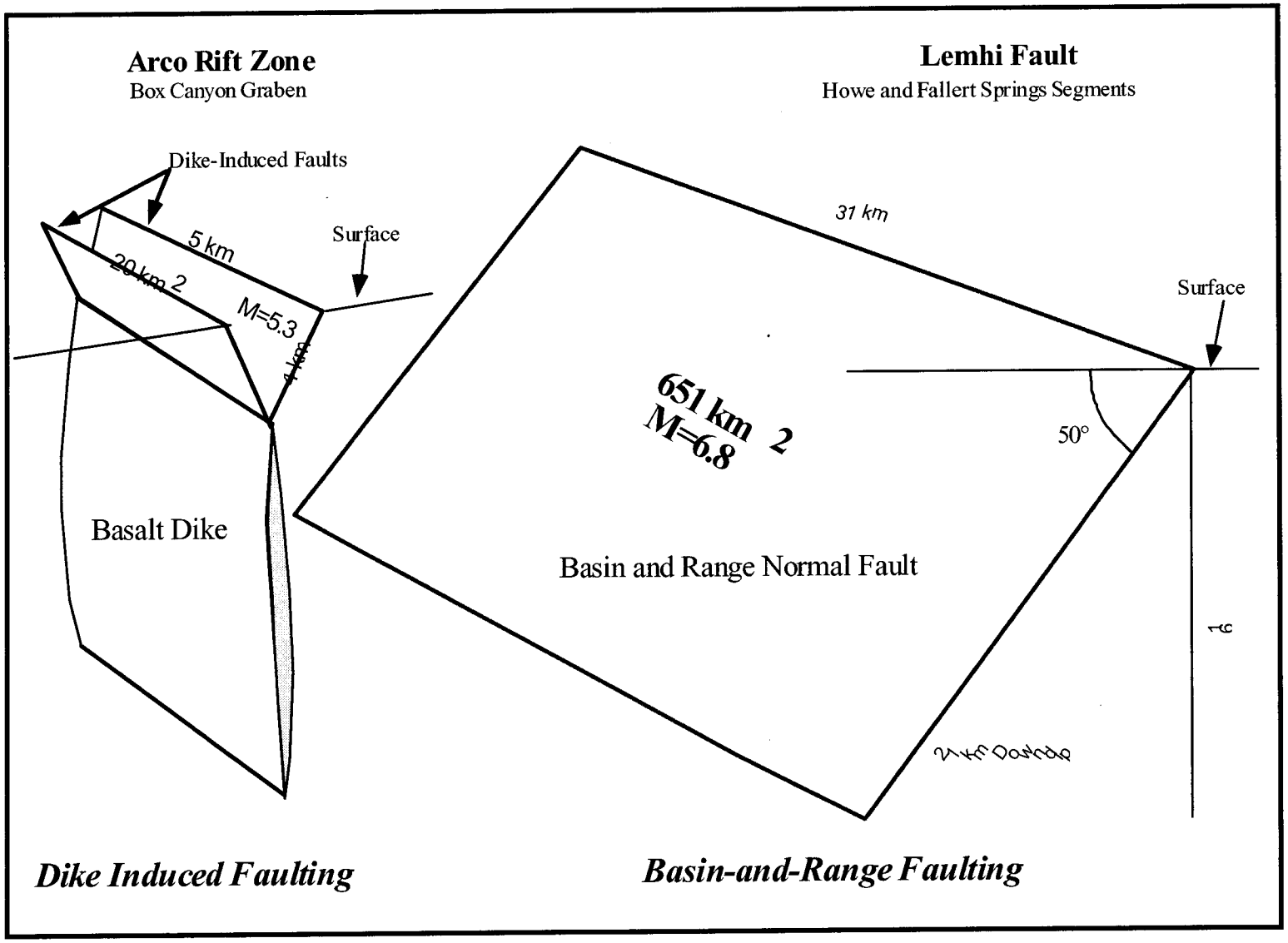


Figure 2.6-36. Comparison of surface area of the Howe segment of the Lemhi fault to the surface area of dike-induced normal faults.

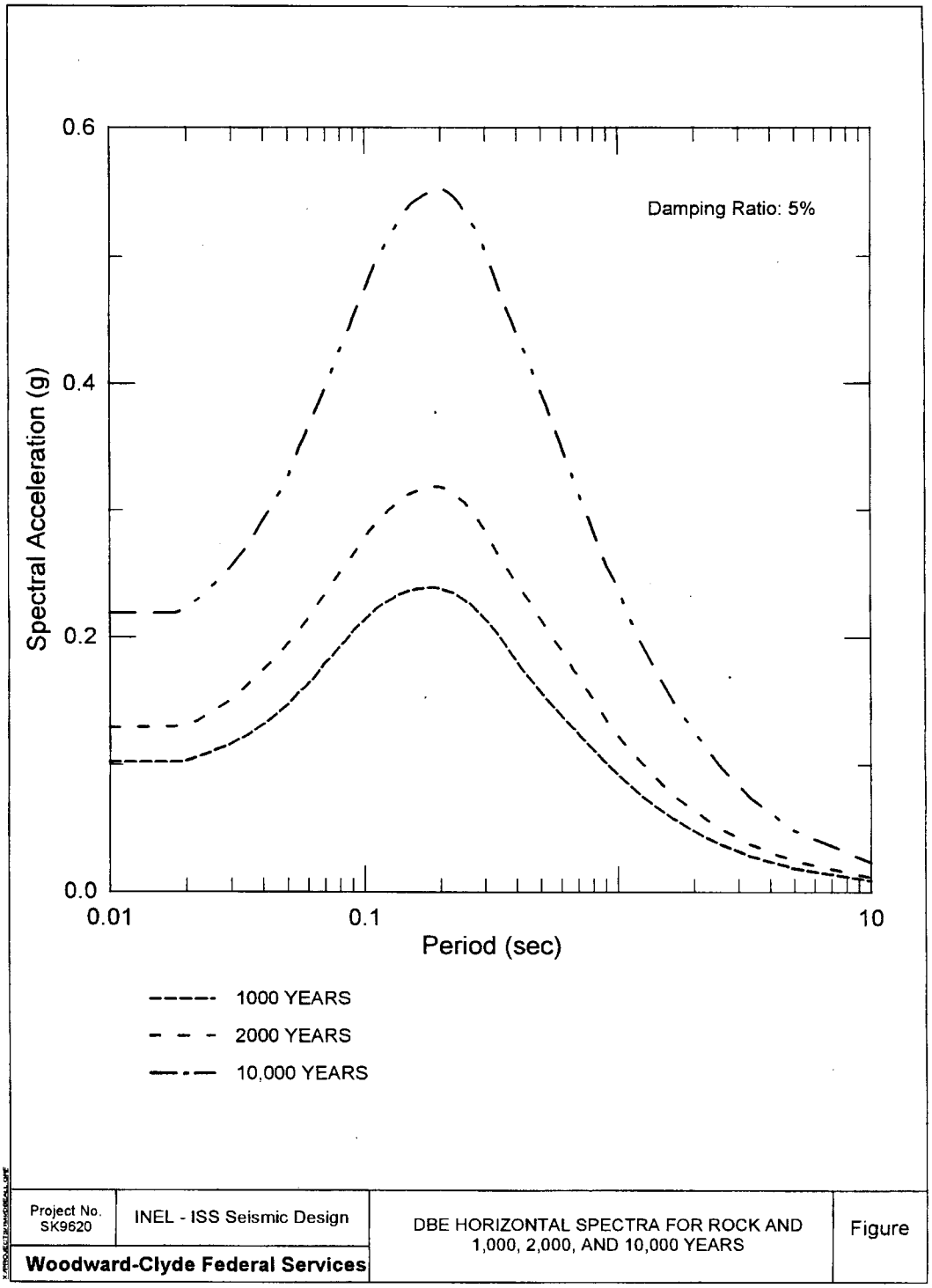


Figure 2.6-37. Smoothed DBE horizontal spectra for rock (5% damped) at 10,000, 2,000, and 1,000 year return periods.

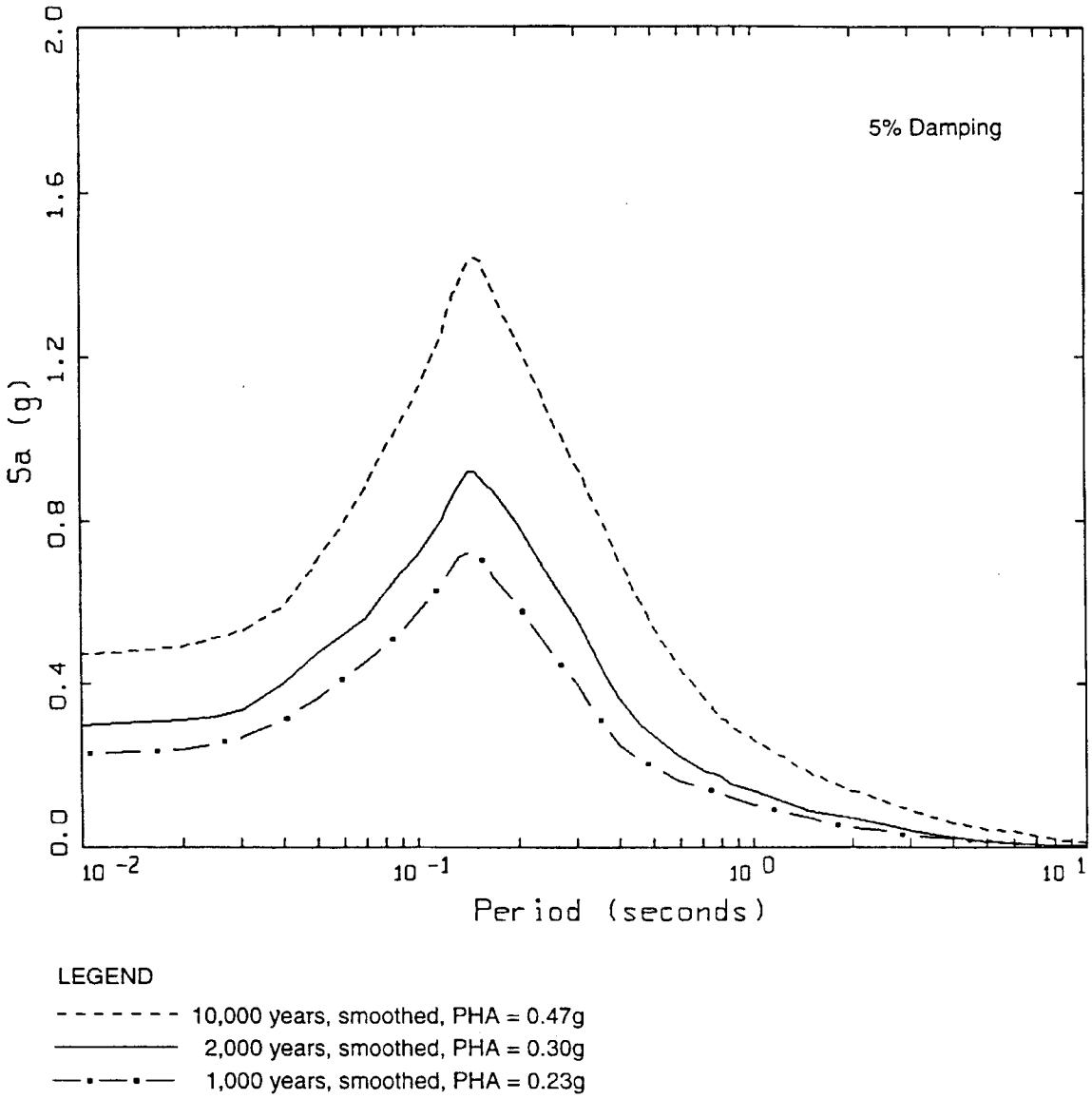
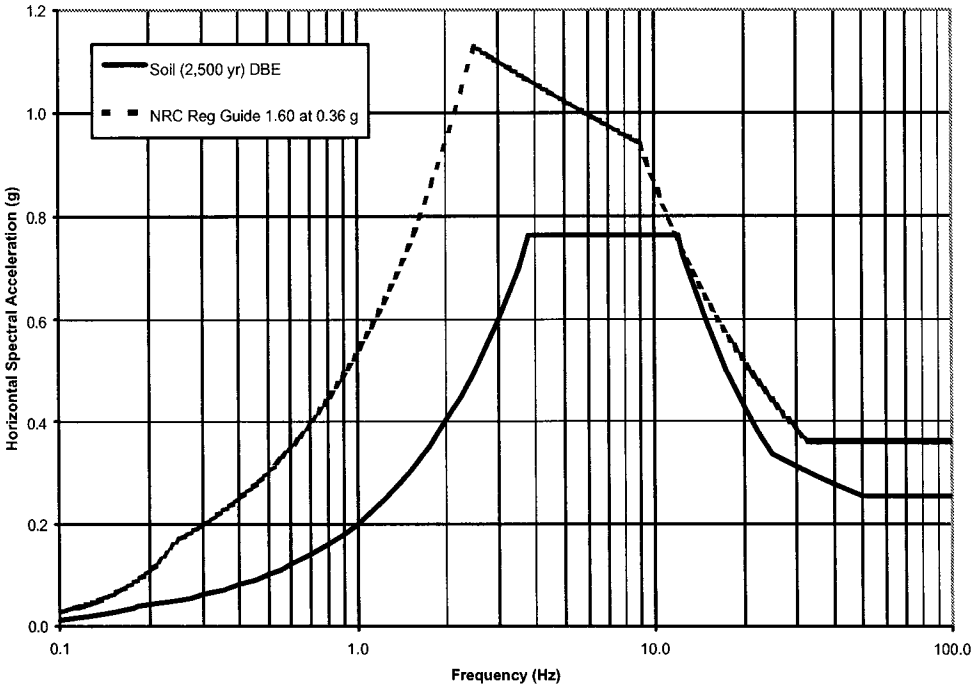


Figure 2.6-38. Smoothed DBE horizontal spectra for soil (5% damped) at 10,000, 2,000, and 1,000 year return periods.

(a)



(b)

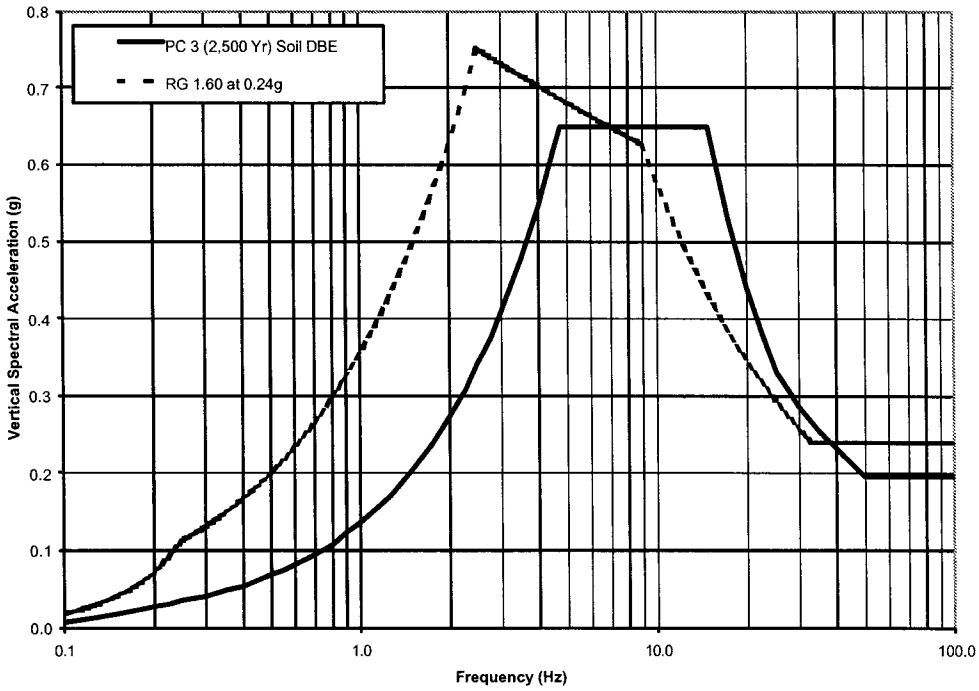


Figure 2.6-39. Comparison of the 2,500-yr soil DBE response spectra with NRC Regulatory Guide 1.60 response spectra (the seismic criteria used to design the ISFSI): (a) horizontal and (b) vertical.

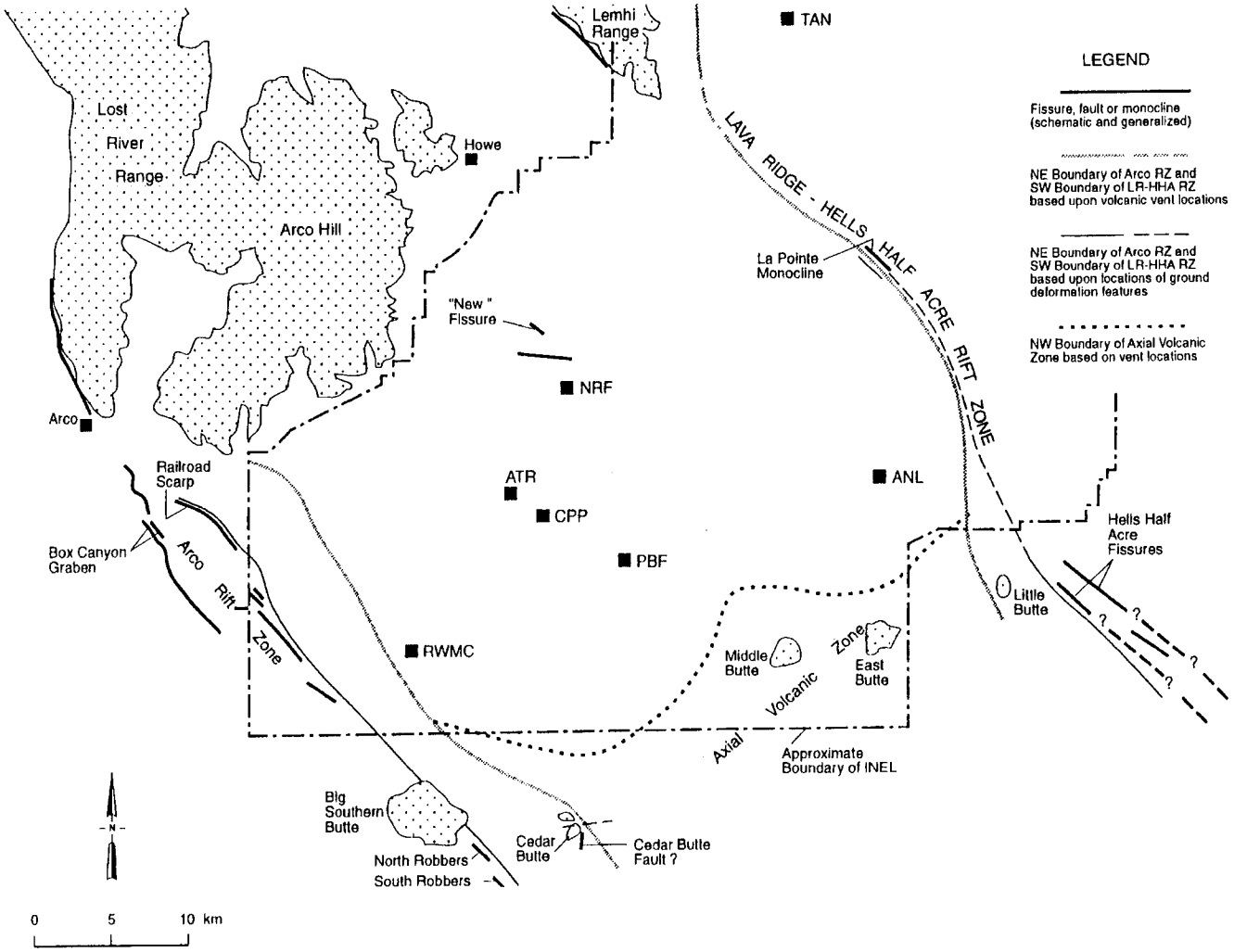


Figure 2.6-40. Map of INEEL showing locations of volcanic rift zones, axial volcanic zone, and fissures north of NRF.

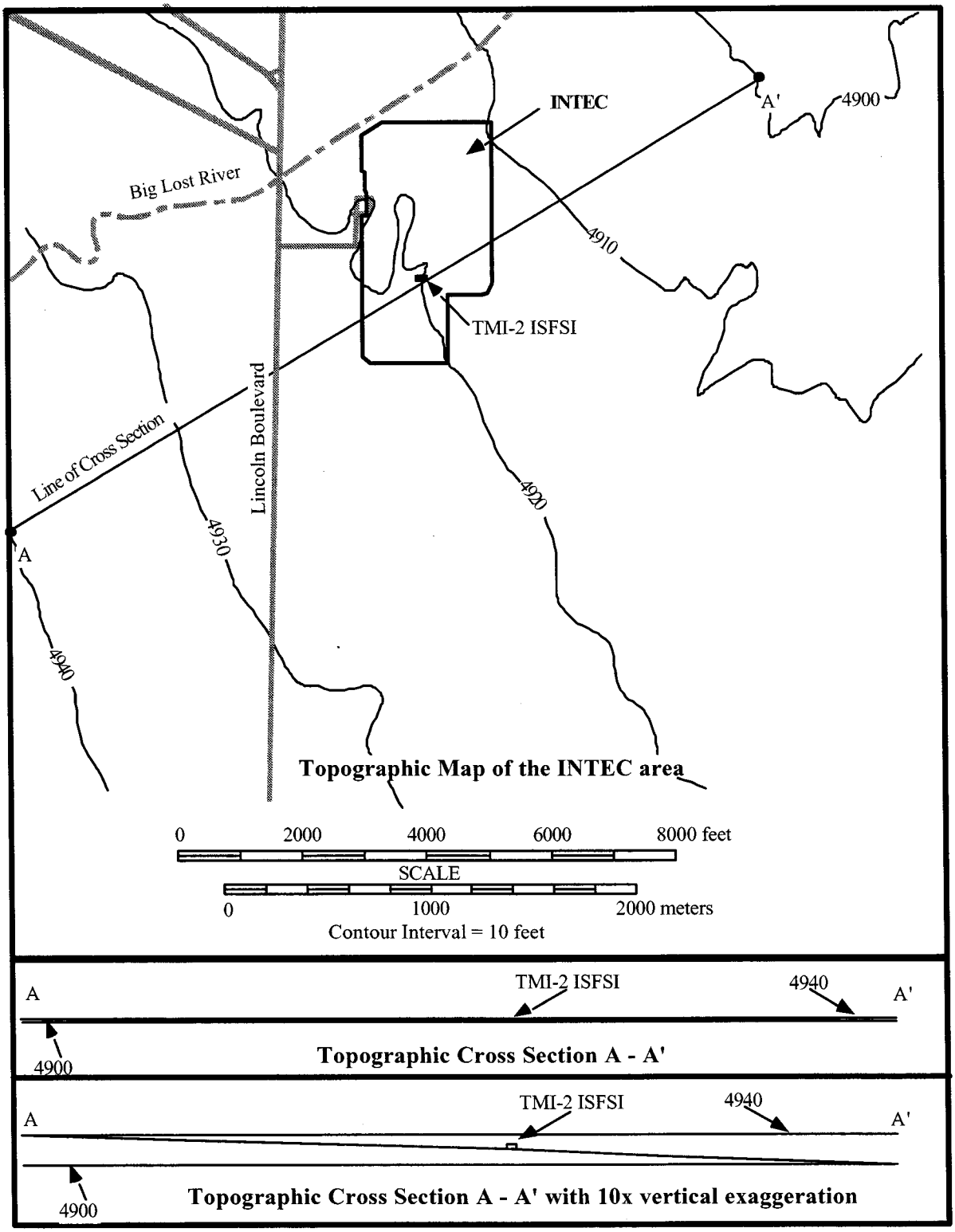


Figure 2.6-41. Topographic Map of the INTEC Area and Cross Sections Showing the Low Relief of the Area.

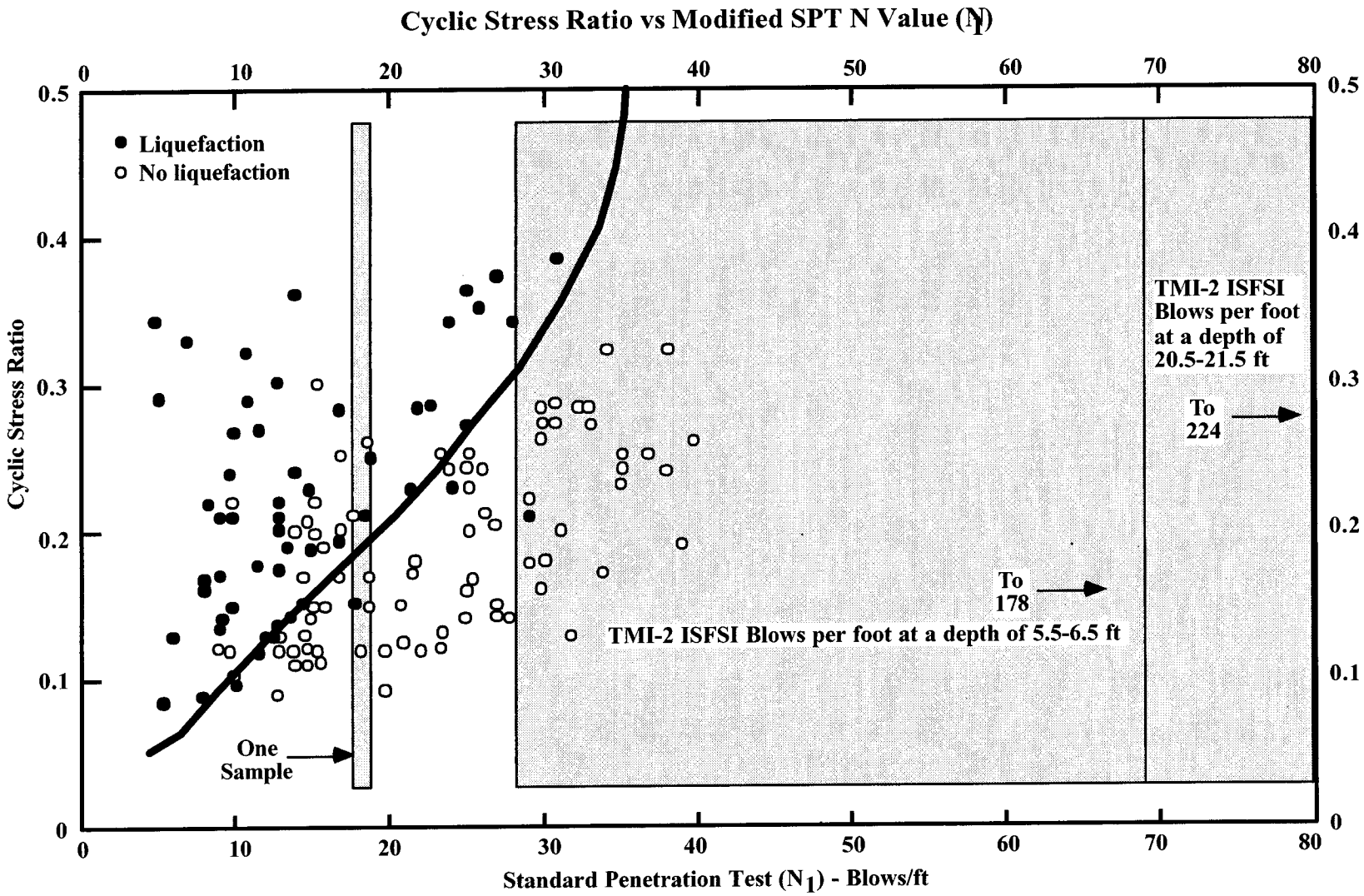
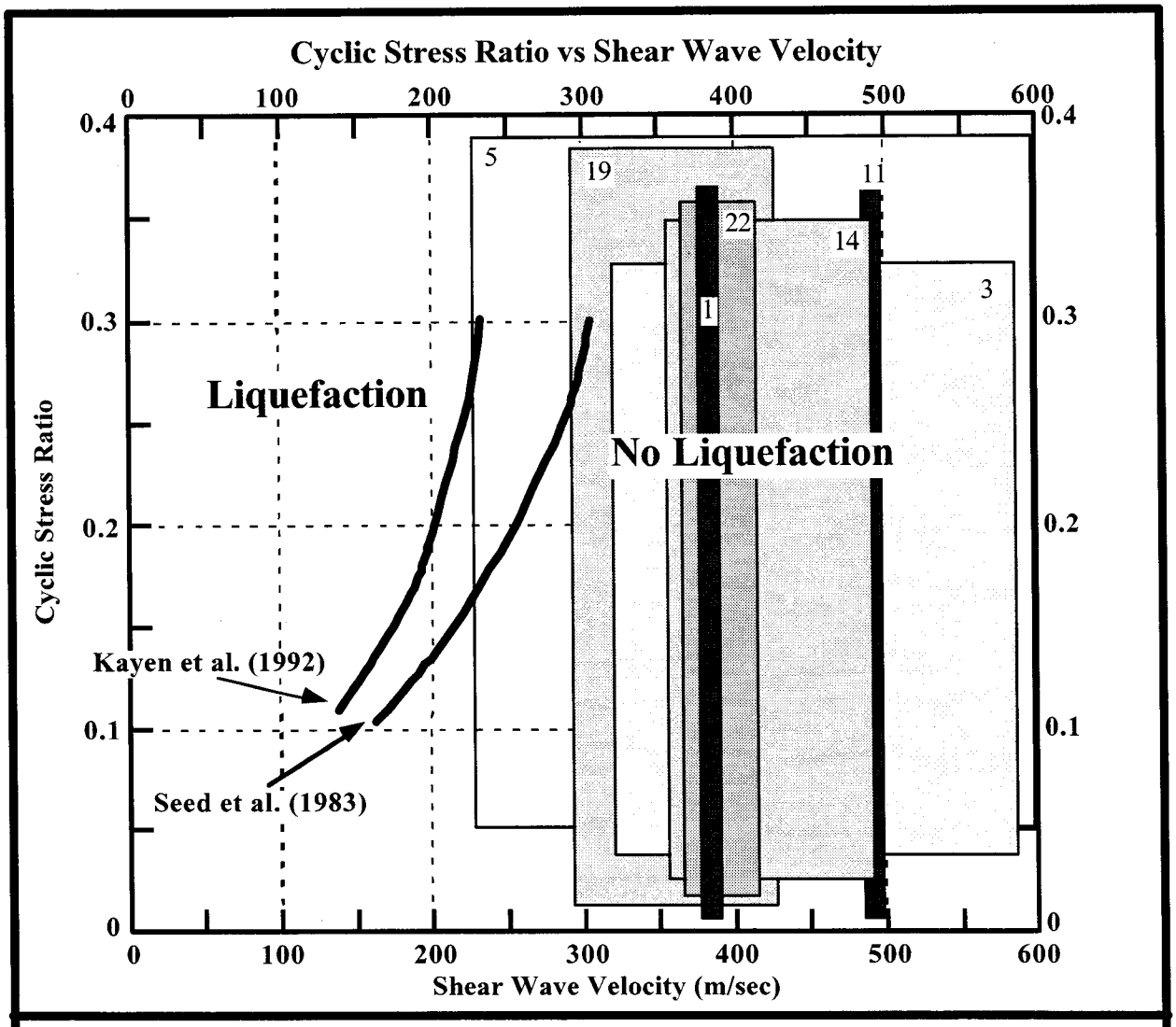
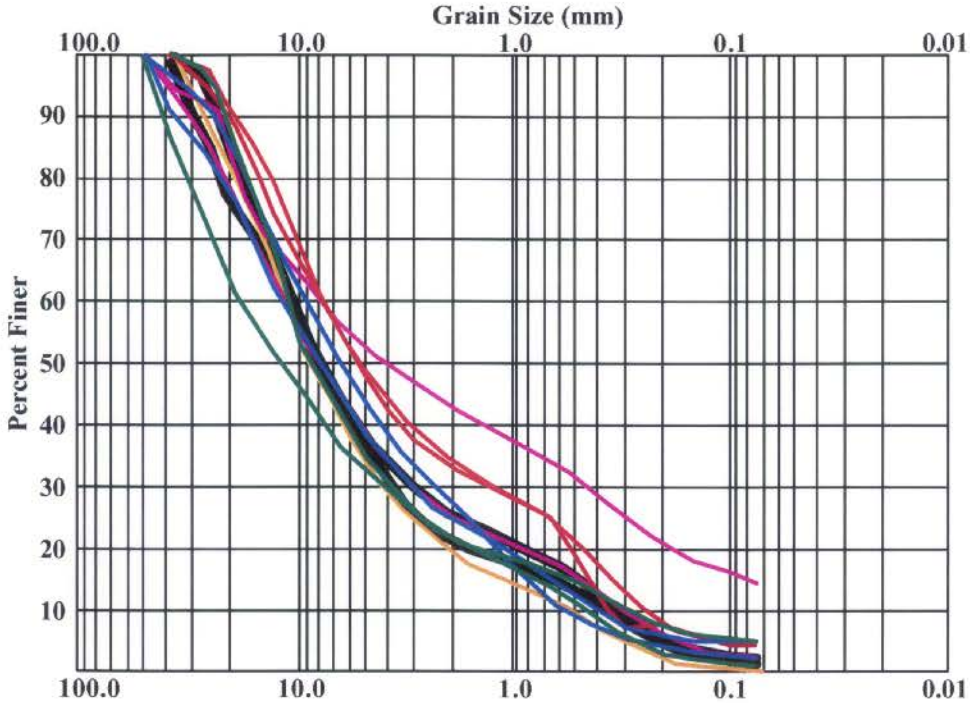


Figure 2.6-42. Plot of Standard Penetration Test Blowcounts for TMI-2 ISFSI soils compared to SPT vs Cyclic Stress Ratios from Kayen (1992) and Seed et al. (1983).



Pattterned boxes show range of shear wave velocities for 7 boreholes at the ISFSI site at INTEC. The 7 boreholes penetrated the entire thickness of the surficial sediment at INTEC (25 to 66 feet). Box numbers correspond to borehole numbers shown in Figure 2.6-14.

Figure 2.6-43. Plot of Shear-wave Velocities of TMI-2 ISFSI Surficial Sediments Compared to Shear-wave Velocity vs. Cyclic Stress Ratio of Kayen (1992) and Seed et al. (1983).



BH number and Footage	% Gravel	%Sand	%Silt and Clay
BH-1 (5-6.5')	62.3	34.7	3.0
BH-1A (5'-6.5')	63.4	34.7	1.9
BH-2 (5-6.5')	67.5	32.2	0.3
BH-3 (10-12.5')	61.8	35.1	3.1
BH-3 (28.5-30.5')	47.9	36.6	15.5
BH-4 (5-6.5')	52.2	43.1	4.7
BH-4A (5-6.5')	50.5	46.8	2.7
BH-5 (5-6.5')	57.1	40.1	2.8
BH-5 (20-21.5')	61.7	33.1	5.2
BH-19 (5-6.5')	68.1	30.4	1.5
BH-19 (20-21.5')	65.2	29.5	5.3

Figure 2.6-44. Plots of gradation (grain size) Analyses of TMI-2 ISFSI Surficial Sediments. See Figure 2.6-14 for borehole locations and Figure 2.6-45 for borehole lithologic logs.

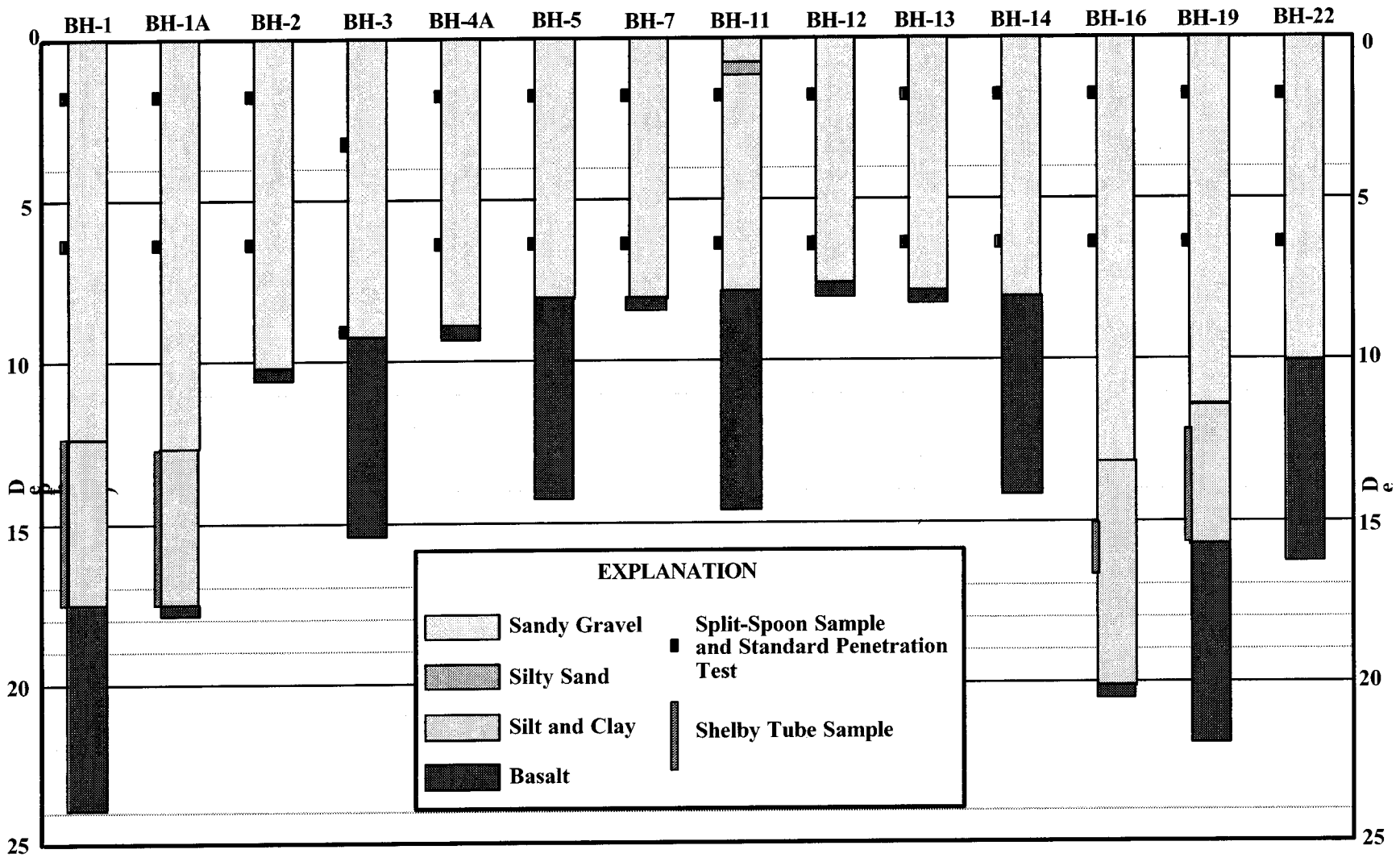


Figure 2.5-45. Lithologic Logs of TMI-2 ISFSI Boreholes. See Figure 2.6-14 for Borehole Locations.

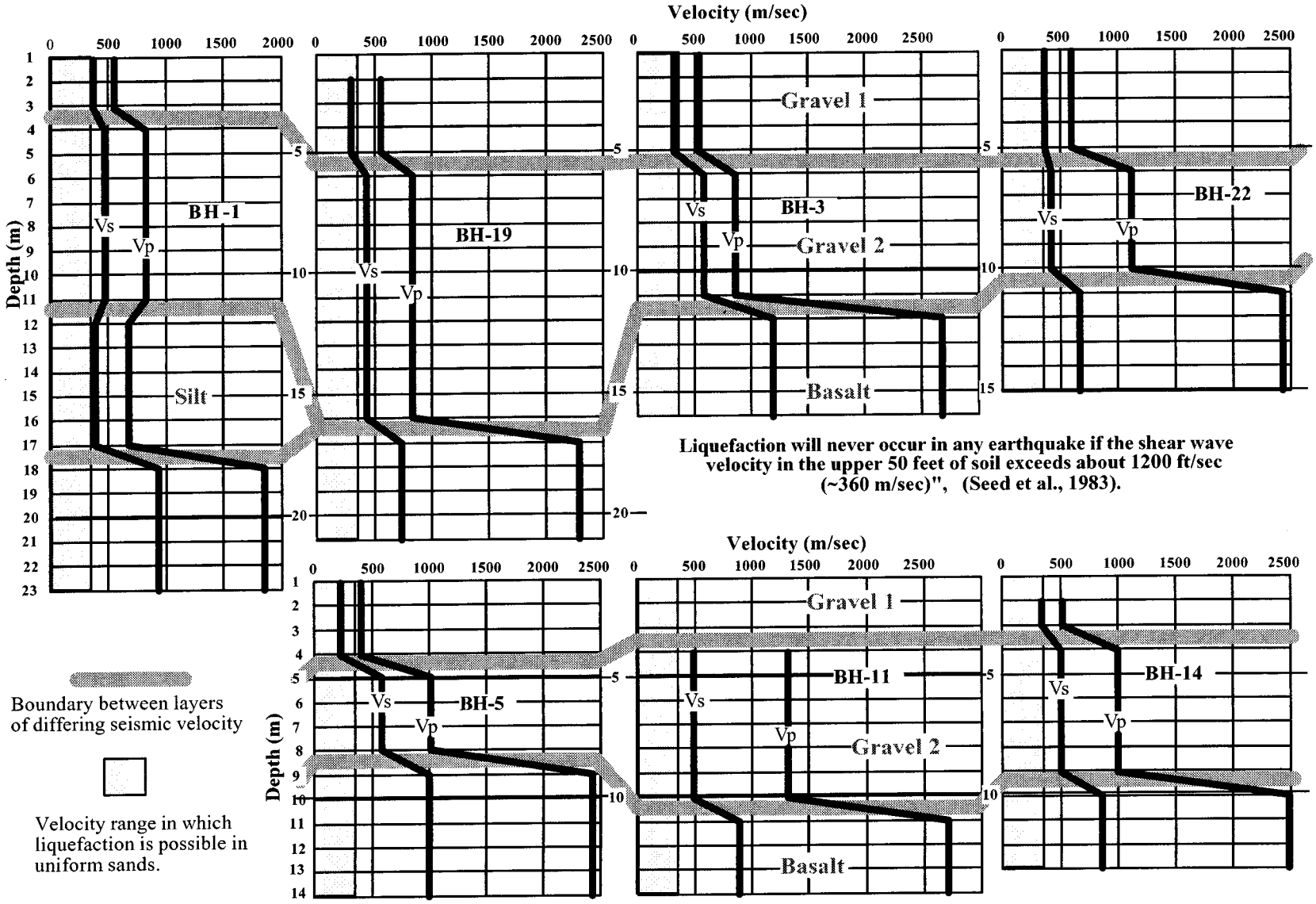


Figure 2.6-46. Surficial Sediment Seismic Velocity Profiles from TMI-2 ISFSI Boreholes. Boreholes Are Arranged from Northwest to Southeast, from Deep (>15 m) to Shallow (8-10 m) Bedrock. See Figure 2.6-14 for Borehole Locations.

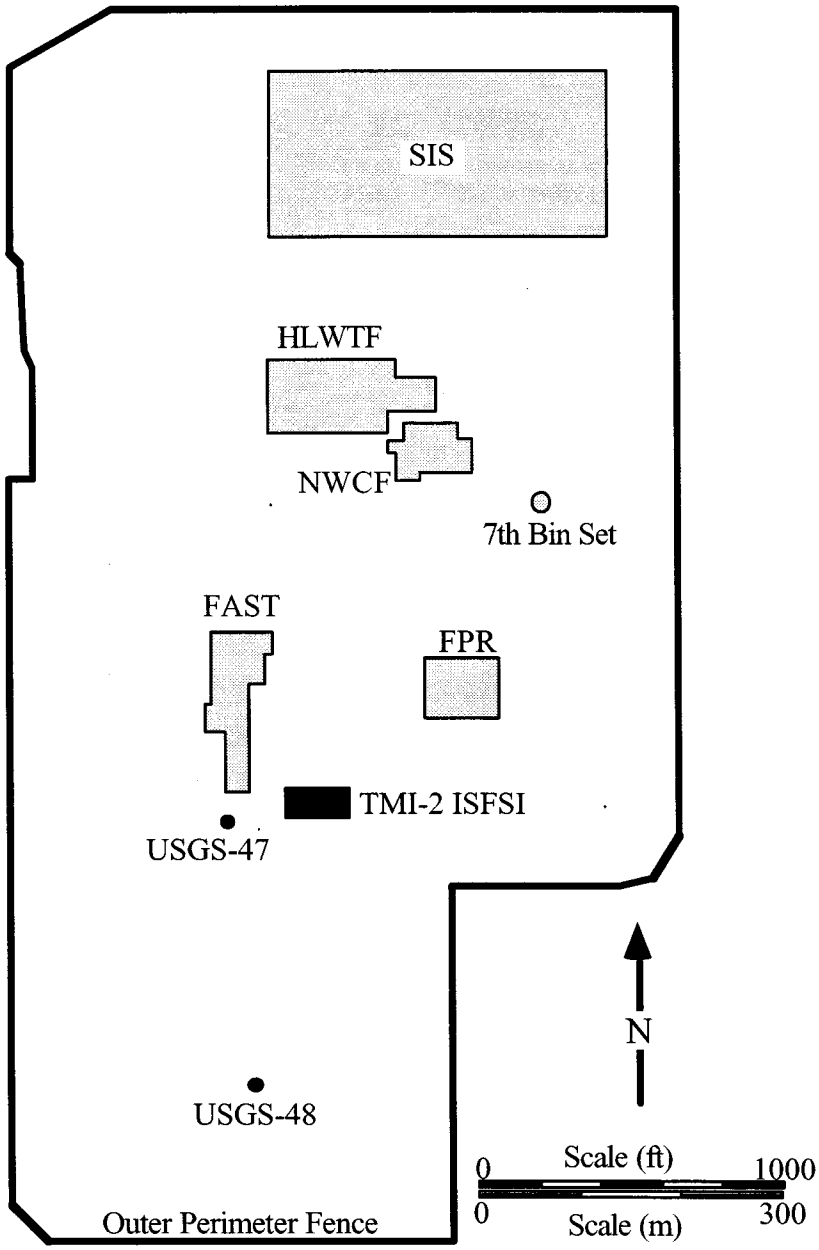


Figure 2.6-47. Map Showing Location of the TMI-2 ISFSI in Relation to Previous Geotechnical Investigations at INTEC. See Table 2.6-13 for Geotechnical Data.

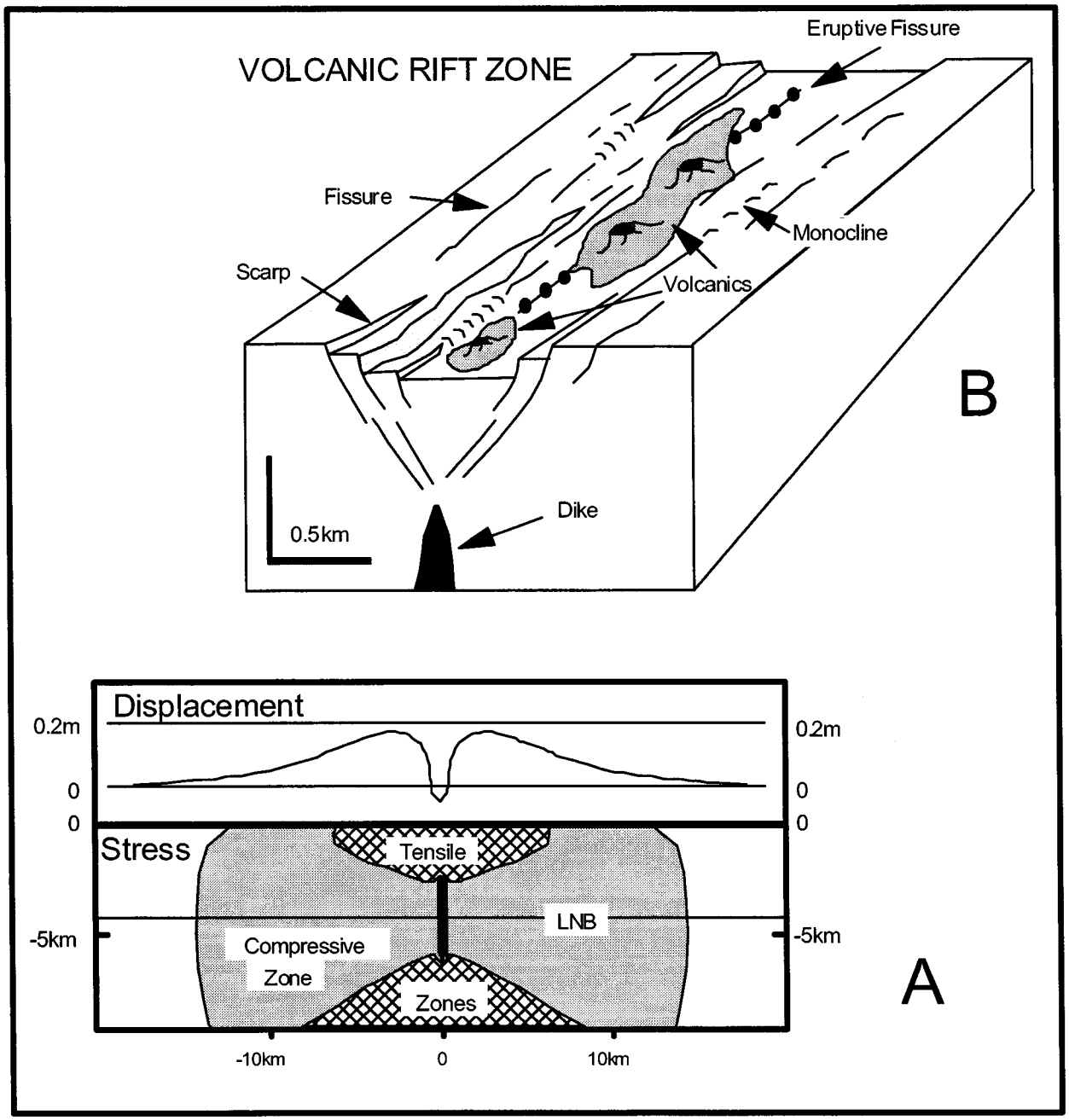


Figure 2.6-48. Diagram Showing, (A) Stress Field and Displacement Caused by Intrusion of a Dike at Shallow Depth in the Crust, and (B) Volcanic Rift Zone Structures Formed Above Shallow Dikes.

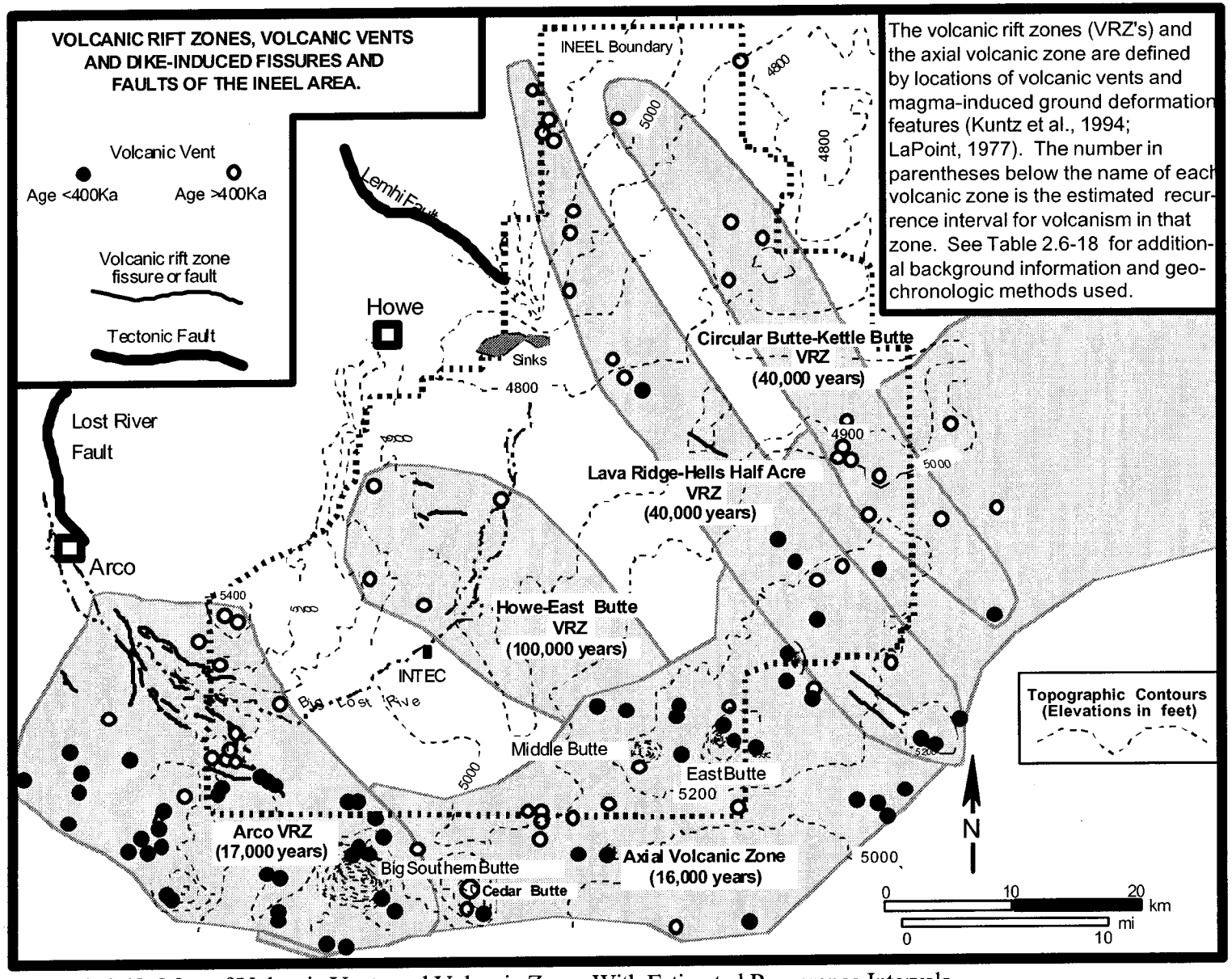


Figure 2.6-49. Map of Volcanic Vents and Volcanic Zones With Estimated Recurrence Intervals.

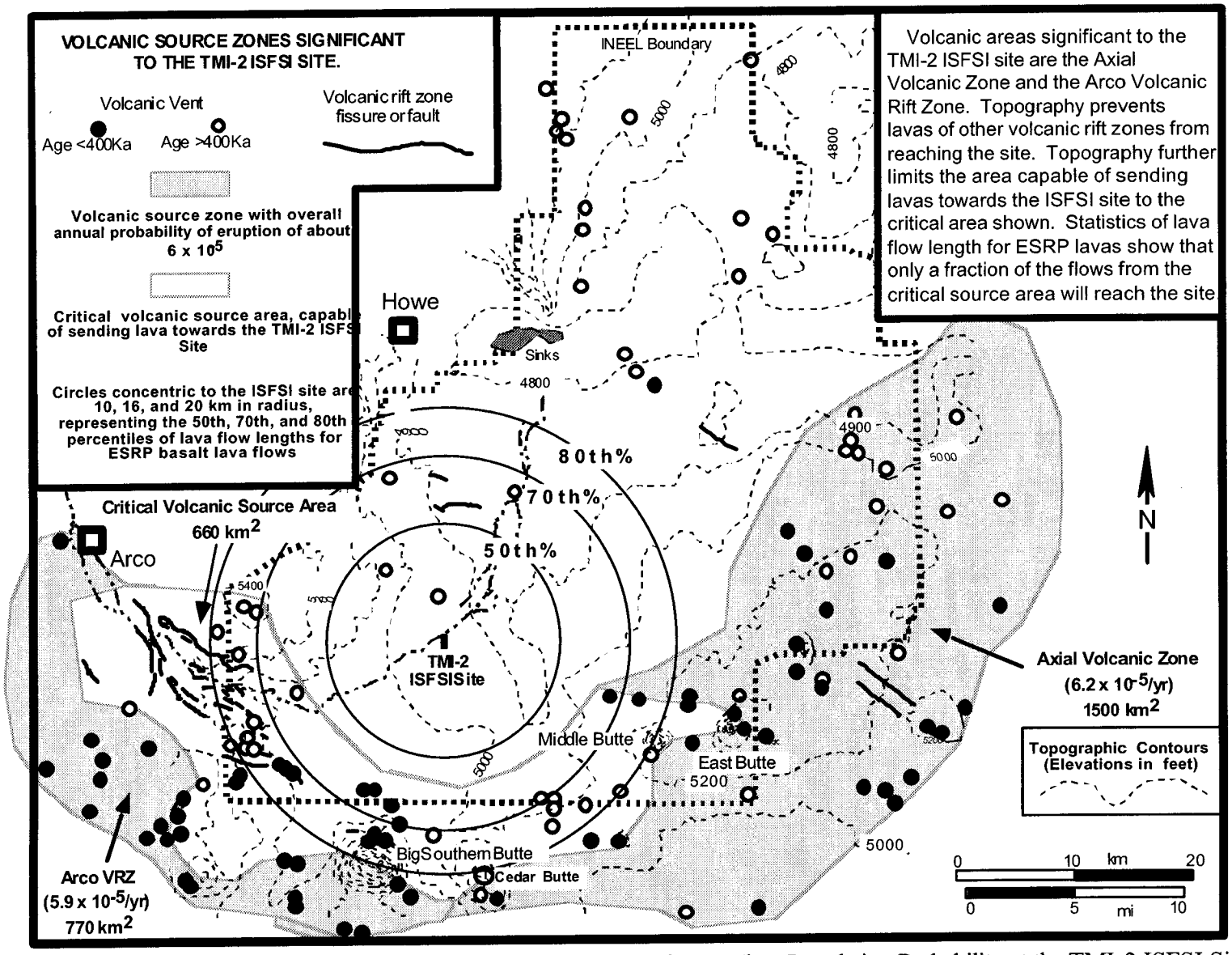


Figure 2.6-50. Map showing Parameters Important for Estimation of Lava Flow Inundation Probability at the TMI-2 ISFSI Site.

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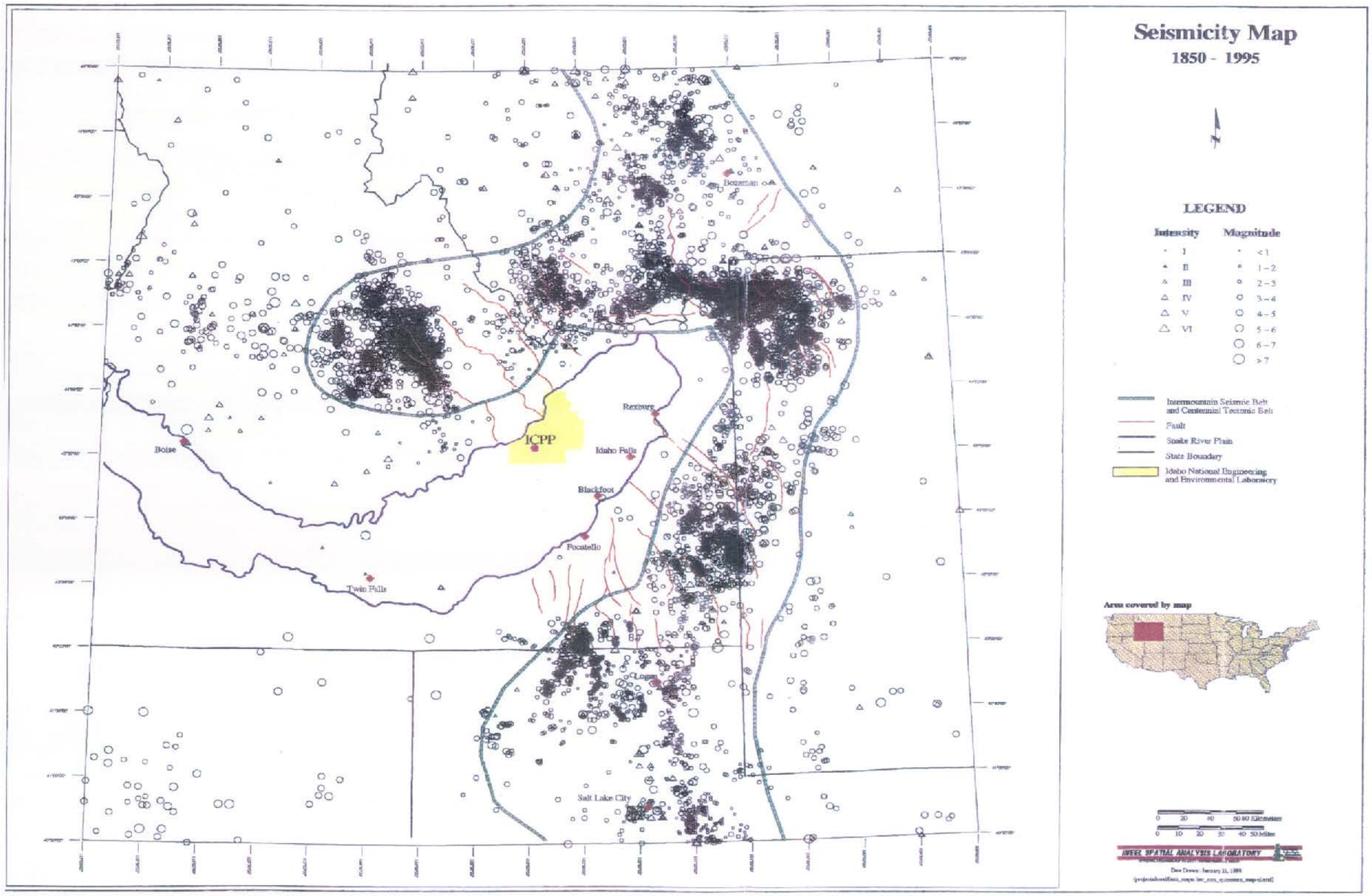
Seismicity Map
1850 - 1995
LEGEND
Intensity
I
II
III
IV
V
VI
Magnitude
<1
1-2
2-3
3-4
4-5
5-6
6-7
>7
Intermountain Seismic Belt and Centennial Tectonic Belt
Fault
Snake River Plain
State Boundary
Idaho National Engineering and Environmental Laboratory
Area covered by map
Bozeman
Rexburg
ICPP
Idaho Falls
Boise
Blackfoot
Pocatello
Twin Falls
Logan
Salt Lake City
0 20 40 60 80 Kilometers
0 10 20 30 40 50 Miles
INEEL SPATIAL ANALYSIS LABORATORY

Figure 2.6-51

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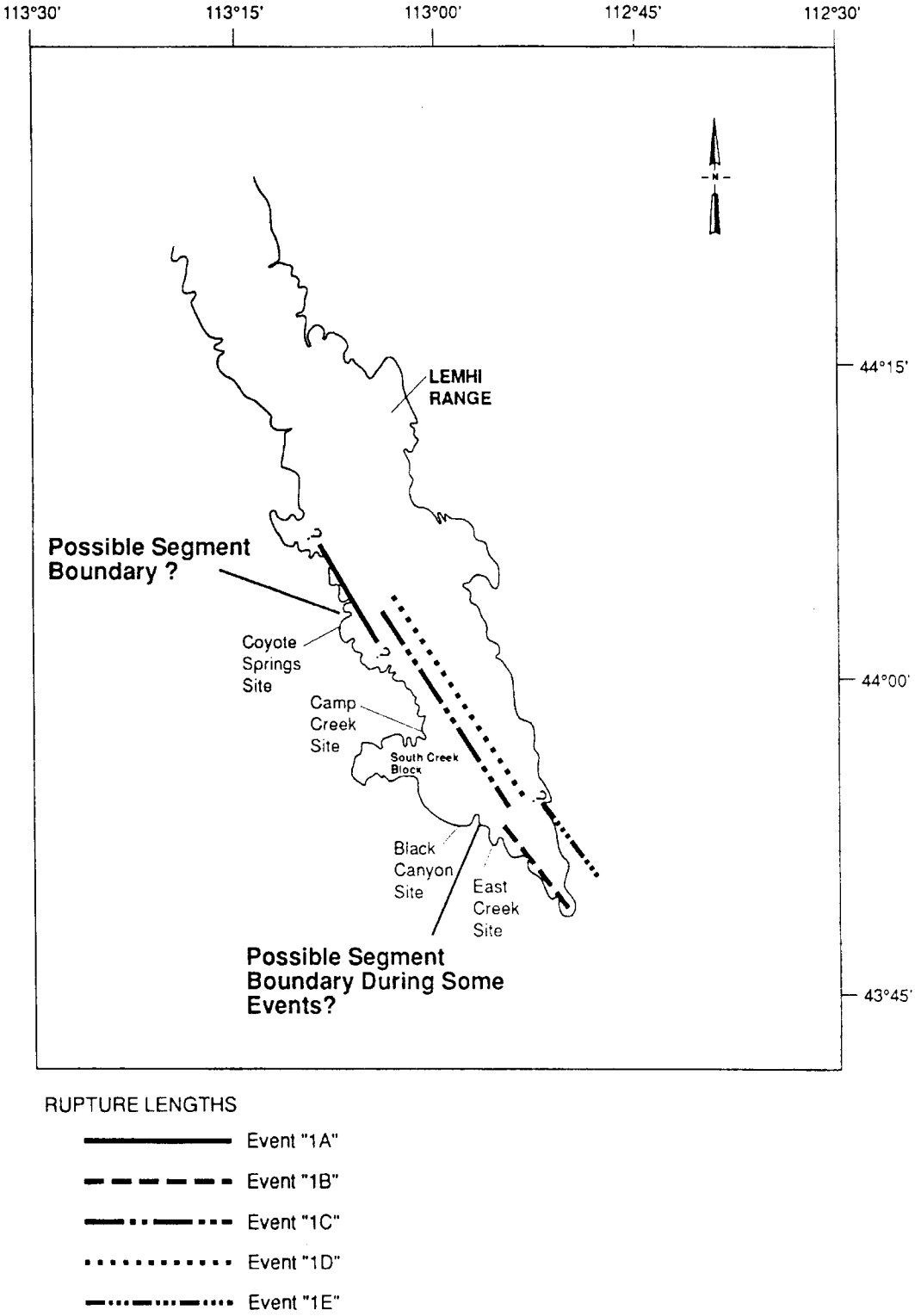

Figure 2.6-24 Possible Rupture Scenerios for Southern Lemhi Fault.

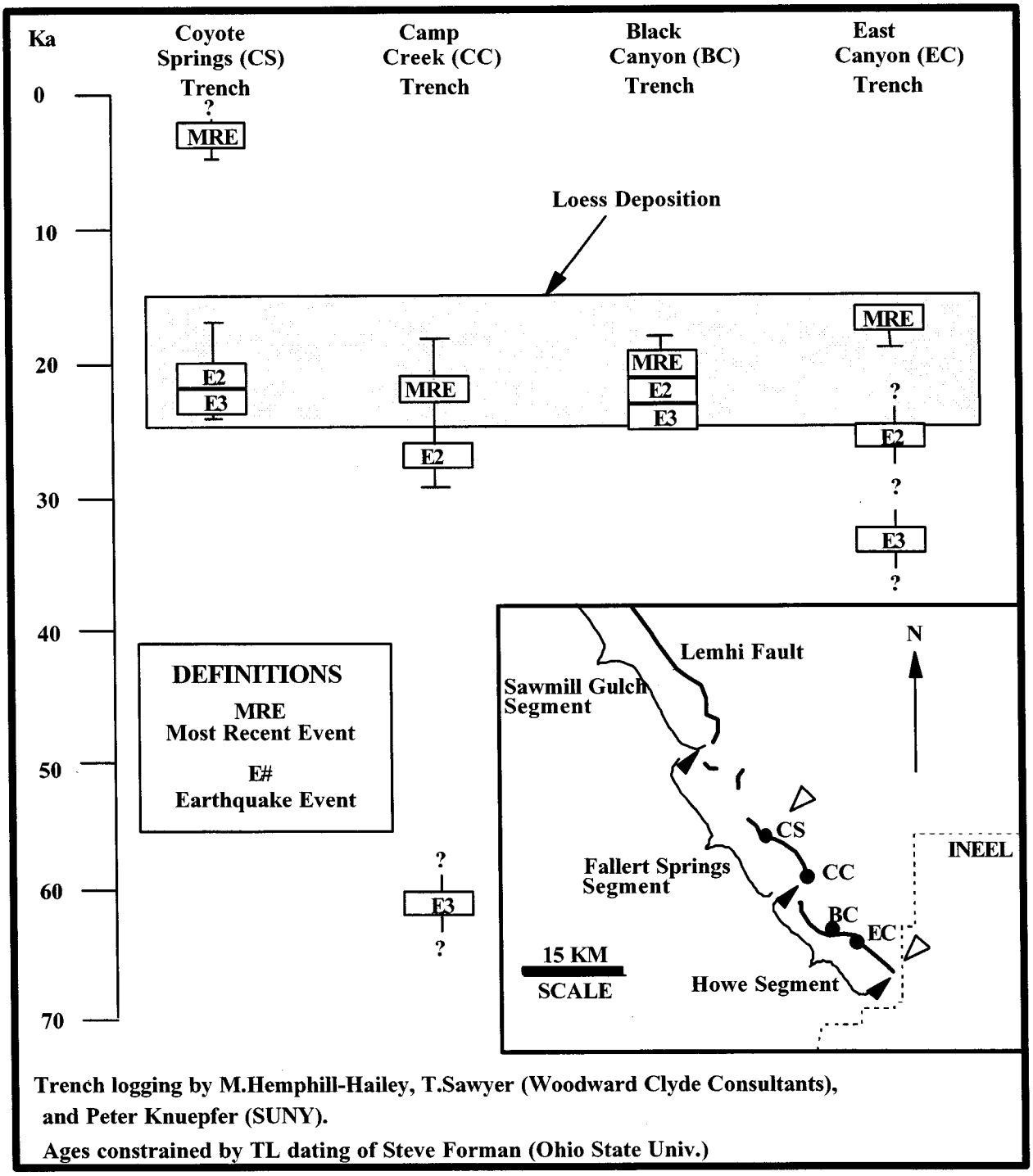

Figure 2.6-25 Summary of Paleoseismic Results for the Lemhi Fault (four trenches).

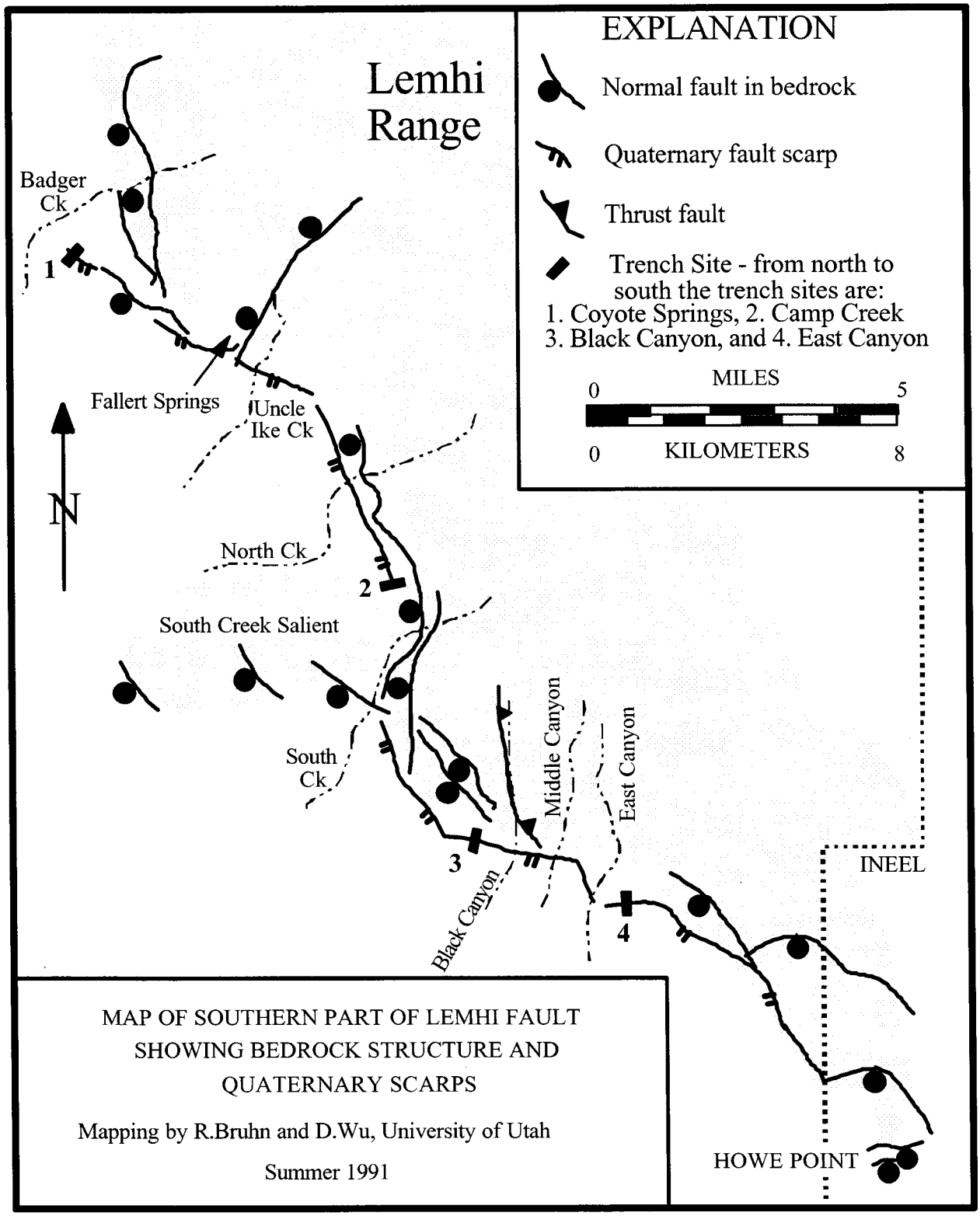

Figure 2.6-26 Bedrock Features of the Southern Lemhi Fault

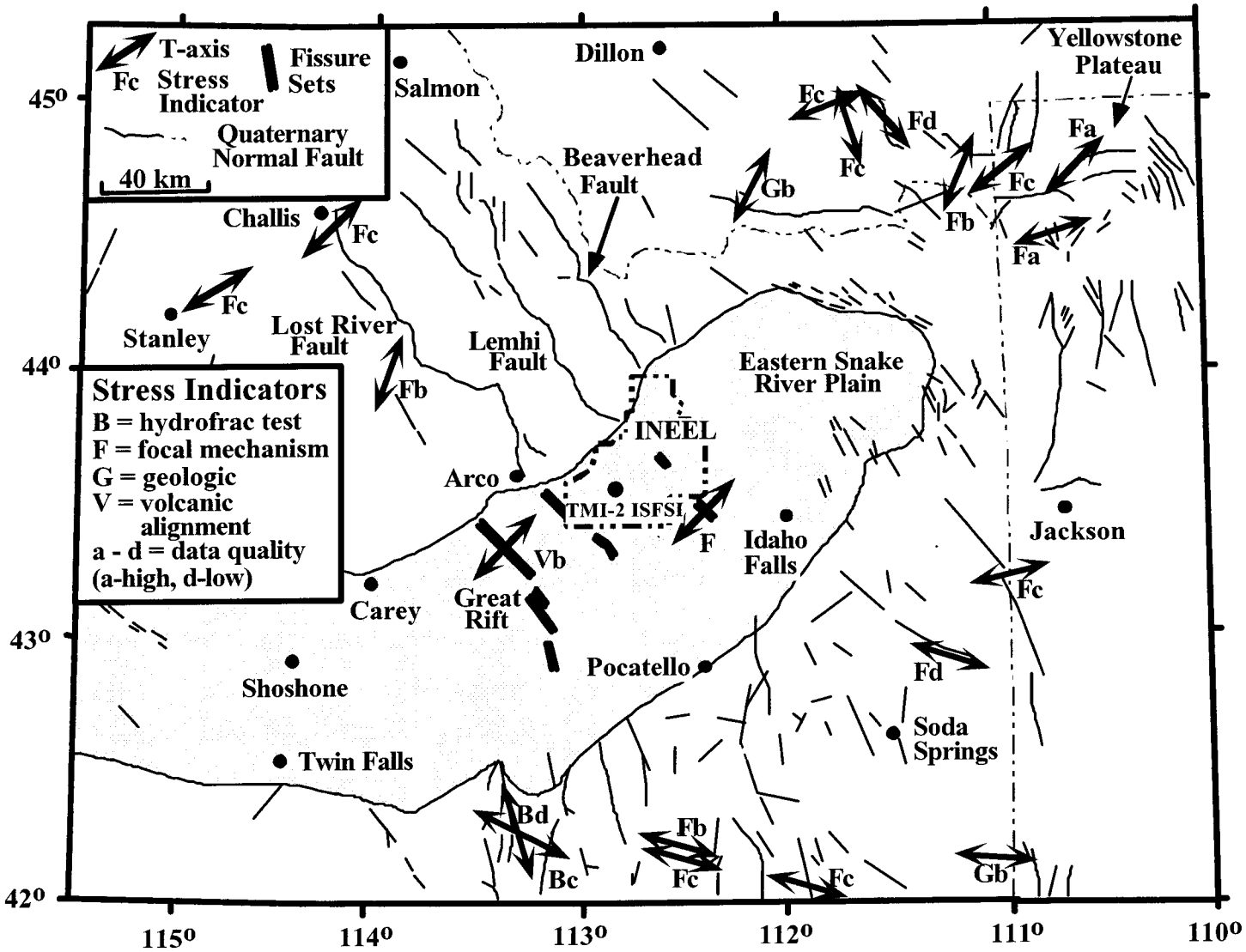

Figure 2.6-27 Map Showing Minimum Principle Stress Orientations in Southern Idaho and Yellowstone

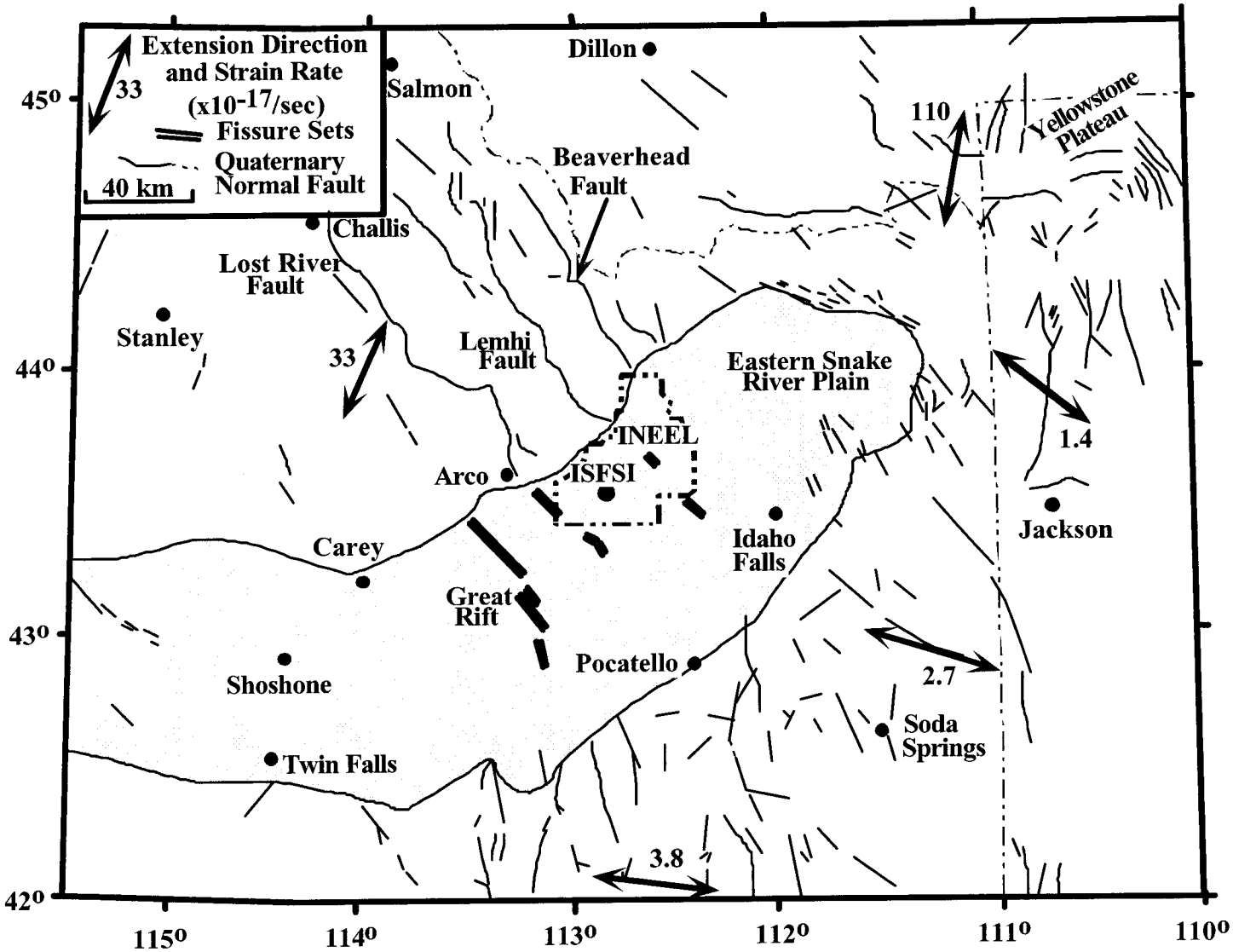

Figure 2.6-28 Strain Rate Map of Southern Idaho and Western Wyoming

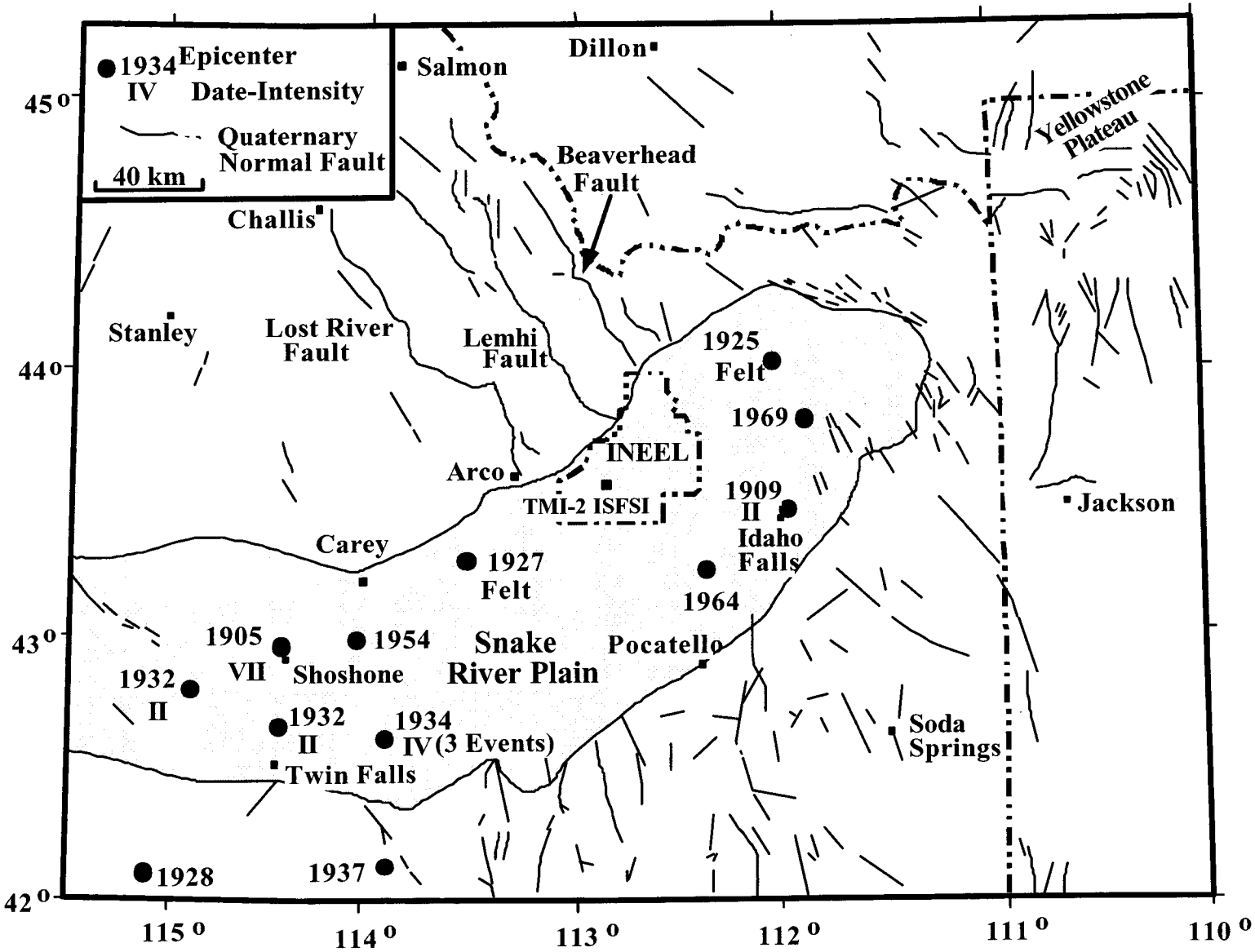

Figure 2.6-29 Location of Historic Earthquakes Reported for the ESRP.

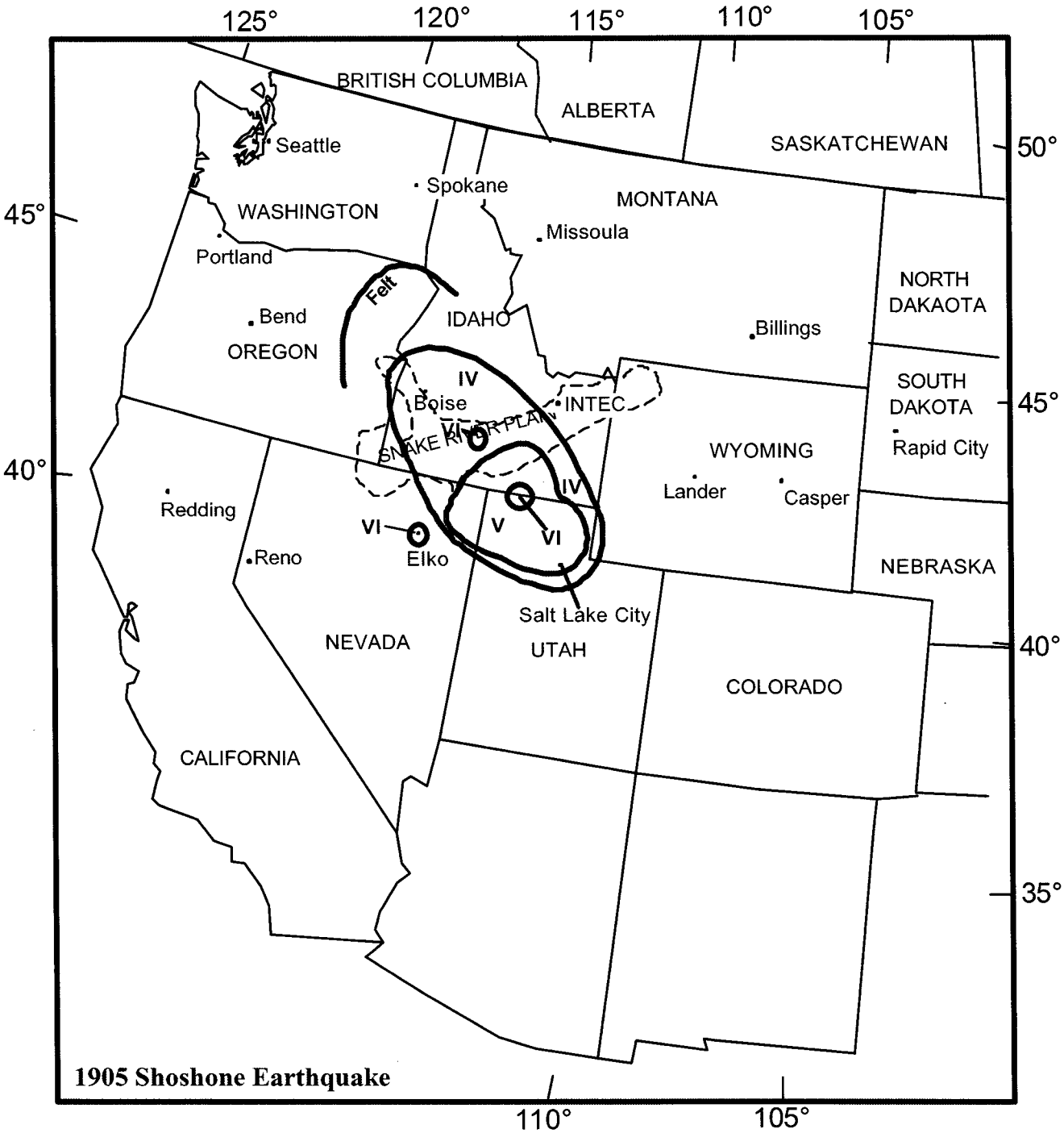

Figure 2.6-30. Isoseismal Map for the 1905 Shoshone Earthquake.

Figure 2.6-31. Isoseismal map for the 1983 Borah Peak Earthquake.

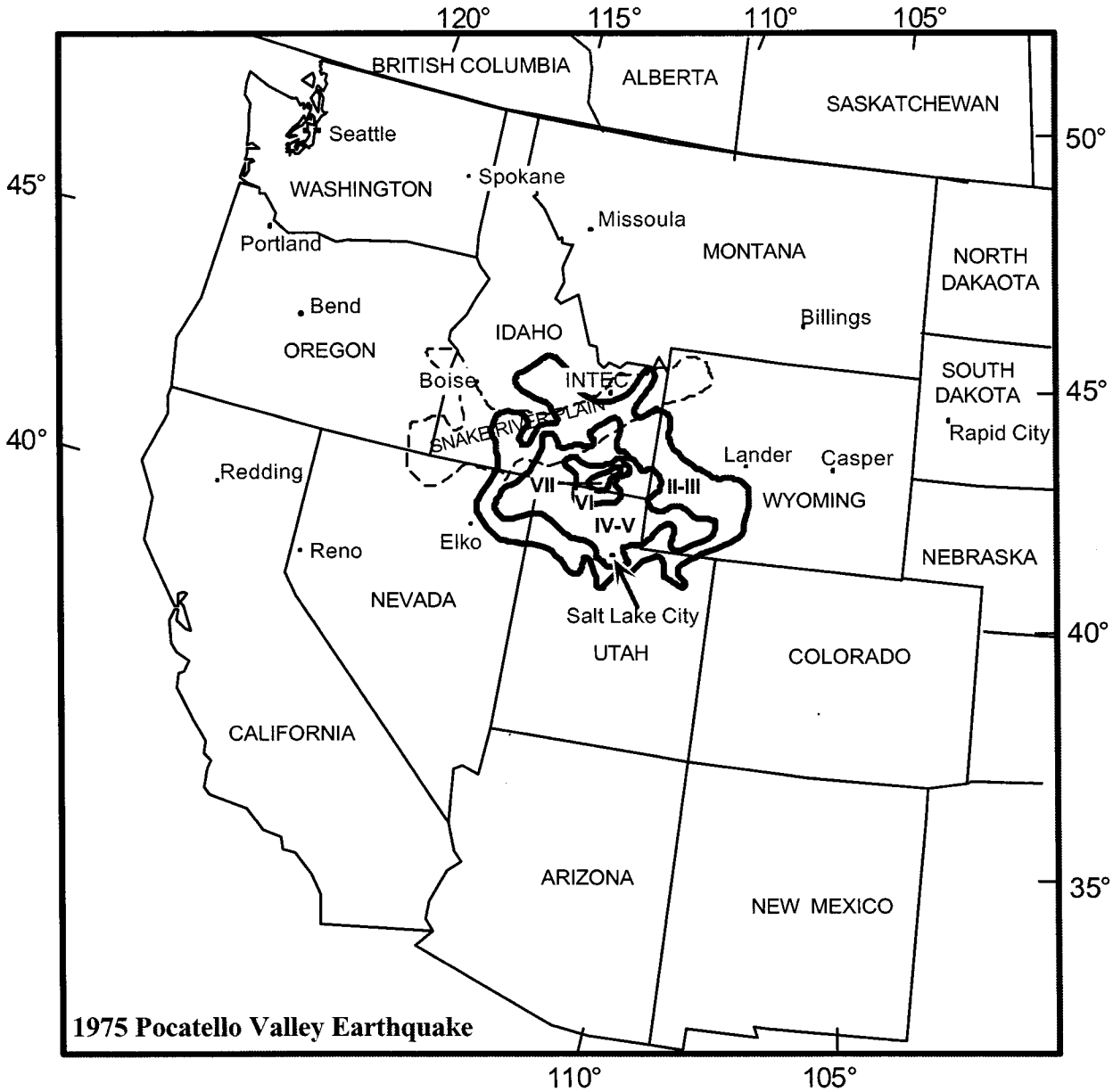

Figure 2.6-32. Isoseismal Map for the 1975 Pocatello Valley Earthquake.

Figure 2.6-33. Isoseismal Map for the 1959 Hebgen Lake Earthquake.

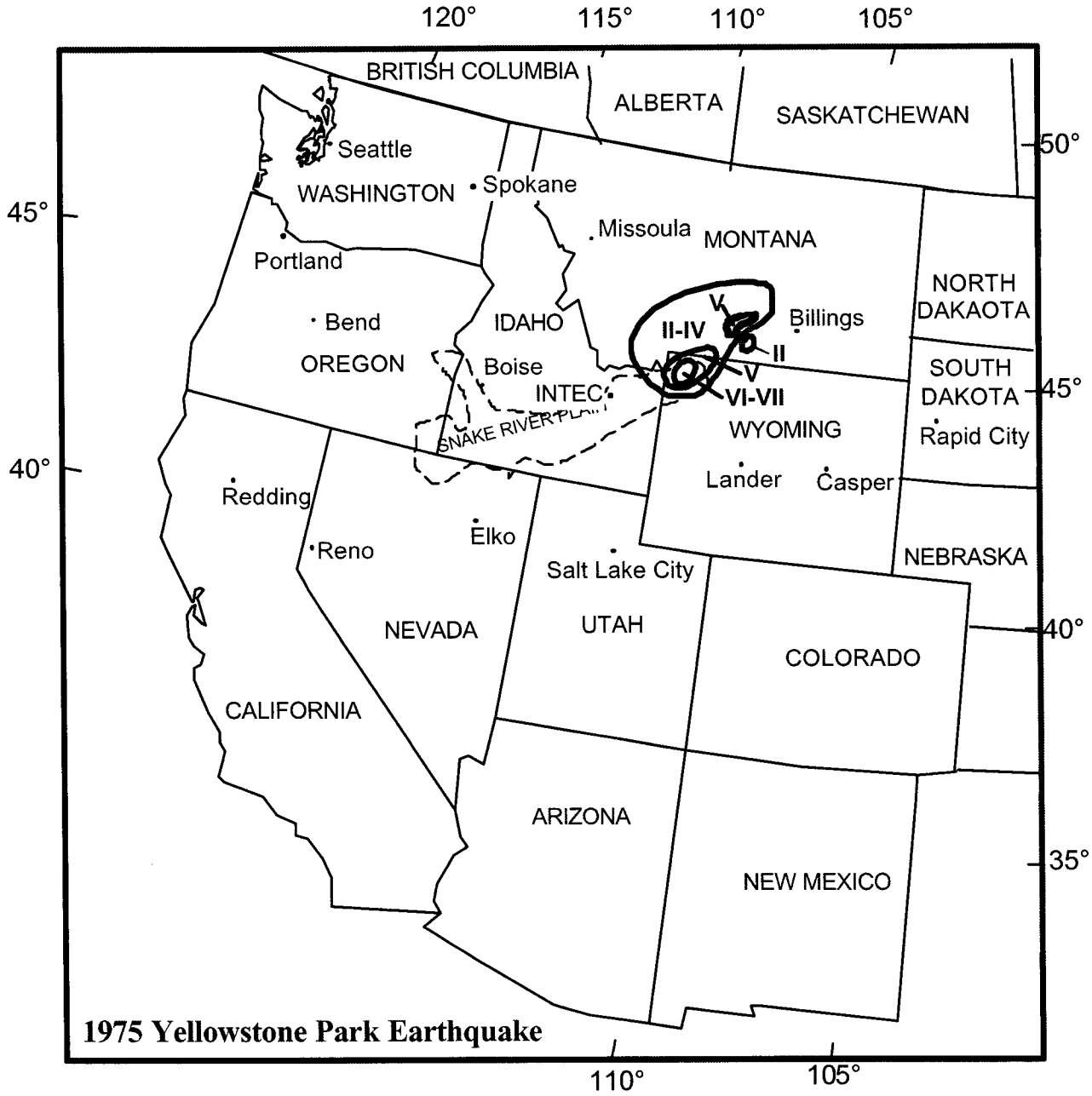

Figure 2.6-34. Isoseismal Map for the 1975 Yellowstone Park Earthquake.

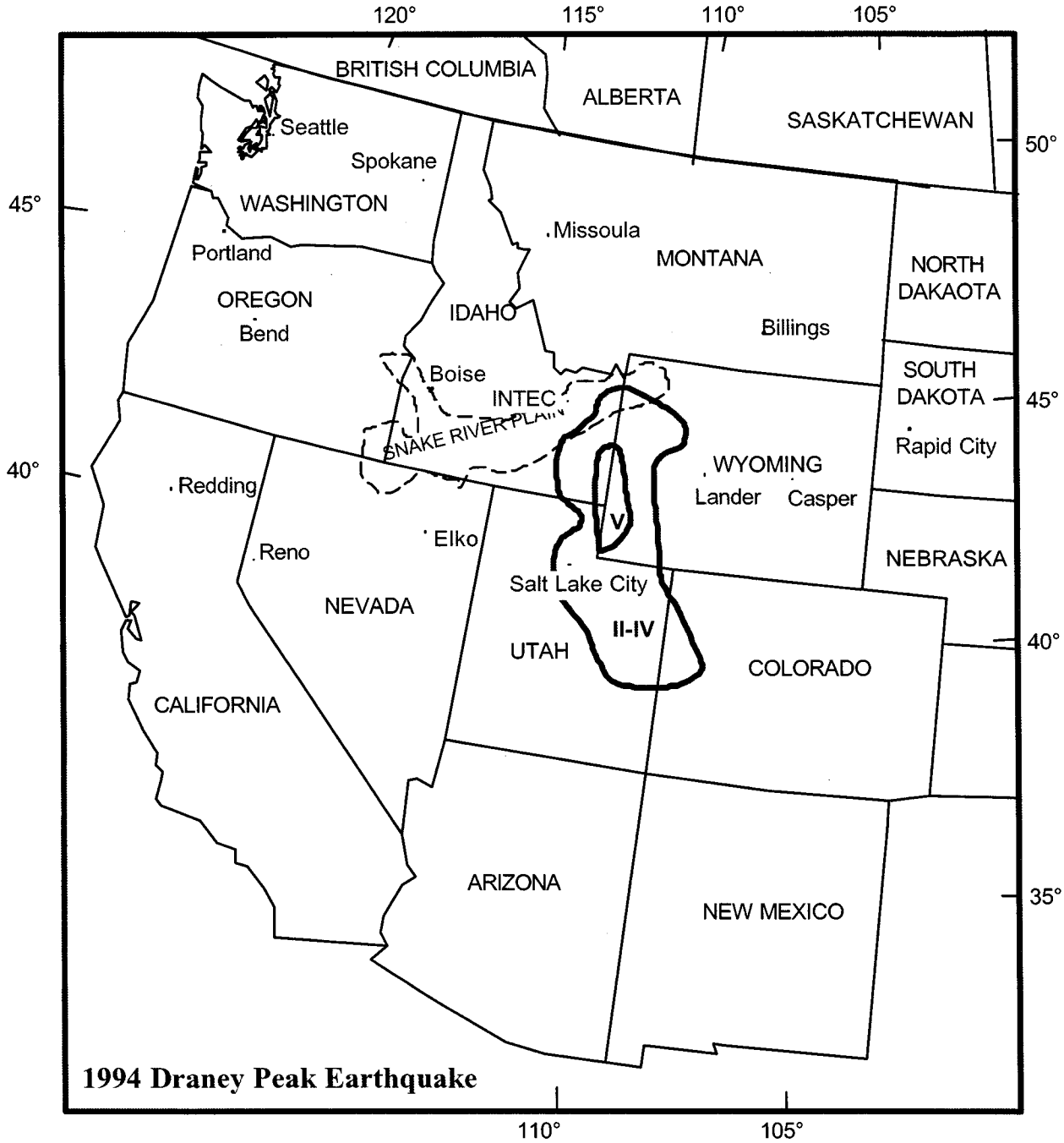

Figure 2.6-35. Isoseismal Map for the 1994 Draney Peak Earthquake.