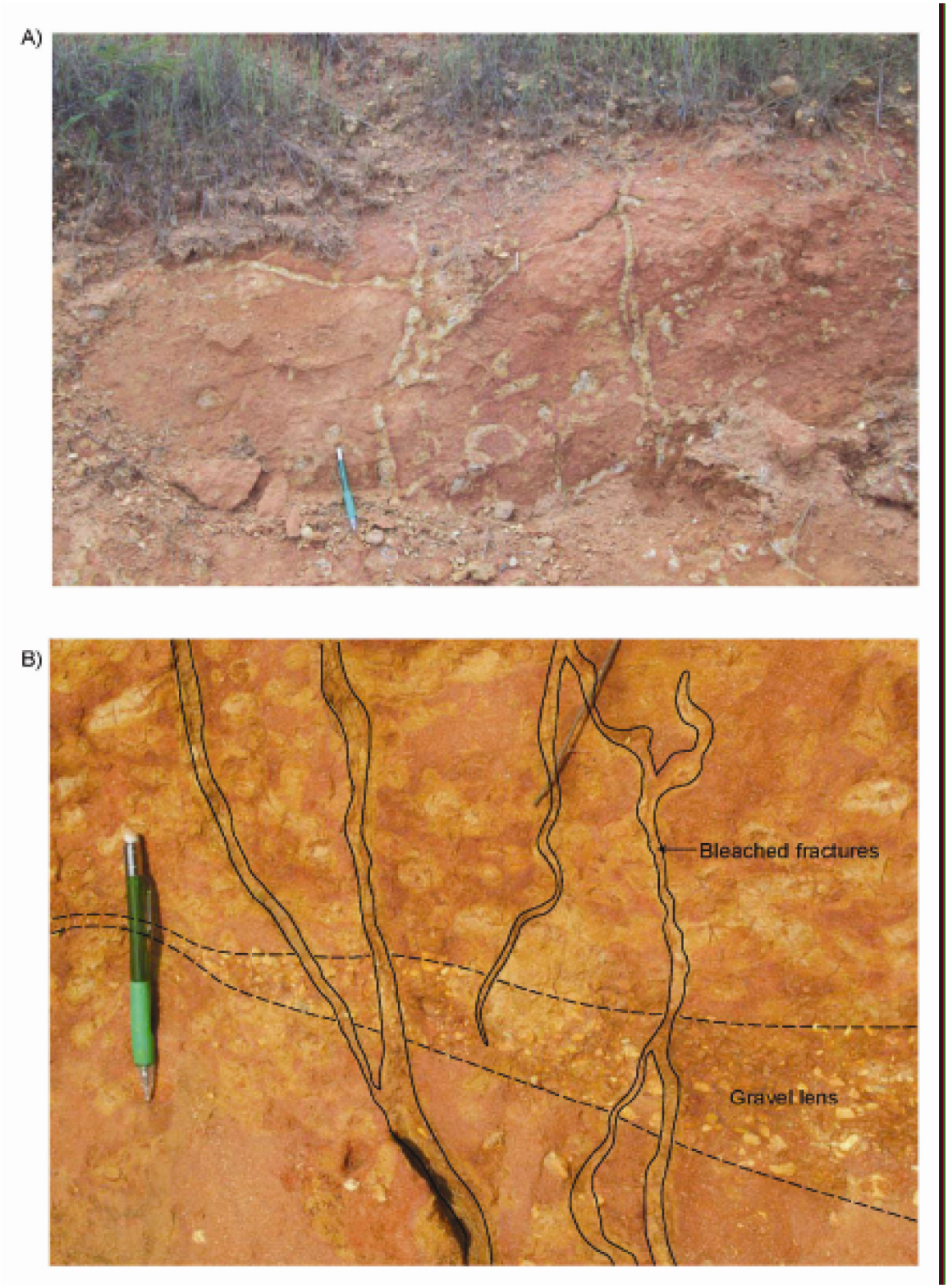


Figure 2.5.1-4 Photographs of Geologic Weathering Features at Gadsden, Alabama (reproduced from FSAR Figure 2.5-209)

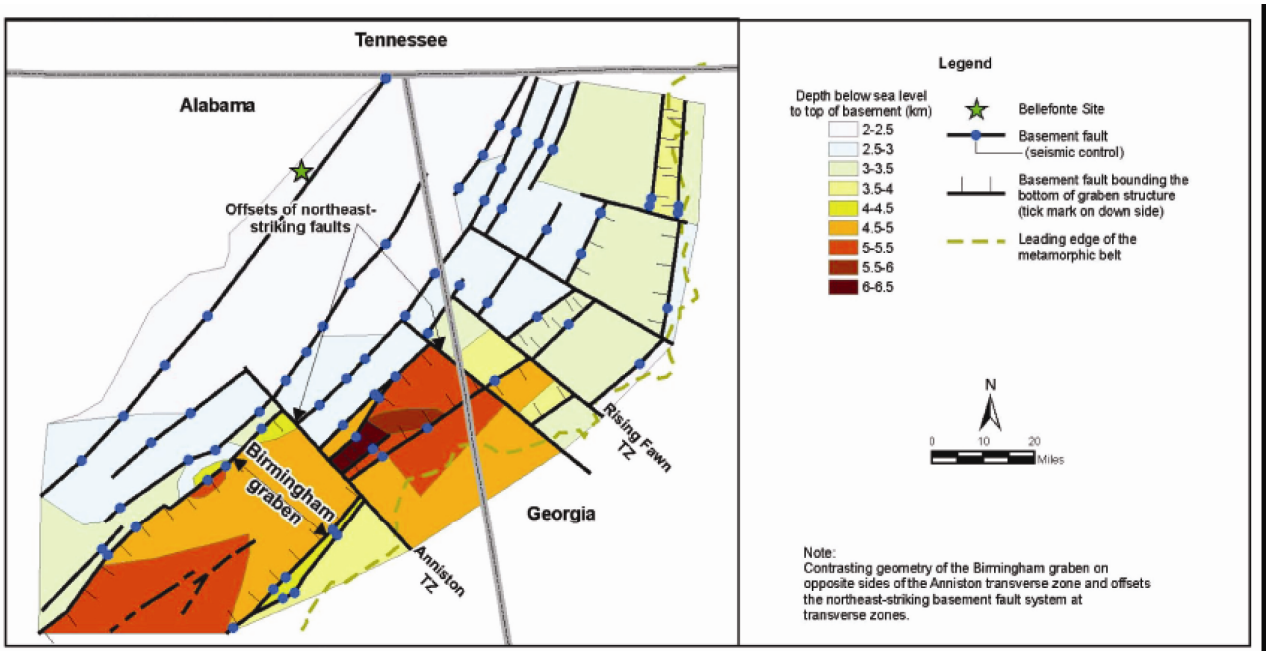


Figure 2.5.1-5 Map of Basement Rock Faults (reproduced from FSAR Figure 2.5-220)

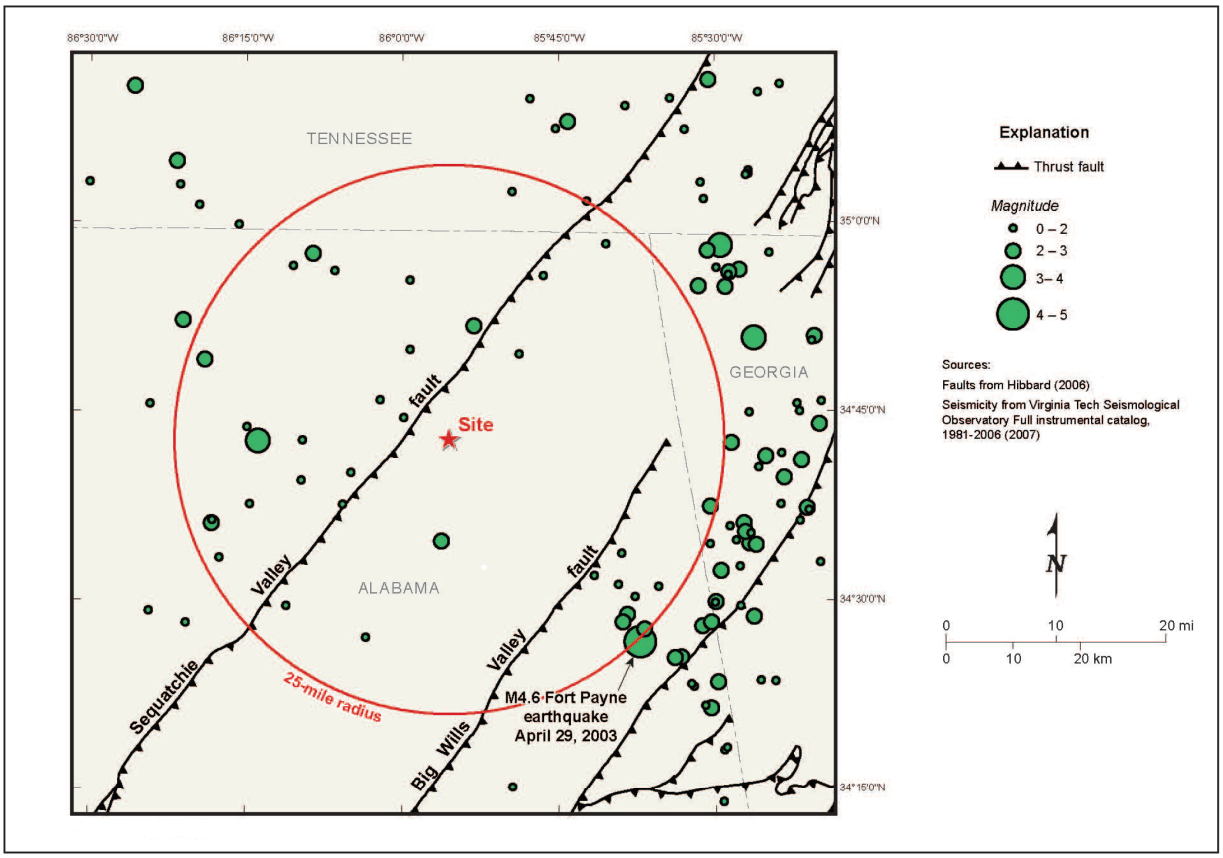


Figure 2.5.1-6 BLN Site Mapped Faults relative to Seismicity (reproduced from FSAR Figure 2.5-294)

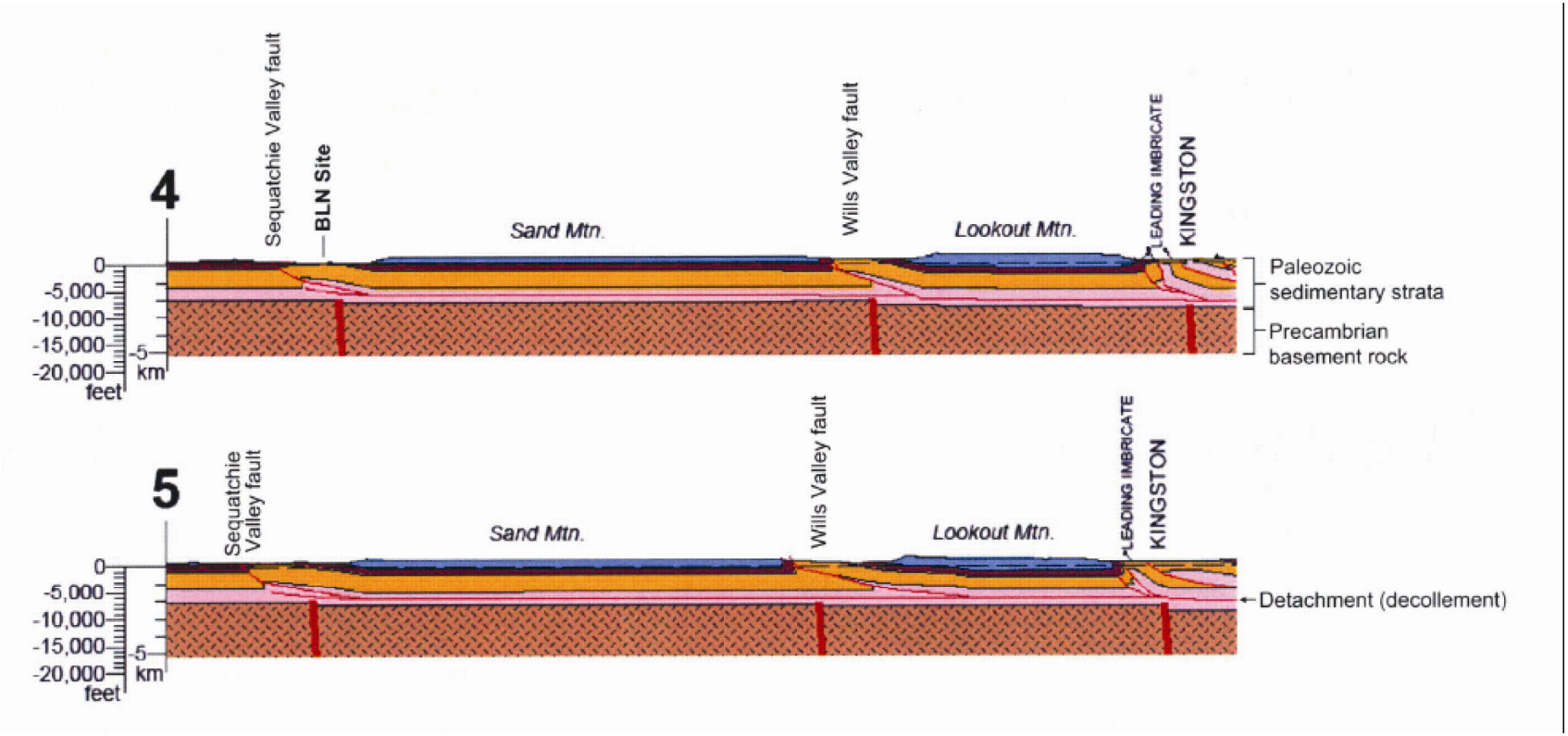


Figure 2.5.1-7 Structural Cross Section Showing Relationship Between Paleozoic Thrust faults and Underlying Precambrian Basement Faults (reproduced from Thomas and Bayona, 2005)

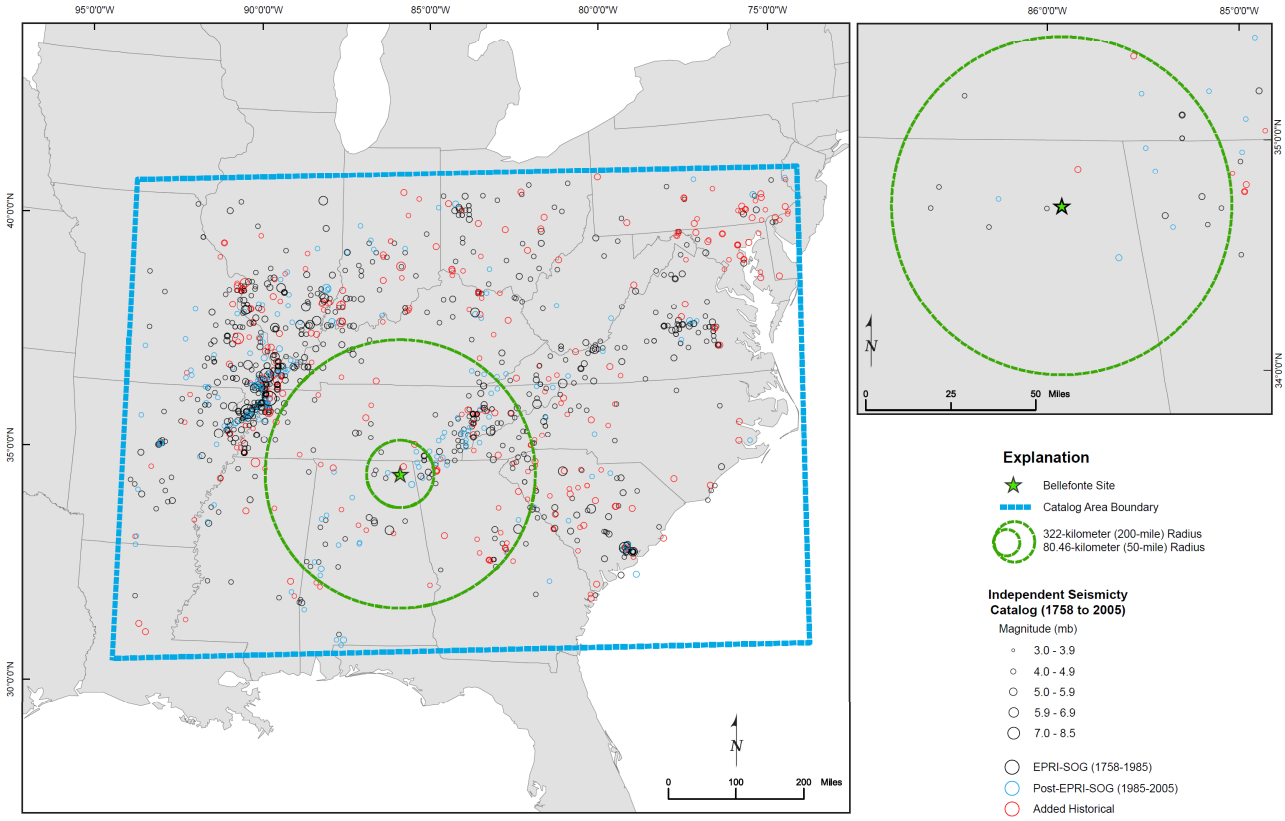


Figure 2.5.2-1 Map Showing the Seismicity surrounding the BLN Site

The blue dashed line represents the applicant's update zone. Small inset map on right shows the site area seismicity within 80 km (50 mi) of the BLN site.

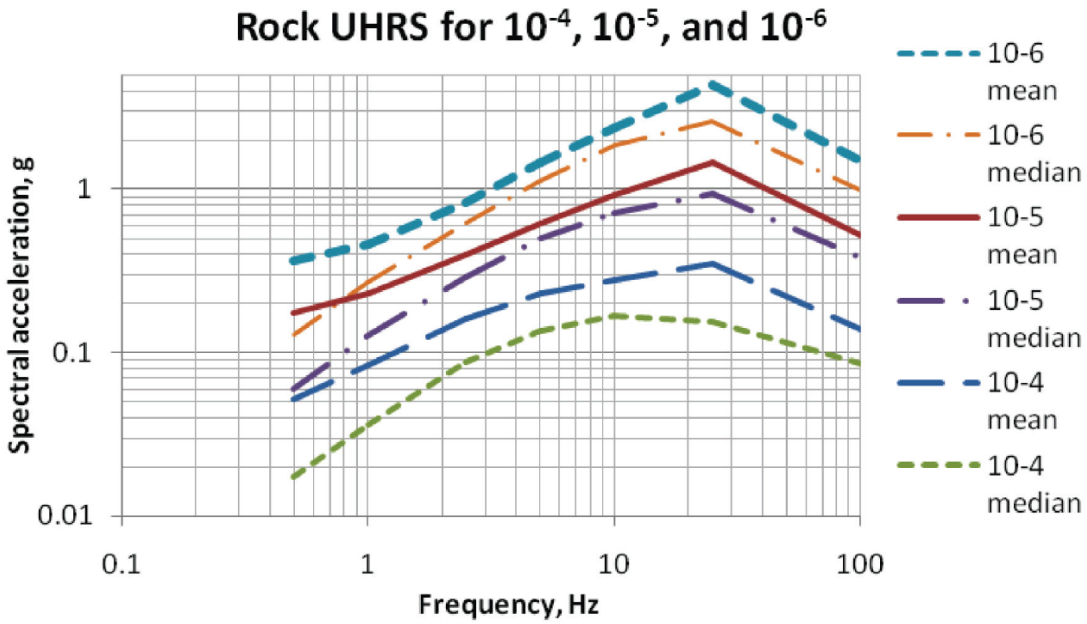


Figure 2.5.2-2 Rock UHRS curves calculated for the BLN site (FSAR Figure 2.5.-280)

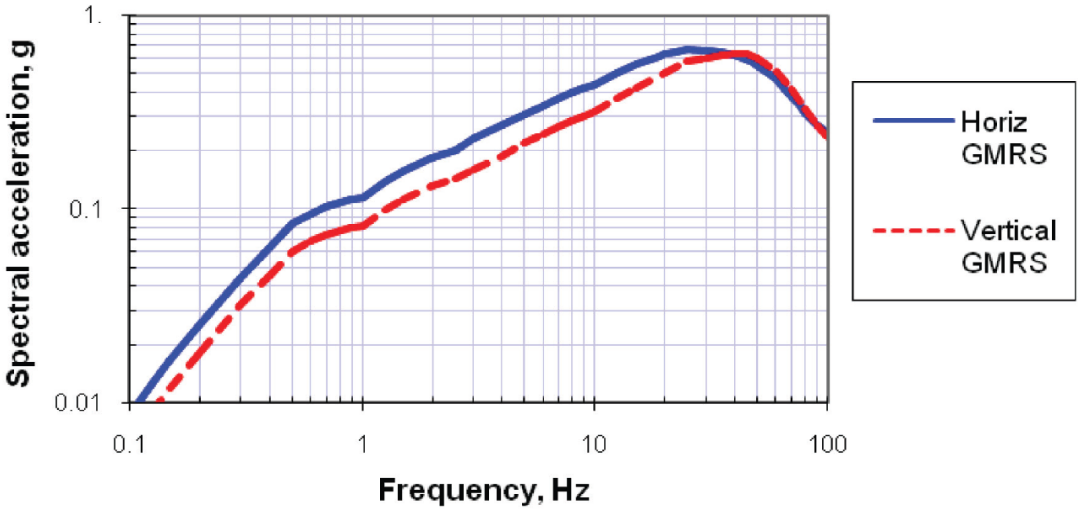


Figure 2.5.2-3 Bellefonte horizontal and vertical GMRS curves. (FSAR Figure 2.5-290)

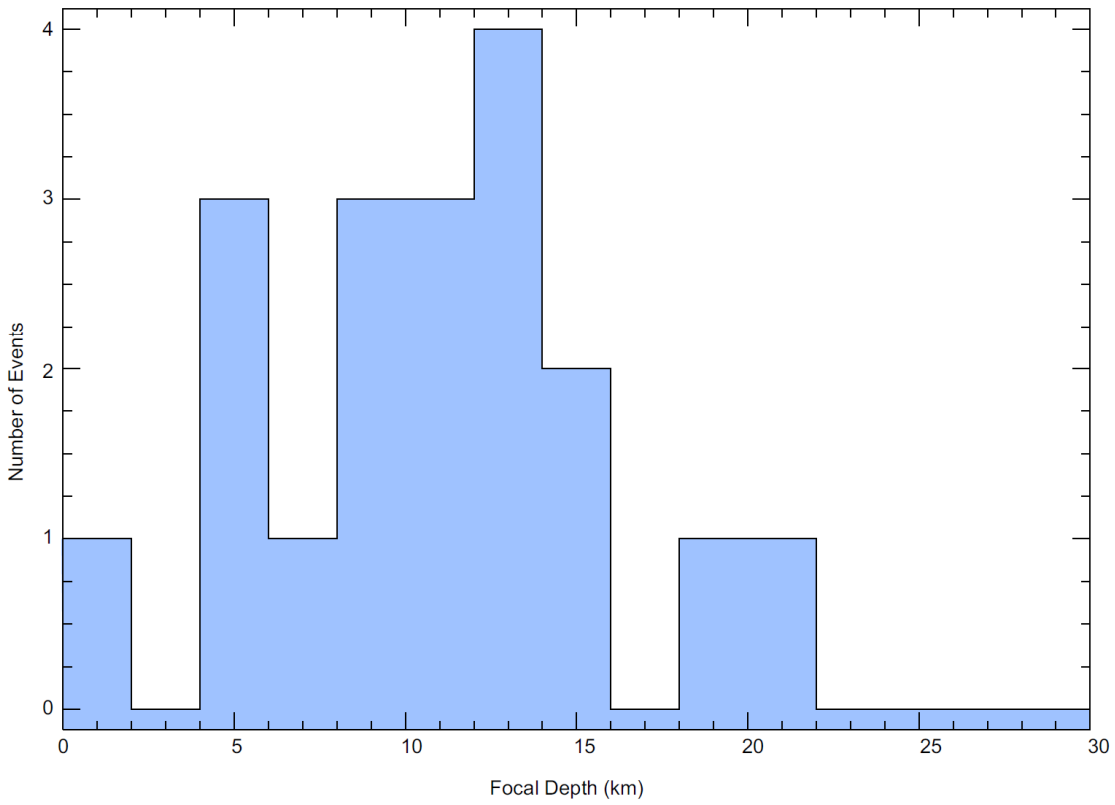


Figure 2.5.2-4 Histogram Showing the Depth Distribution of Well-located Earthquakes in the BLN Site Vicinity (Ref. RAI 2.5.2-3)

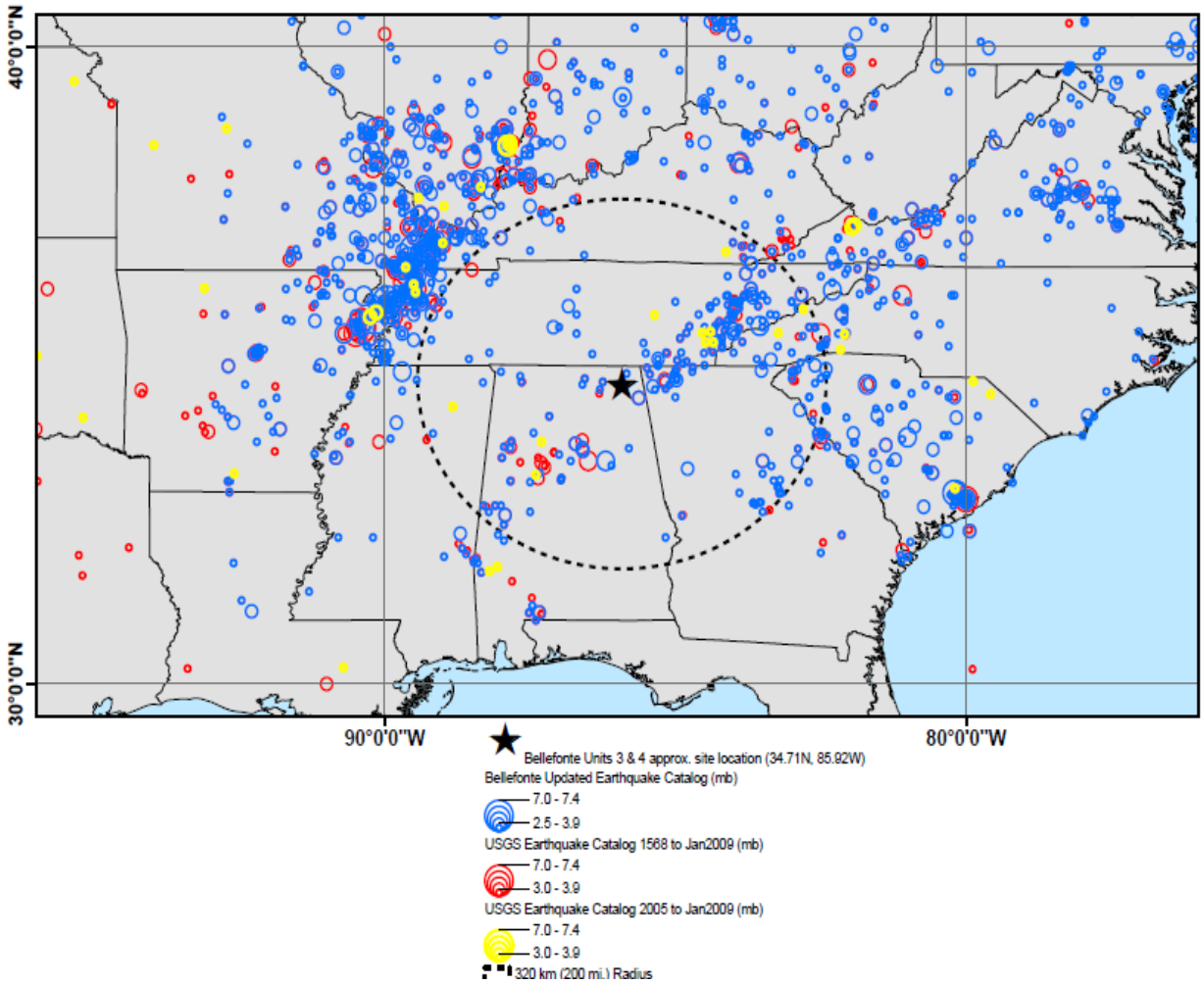


Figure 2.5.2-5 A comparison of events ($m_b \geqslant 3$) from the Bellefonte Updated Earthquake

Catalog (blue circles), the USGS Earthquake Catalog from 1568 to January 2009 (red circles), and the USGS Earthquake Catalog from 2005 to 2009 (yellow circles). The star corresponds to the location of the BLN site and the dashed black oval corresponds to the 320-km (200-mi.) site radius.

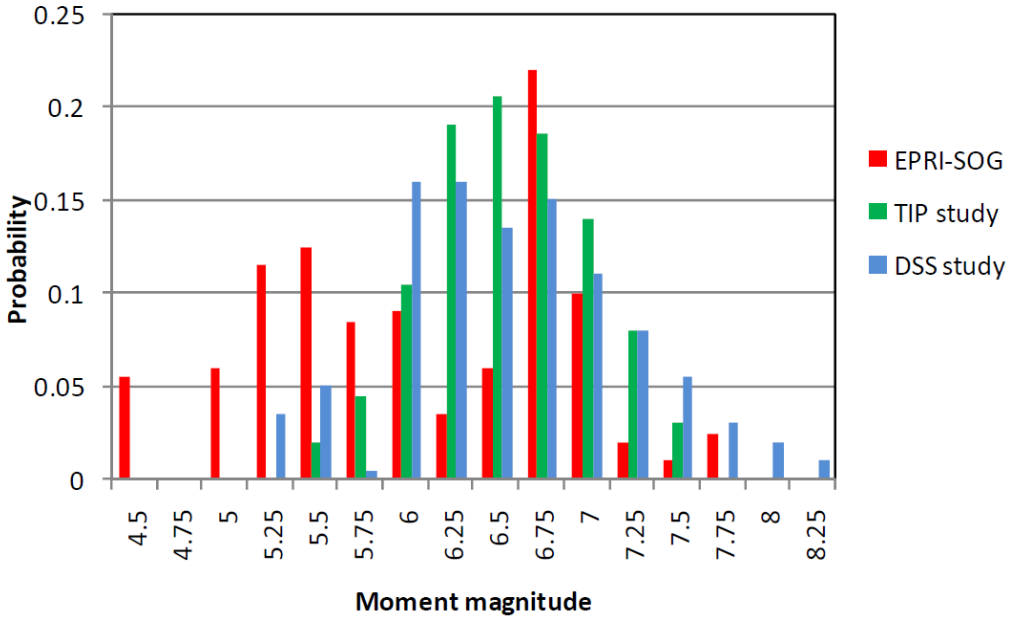


Figure 2.5.2-6 Histogram showing the Comparisons of Assigned Maximum Magnitudes Values for the ETSZ Seismic Sources in EPRI-SOG, LLNL TIP, and DSS Studies (Ref. NEI study)

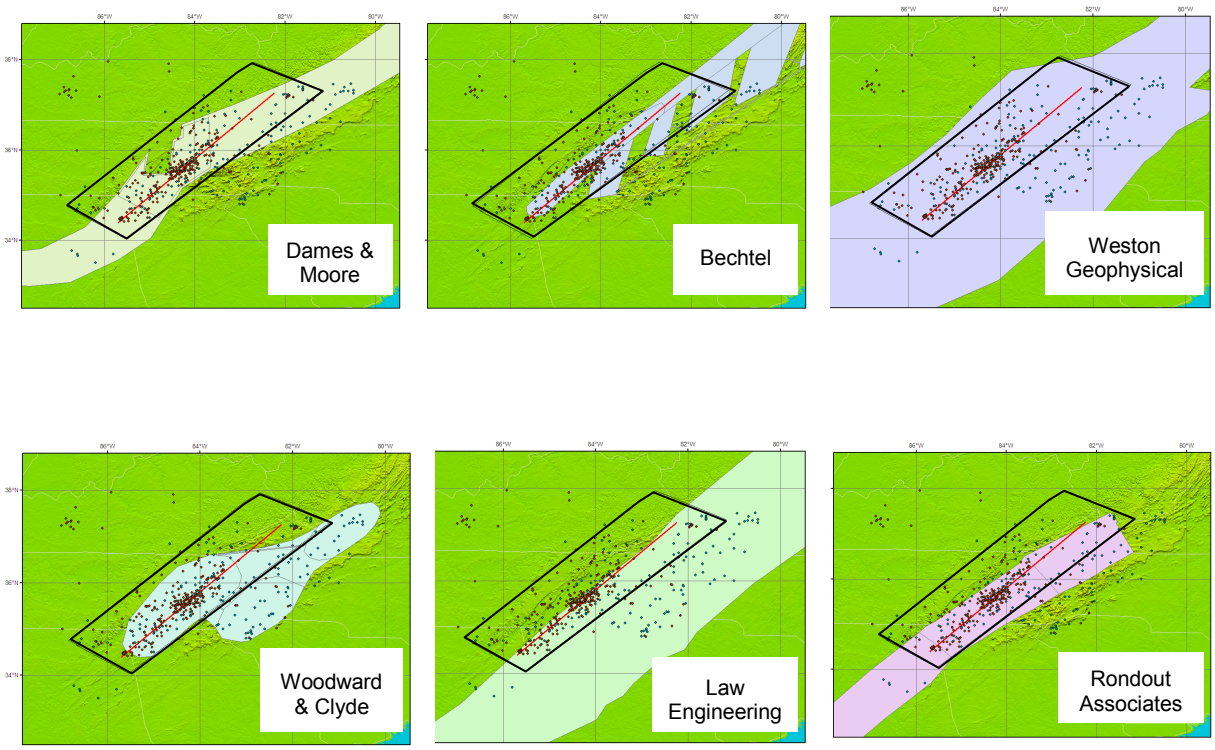


Figure 2.5.2-7 EPRI SOG Source Geometries for the ETSZ

Black box is the staff's representation of the ETSZ. The Red line is the center of the seismicity in the region.

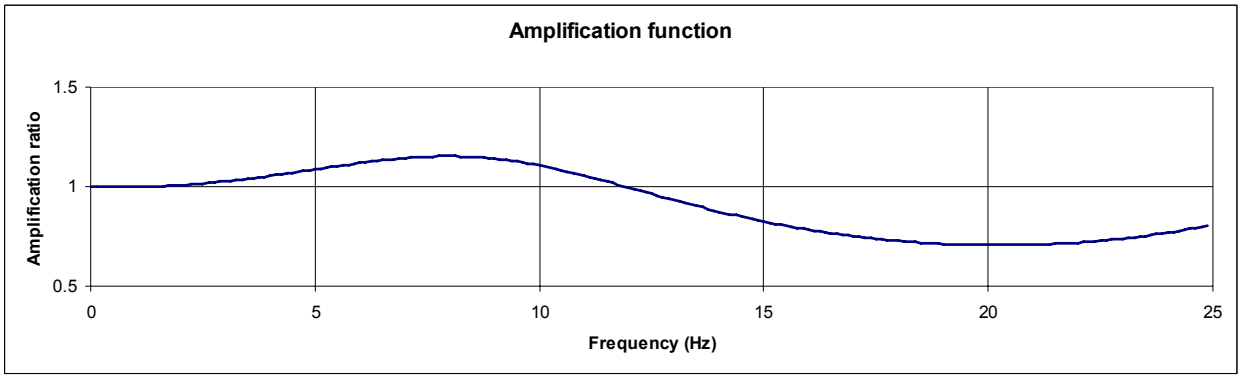


Figure 2.5.2-8 BLN Reactor Unit 4 Amplification Function