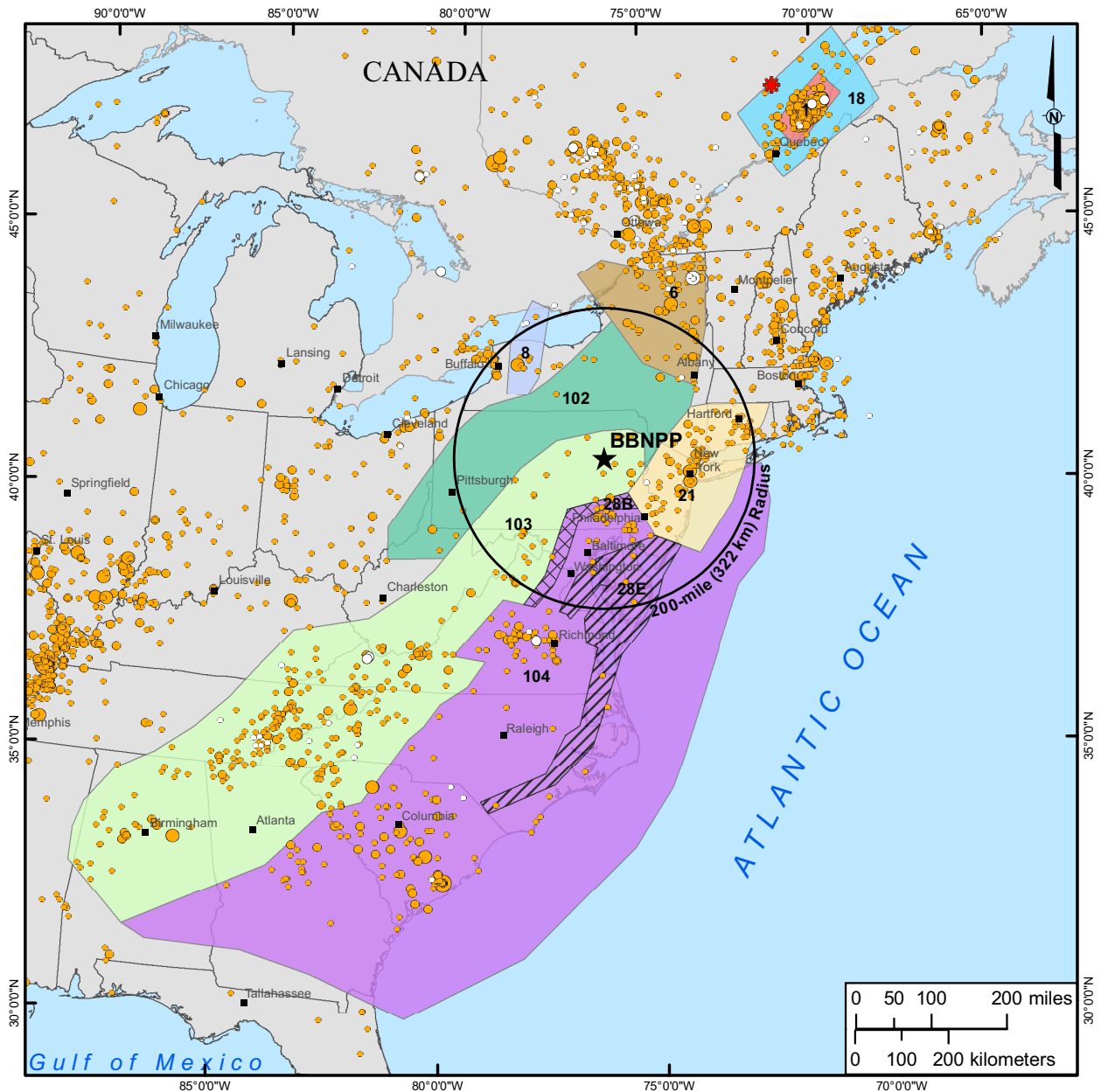


**Figure 2.5-106 {Weston Geophysical EPRI Source Zones for Charlevoix Sensitivity Analysis Case 2}**



**LEGEND**

- ★ Center Point of Proposed Bell Bend NPP (BBNPP)
- City
- NPP Reactor 200-mile (322 km) Radius

Earthquakes by Magnitude, mb (SEE NOTE)  
 USGS 2001      USGS 2002 to 2007

- 3.0 - 3.9      ○ 3.0 - 3.9
- 4.0 - 4.9      ○ 4.0 - 4.9
- 5.0 - 5.9      ○ 5.0 - 5.9
- 6.0 - 6.9
- 7.0 - 7.9

NOTE: The 2002 to 2007 seismicity shown in 625-mile (1000 km) radius.

Weston Geophysical Sources contributing to 99% of BBNPP Site Hazard

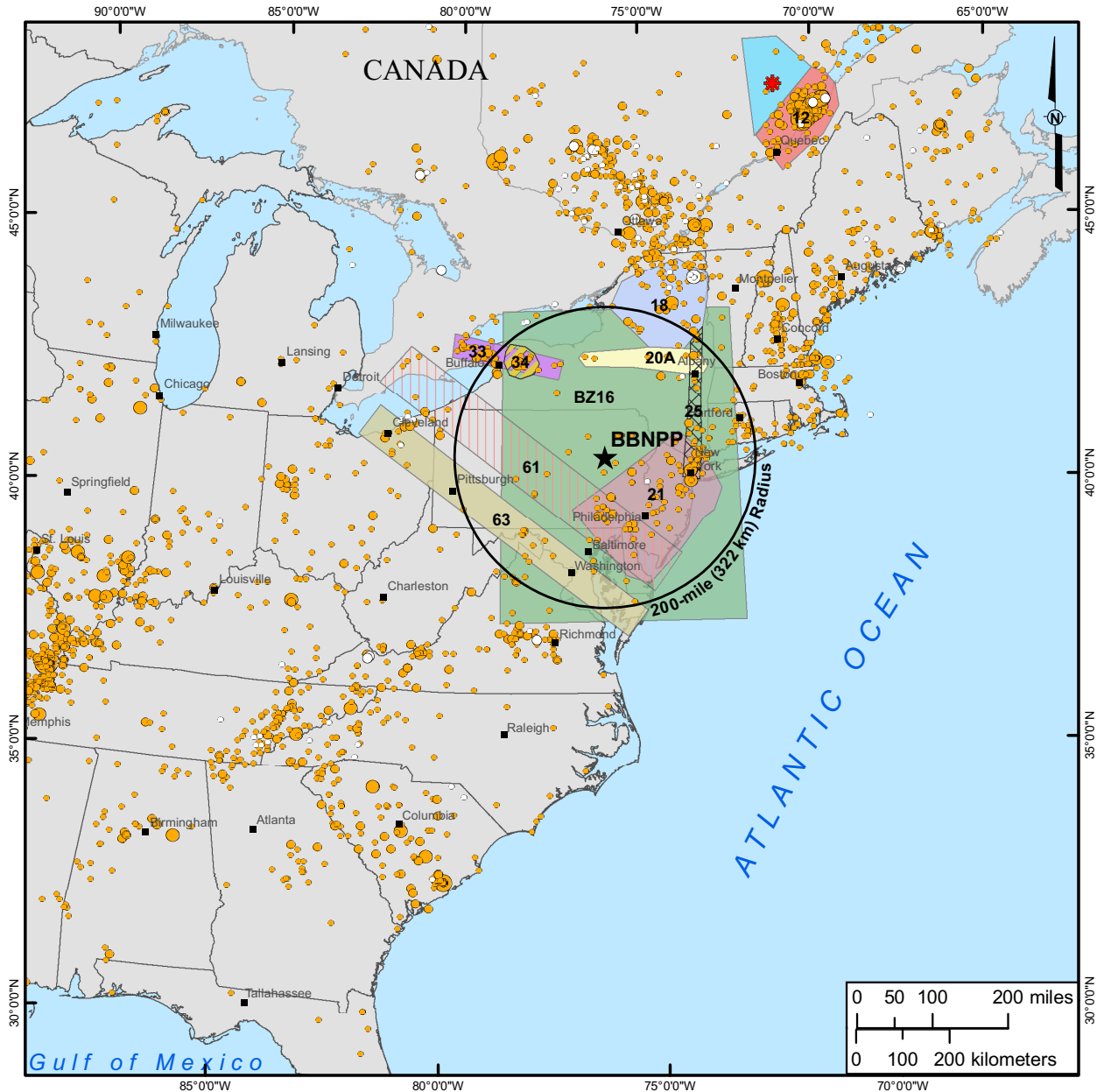
- 1 Charlevoix - La Malbaie Seismic Zone
- 6 Adirondack Mountains
- 8 Clarendon-Linden
- 21 New York Nexus
- 28E Zone of Mesozoic Basin
- 28E Zone of Mesozoic Basin
- 102 Appalachian Plateau Background
- 103 Southern Appalachian Background
- 104 Southern Coastal Plain Background
- 18 Zone 18

\* Saguenay Earthquake

REFERENCES:

- ESRI, 2007.
- USGS 2007.
- ANSS, 2007.
- EPRI Volume V: Weston Geophysical, 1986.

**Figure 2.5-107 {Woodward-Clyde EPRI Source Zones for Charlevoix Sensitivity Analysis Case 2}**



**LEGEND**

- ★ Center Point of Proposed Bell Bend NPP (BBNPP)
- City
- NPP Reactor 200-mile (322 km) Radius

- Earthquakes by Magnitude, mb (SEE NOTE)
- | USGS 2001   | USGS 2002 to 2007 |
|-------------|-------------------|
| ● 3.0 - 3.9 | ○ 3.0 - 3.9       |
| ● 4.0 - 4.9 | ○ 4.0 - 4.9       |
| ● 5.0 - 5.9 | ○ 5.0 - 5.9       |
| ● 6.0 - 6.9 | ○ 6.0 - 6.9       |
| ● 7.0 - 7.9 | ○ 7.0 - 7.9       |

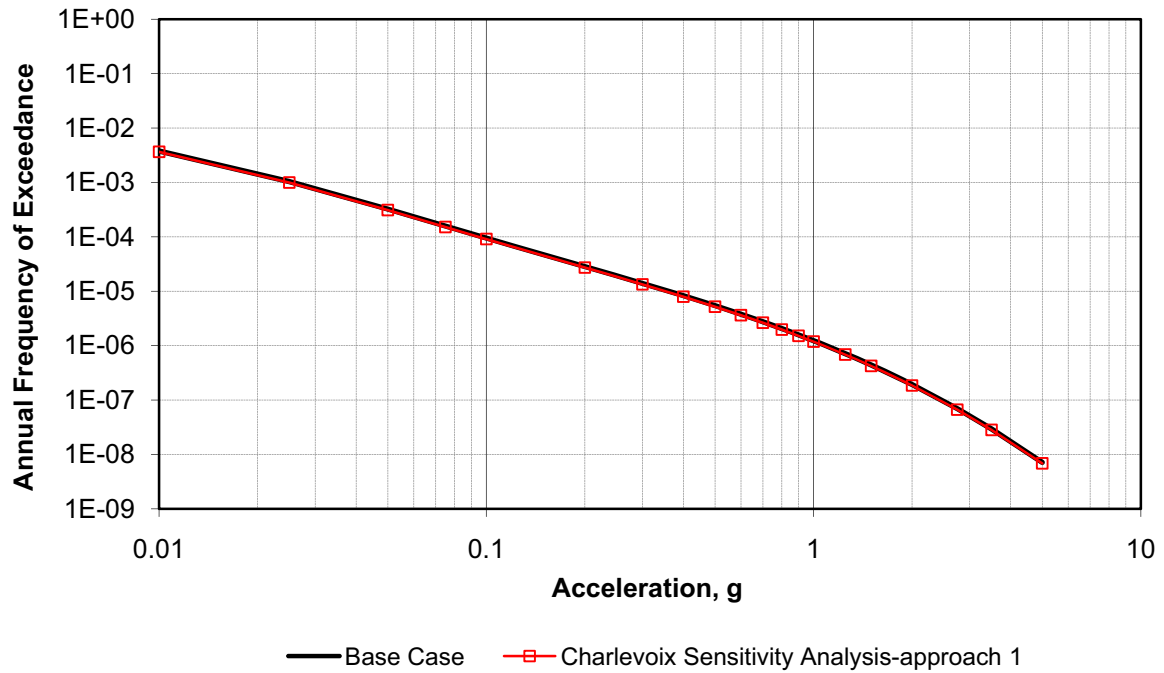
\* Saguenay Earthquake  
 NOTE: The 2002 to 2007 seismicity shown in 625-mile (1000 km) radius.

- Woodward-Clyde Sources contributing to 99% of BBNPP Site Hazard
- 18 Adirondack Uplift
  - 20A Mohawk River Trend
  - 21 NJ Isostatic Gravity Saddle
  - 25 Hudson River Valley Trend
  - 33 W. NY-S Ontario Trend
  - 34 Attica, NY Intersection
  - 61 Tyron-Mt. Union Lineament
  - BZ16 Susquehanna Background
  - 12 Charlevoix Seismic Zone
  - 63 Pittsburgh-Washington Lineament
  - New Source Zone

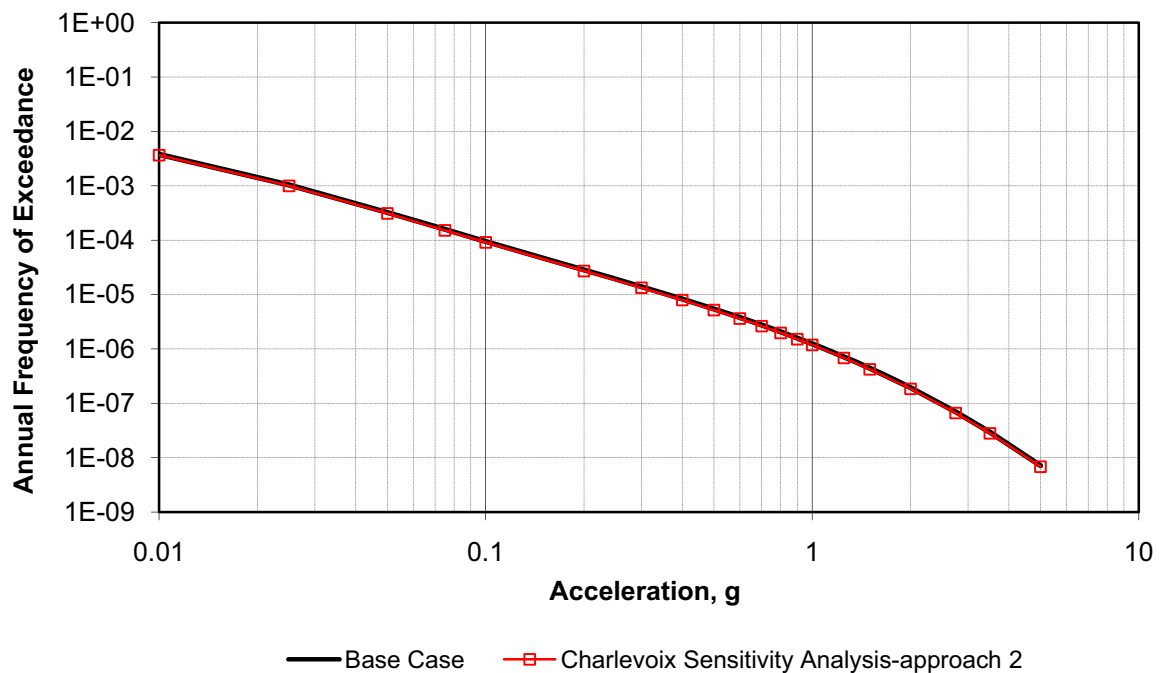
- REFERENCES:
- ESRI, 2007.
  - USGS 2007.
  - ANSS, 2007.
  - EPRI Volume VIII: Woodward-Clyde Consultants, 1986.

**Figure 2.5-108 {Comparison of PGA Mean Hazard Curves for Charlevoix Sensitivity Analysis}**

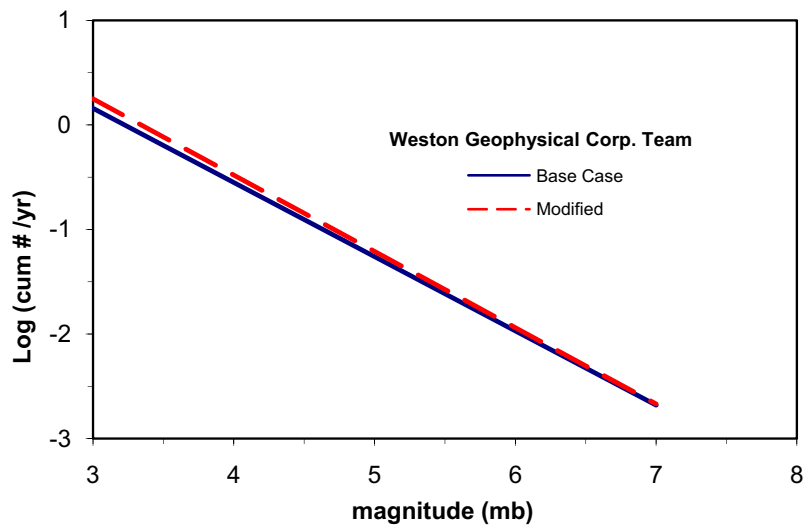
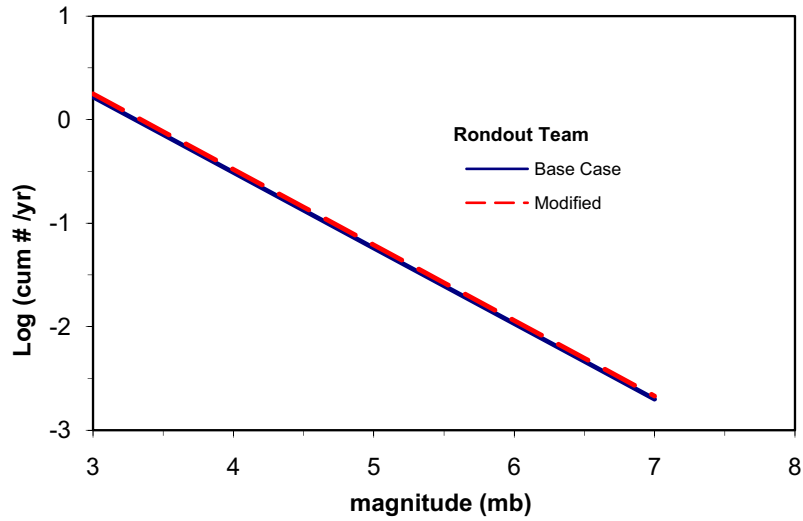
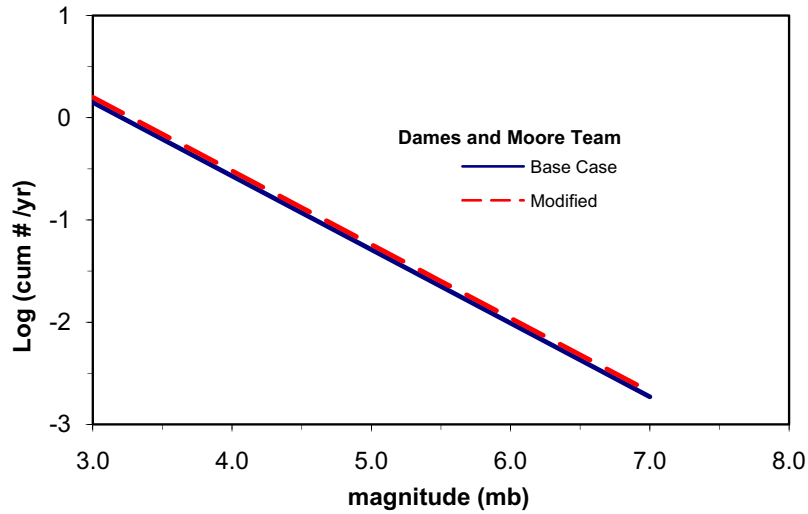
**PGA-Mean Hazard Curves**



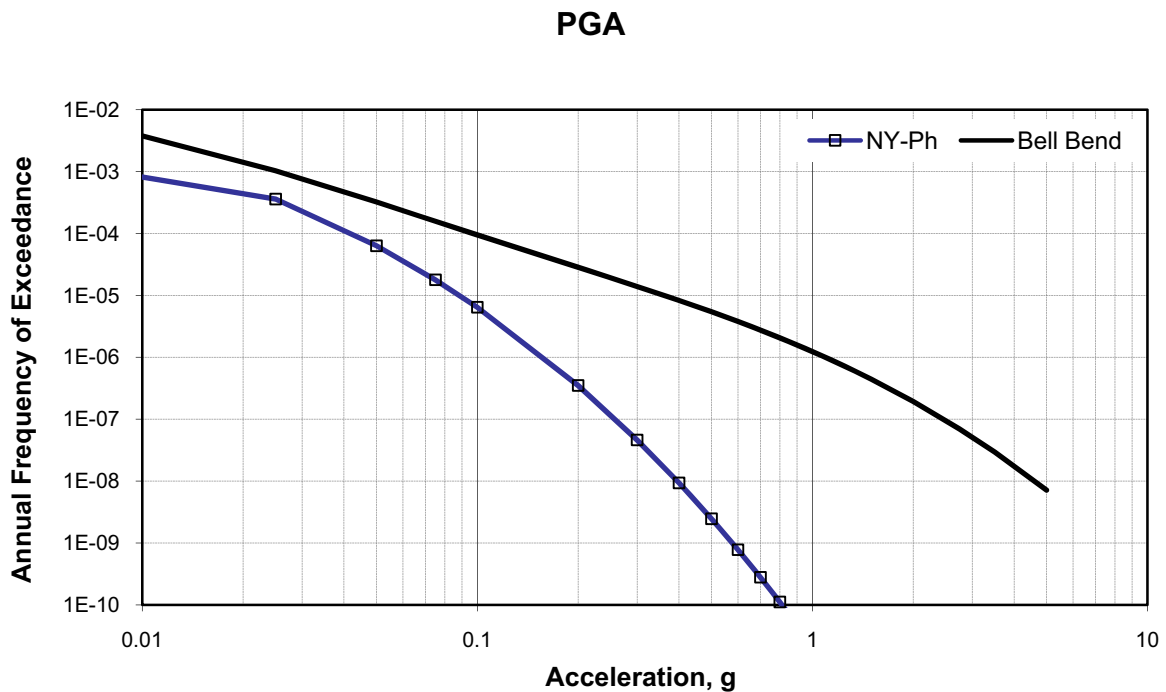
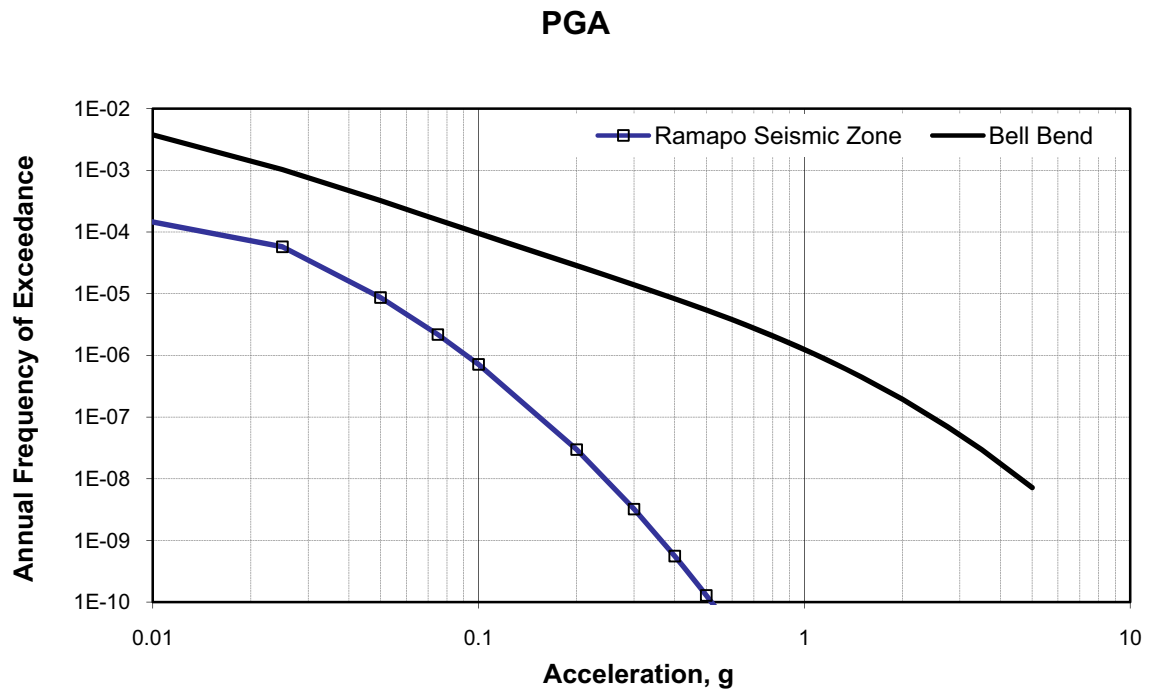
**PGA-Mean Hazard Curves**



**Figure 2.5-109 {Seismicity Rates Charlevoix Sensitivity Analysis}**



**Figure 2.5-110 {Hazard Curves Sensitivity Study of the Ramapo Fault System}**



**Figure 2.5-111 {Seismicity Rates of the Ramapo Fault System}**

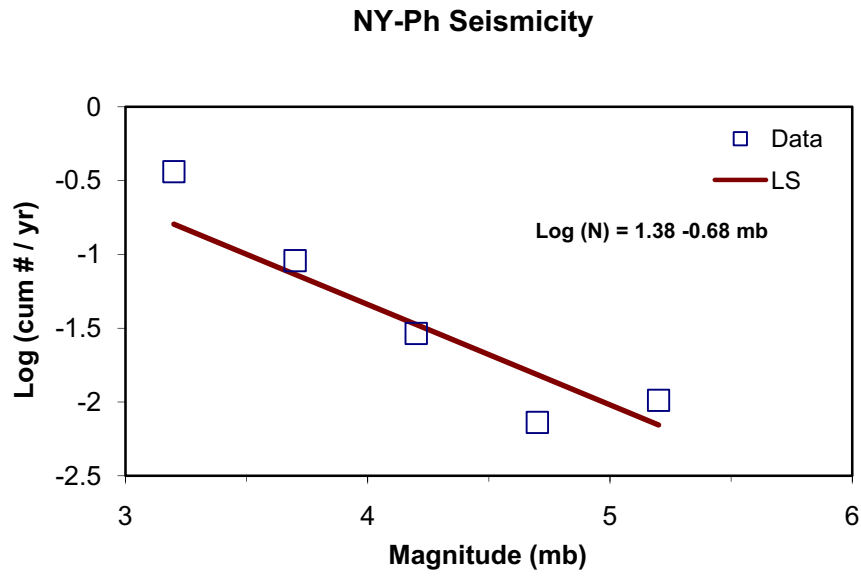


Figure 2.5-112 {Earthquake Epicenters Map 25-mile (40 km) radius}

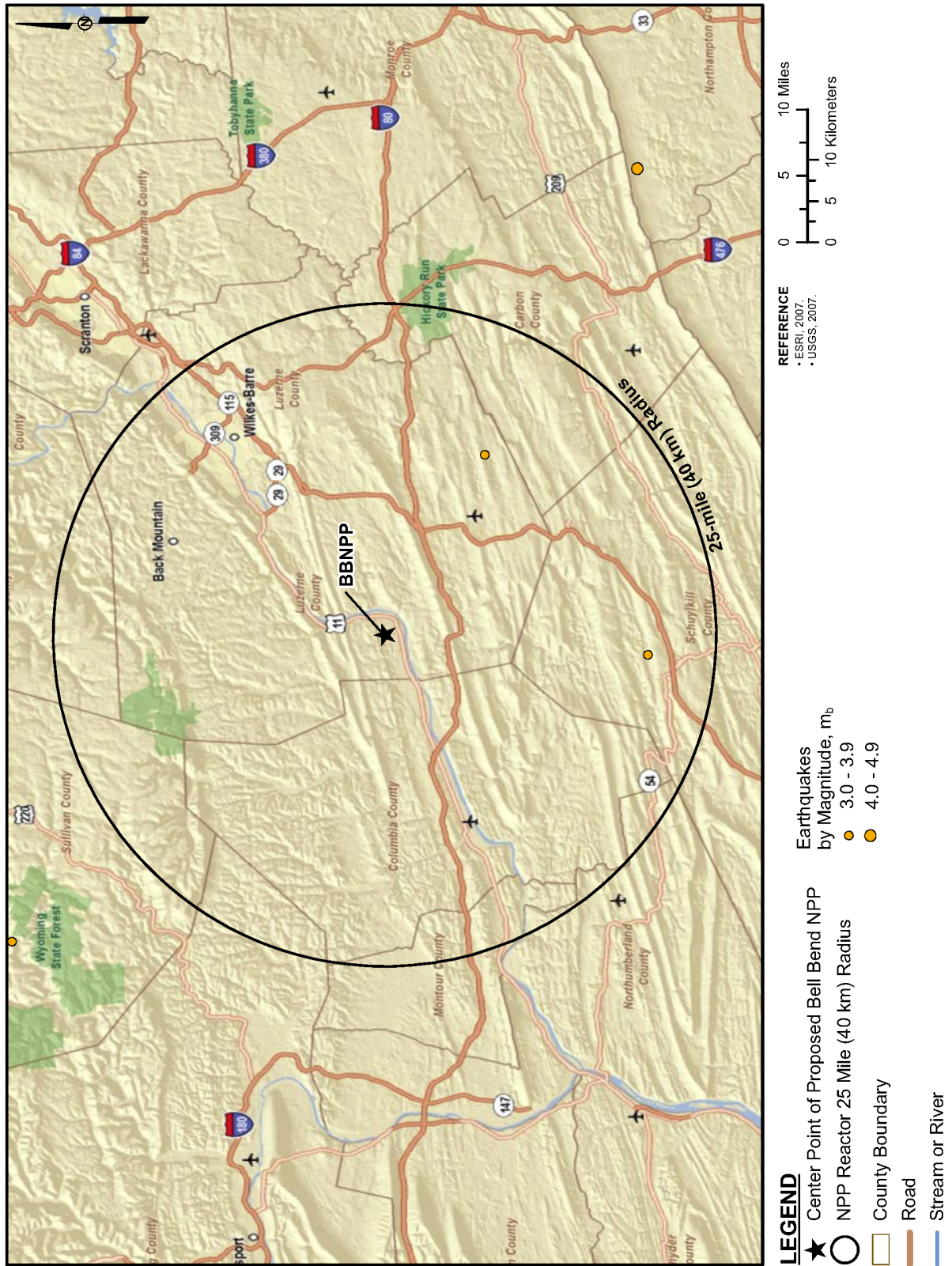


Figure 2.5-113 {Map Showing the Location of the Appalachian Basin Cross Section}

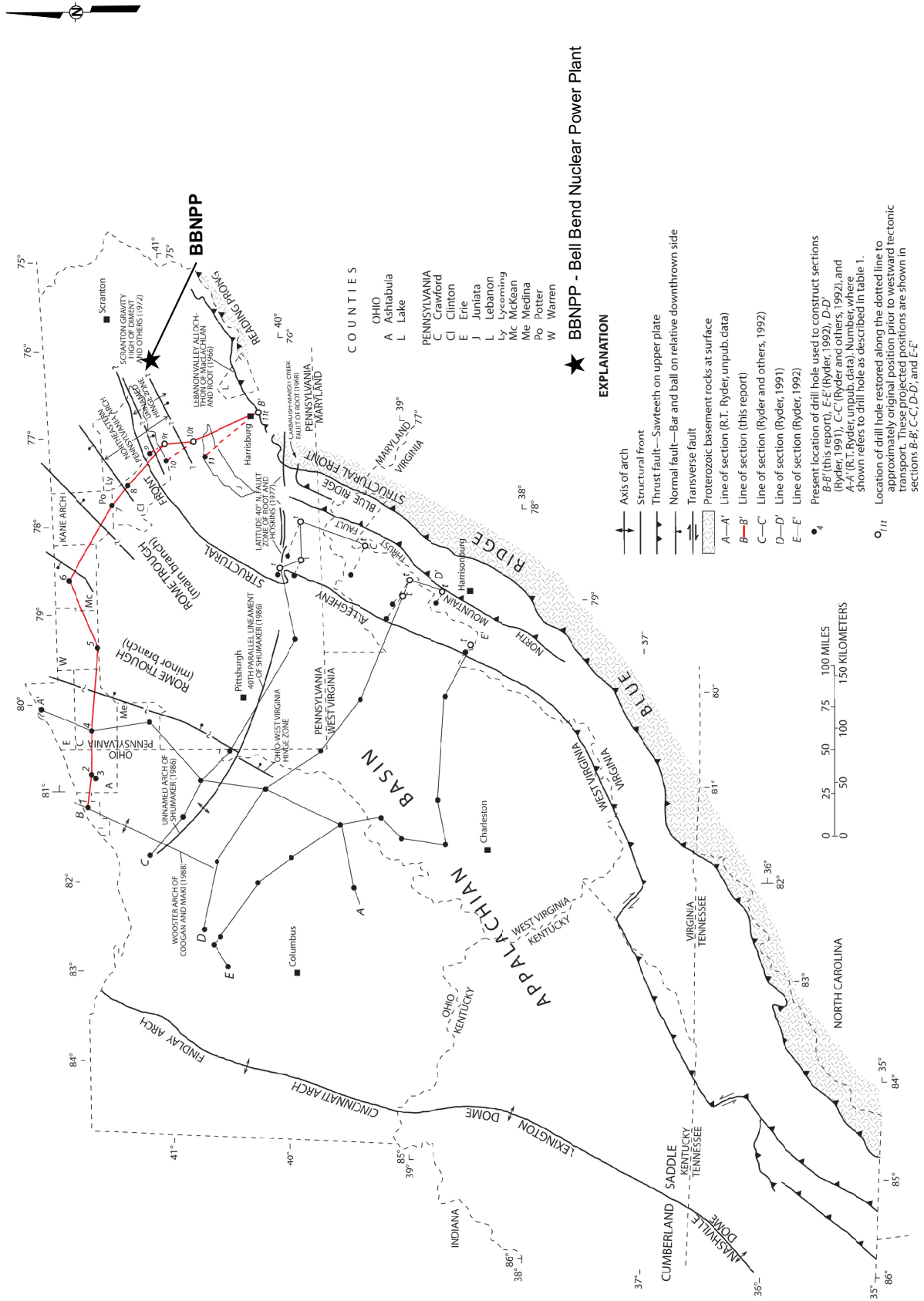
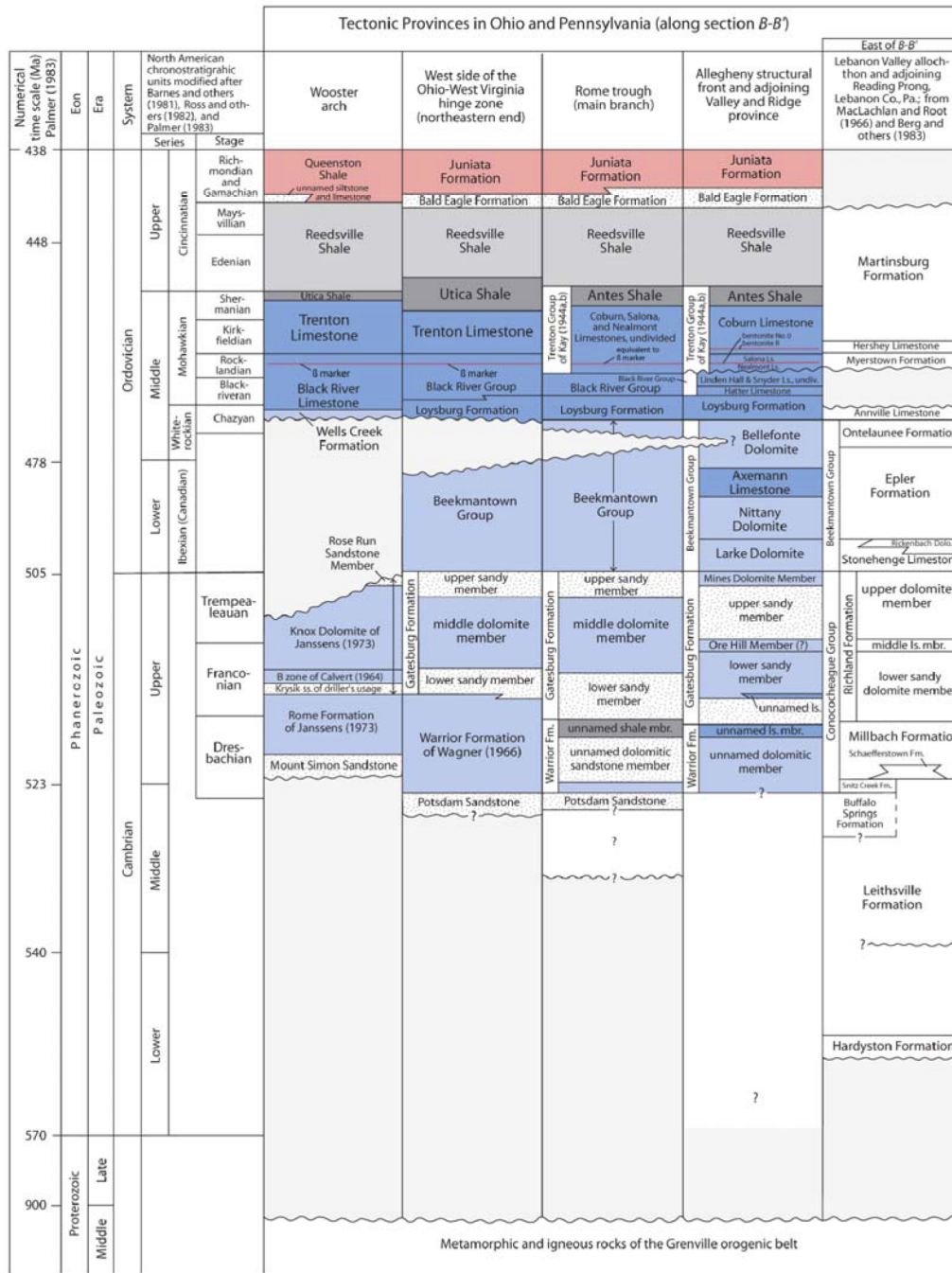


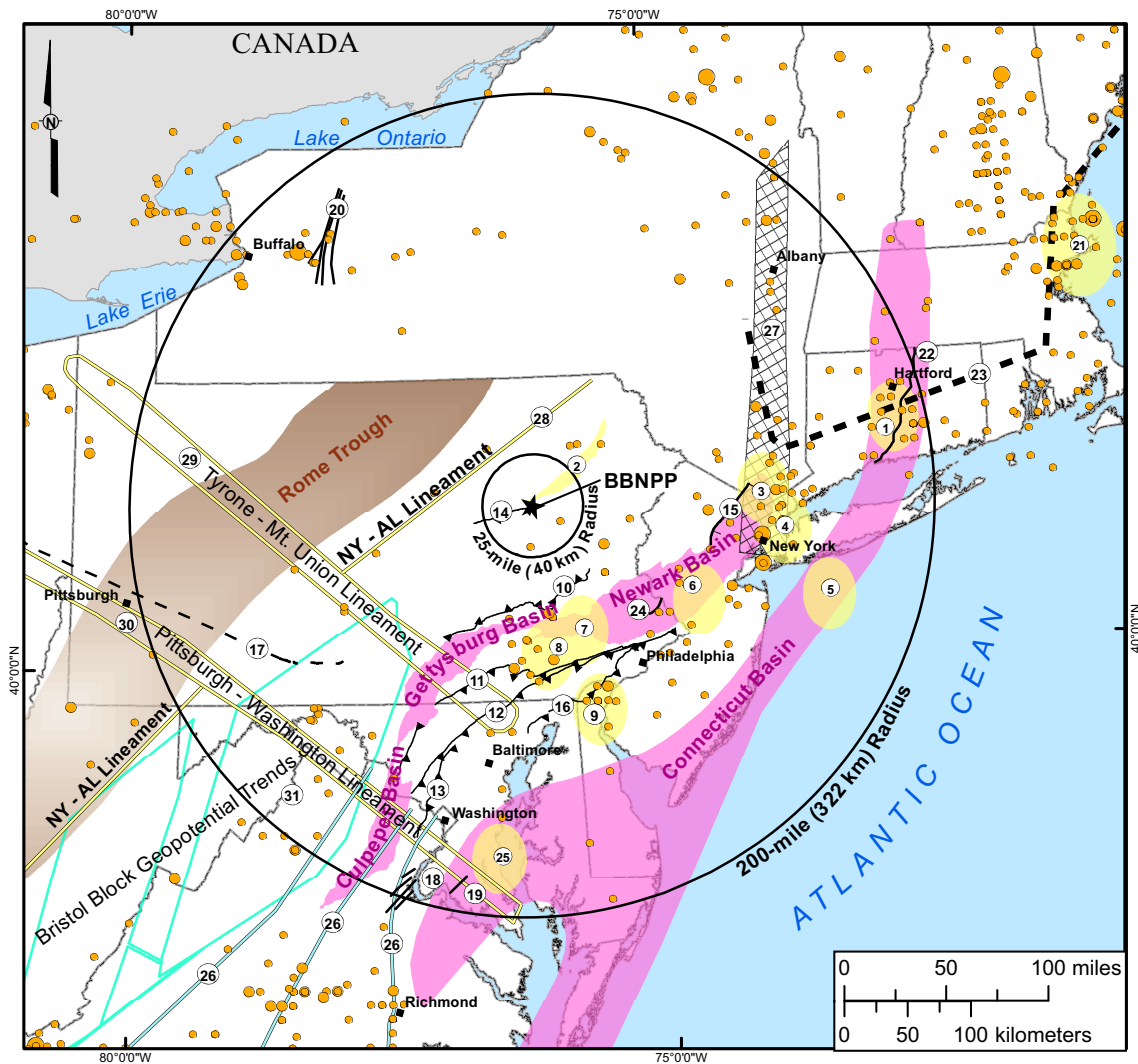


Figure 2.5-114 {Stratigraphic Correlation Chart of Appalachian Basin}



REFERENCE:

Figure 2.5-115 {Tectonic Features}



**LEGEND**

- ★ Center Point of Proposed Bell Bend NPP (BBNPP)
- City
- NPP Reactor 200-mile (322 km) Radius
- Basin
- State Boundary
- Earthquakes by Magnitude, mb (USGS 2001 Catalog)**
- 3.0 - 3.9
- 4.0 - 4.9
- 5.0 - 5.9
- 6.0 - 6.9
- 7.0 - 7.9

**Tectonic Features**

- |   |                                   |                                     |
|---|-----------------------------------|-------------------------------------|
| ① Moodus Seismic Zone                       | ⑭ Light Street Fault              | ⑳ Hudson River Valley Trend         |
| ② Anthracite Zone                           | ⑮ Ramapo Fault                    | ㉑ New York-Alabama Lineament        |
| ③ Dobbs Ferry Fault Zone                    | ⑯ Rosemont Shear Zone             | ㉒ Tyrone-Mt. Union Lineament        |
| ④ Mosholu Fault                             | ⑰ Transylvania Fault System       | ⑳ Pittsburgh-Washington Lineament   |
| ⑤ New York Bright Fault                     | ⑱ Stafford Fault System           | ㉓ Bristol Block Geopotential Trends |
| ⑥ Kingston Fault                            | ⑲ Brandywine Fault                |                                     |
| ⑦ Cacoosing Valley Earthquake               | ⑳ Clarendon-Lindin Fault Zone     |                                     |
| ⑧ Lancaster Seismic Zone                    | ㉑ Clinton-Newbury Liquefaction    |                                     |
| ⑨ New Castle County Faults                  | ㉒ East Border Fault               |                                     |
| ⑩ Yellow Breches Fault                      | ㉓ Offset Glaciated Surfaces       |                                     |
| ⑪ Martic Fault                              | ㉔ Furlong-Flemington Fault System |                                     |
| ⑫ Pleasant Valley - Huntingdon Valley Fault | ㉕ Upper Marlboro Faults           |                                     |
| ⑬ Plummers Island Fault                     | ㉖ Fall Lines                      |                                     |

**REFERENCES:**  
 • ESRI, 2007.  
 • USGS, 2001.  
 • Hibbard, 2006.  
 • King, 1978.  
 • Weems, 1998.  
 • Wheeler, 2006.  
 • National Atlas, 2008.



Figure 2.5-117 {Seismic Velocity Contours}

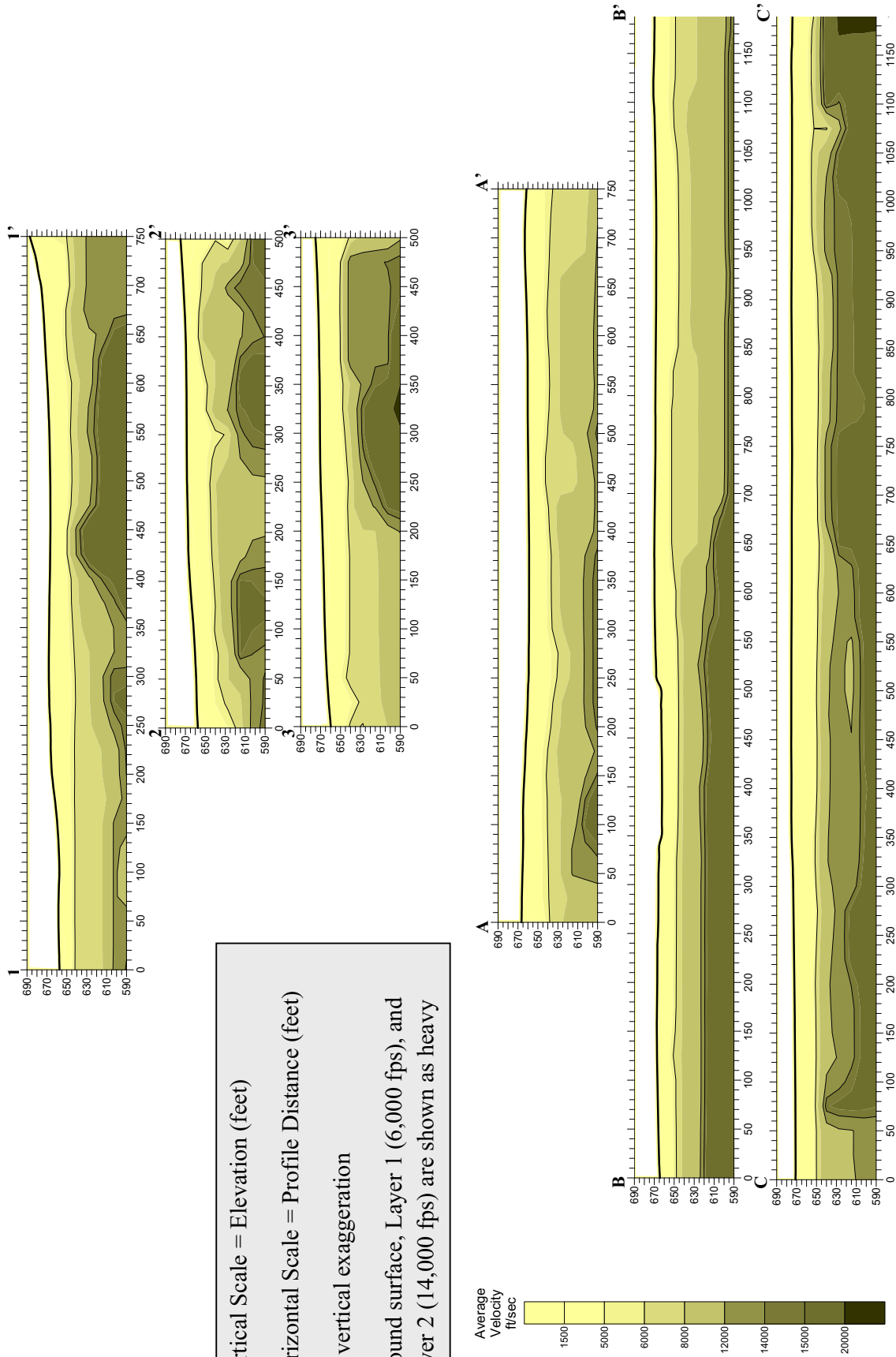
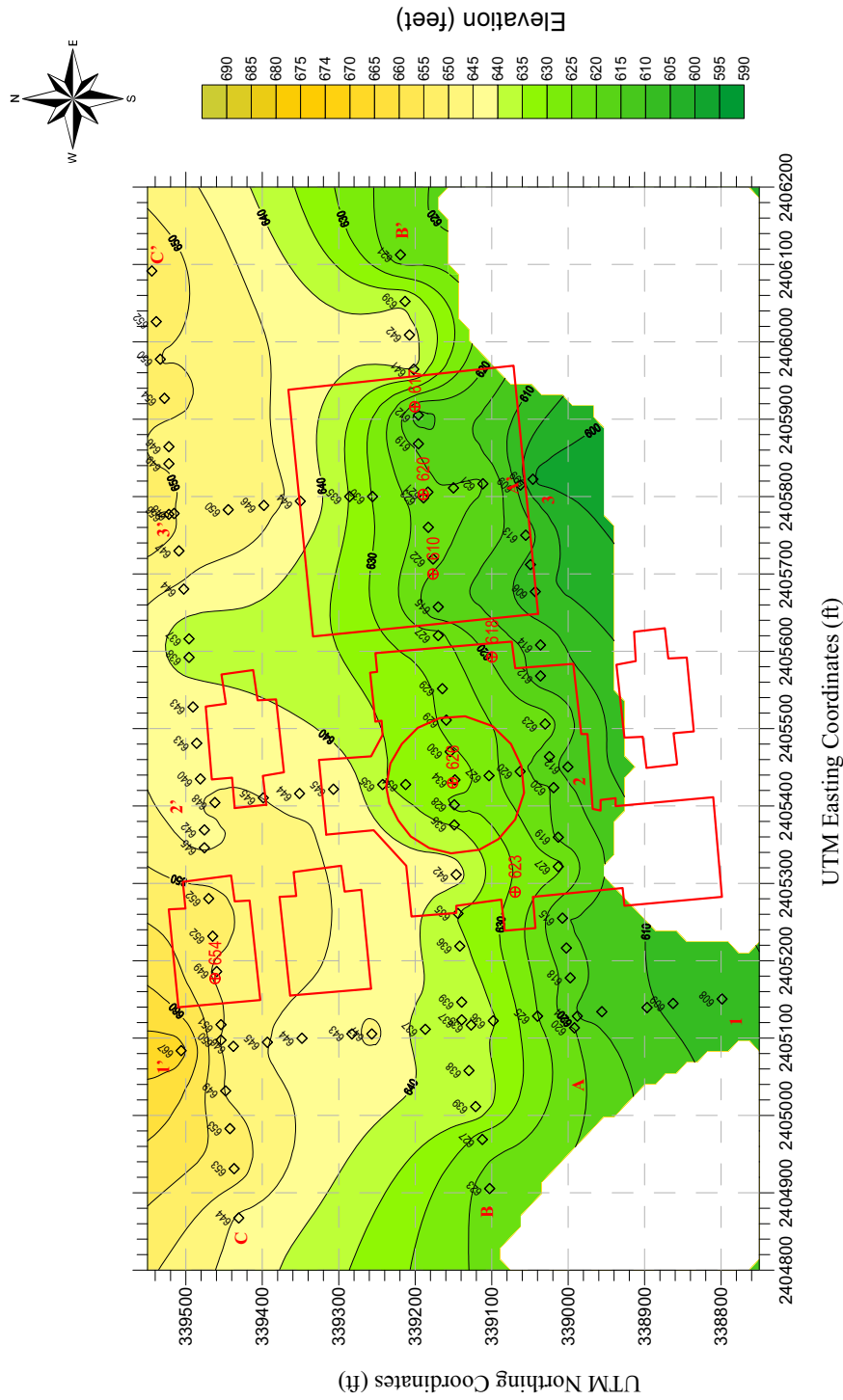


Figure 2.5-118 {Bedrock Elevation Contour Map}



REFERENCE:  
•Weston, 2008

Figure 2.5-119 {Refraction Survey Page 1 of 6}

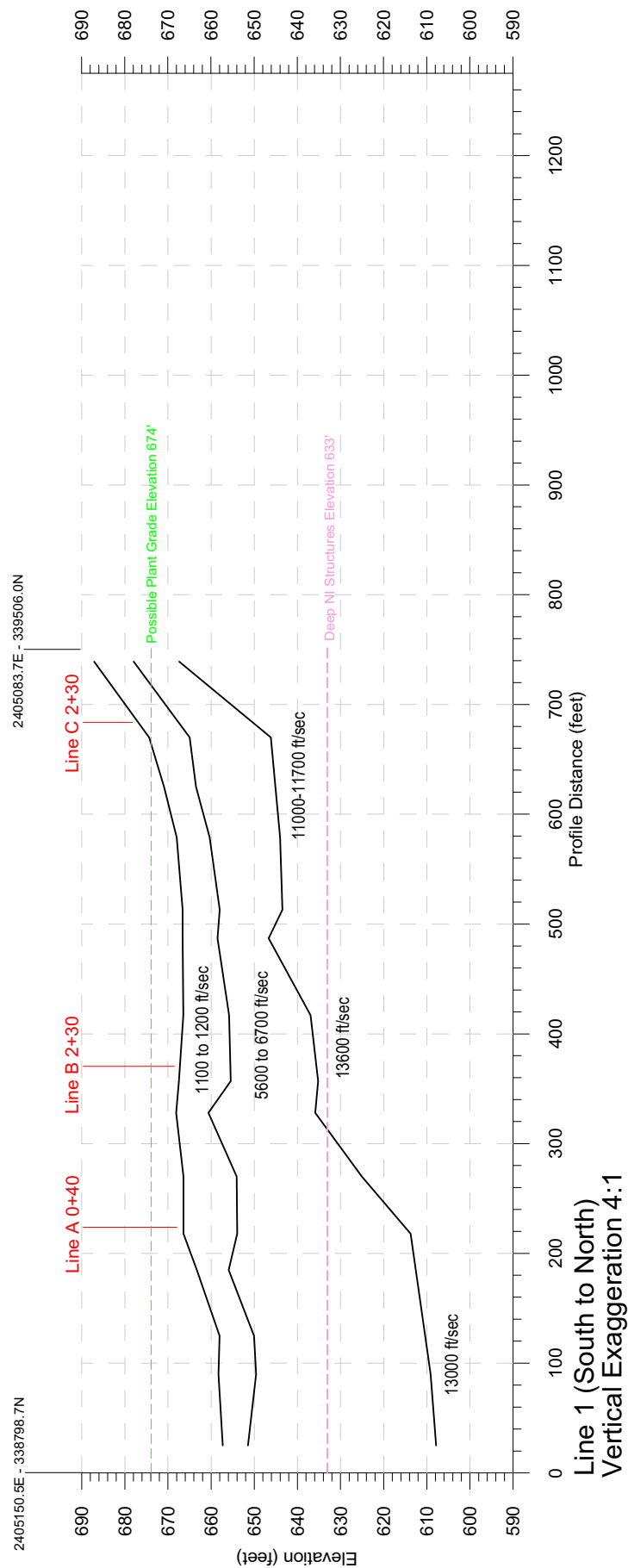


Figure 2.5-120 {Refraction Survey Page 2 of 6}

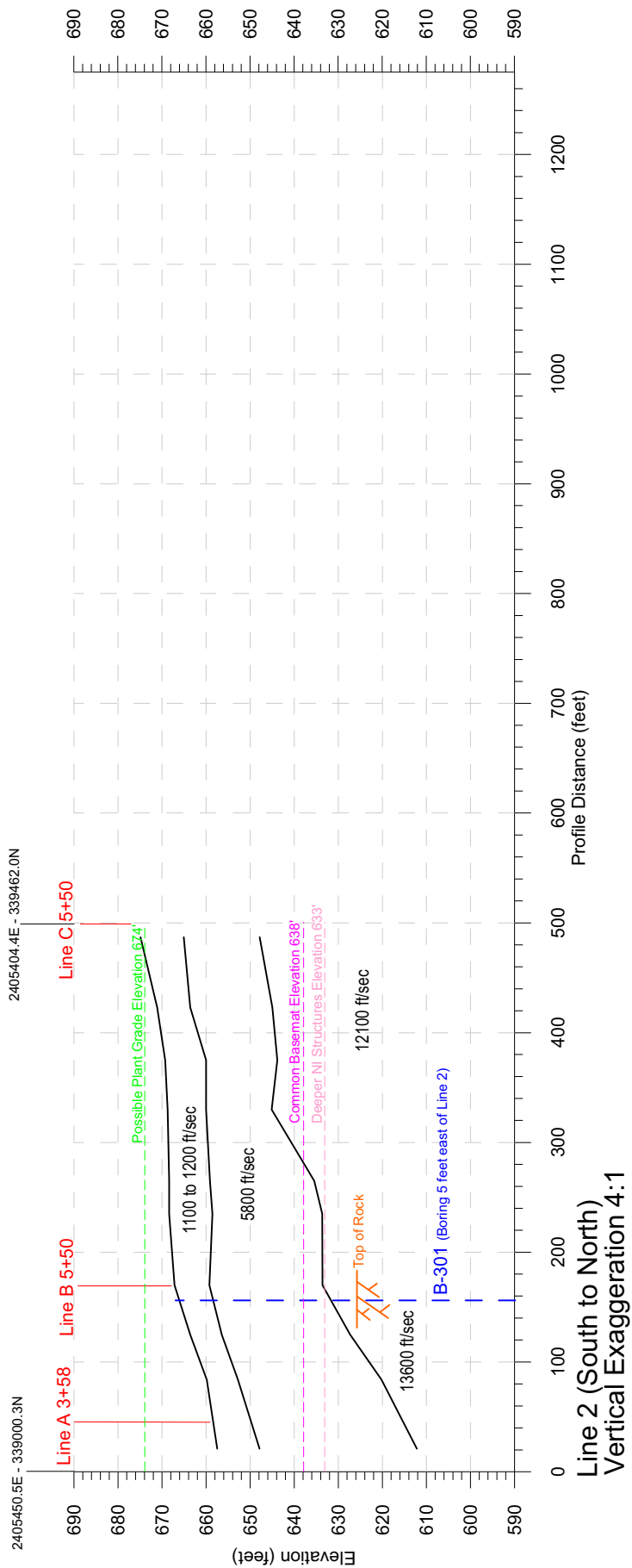


Figure 2.5-121 {Refraction Survey Page 3 of 6}

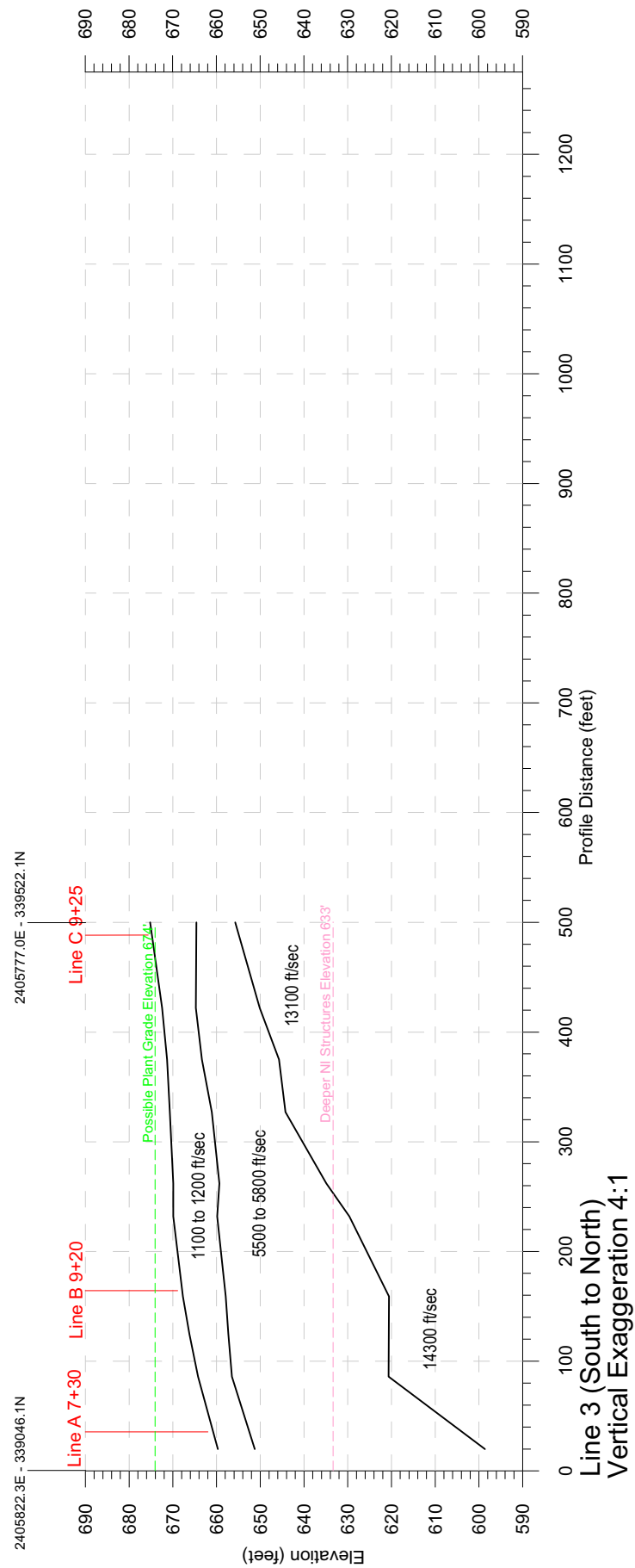




Figure 2.5-122 {Refraction Survey Page 4 of 6}

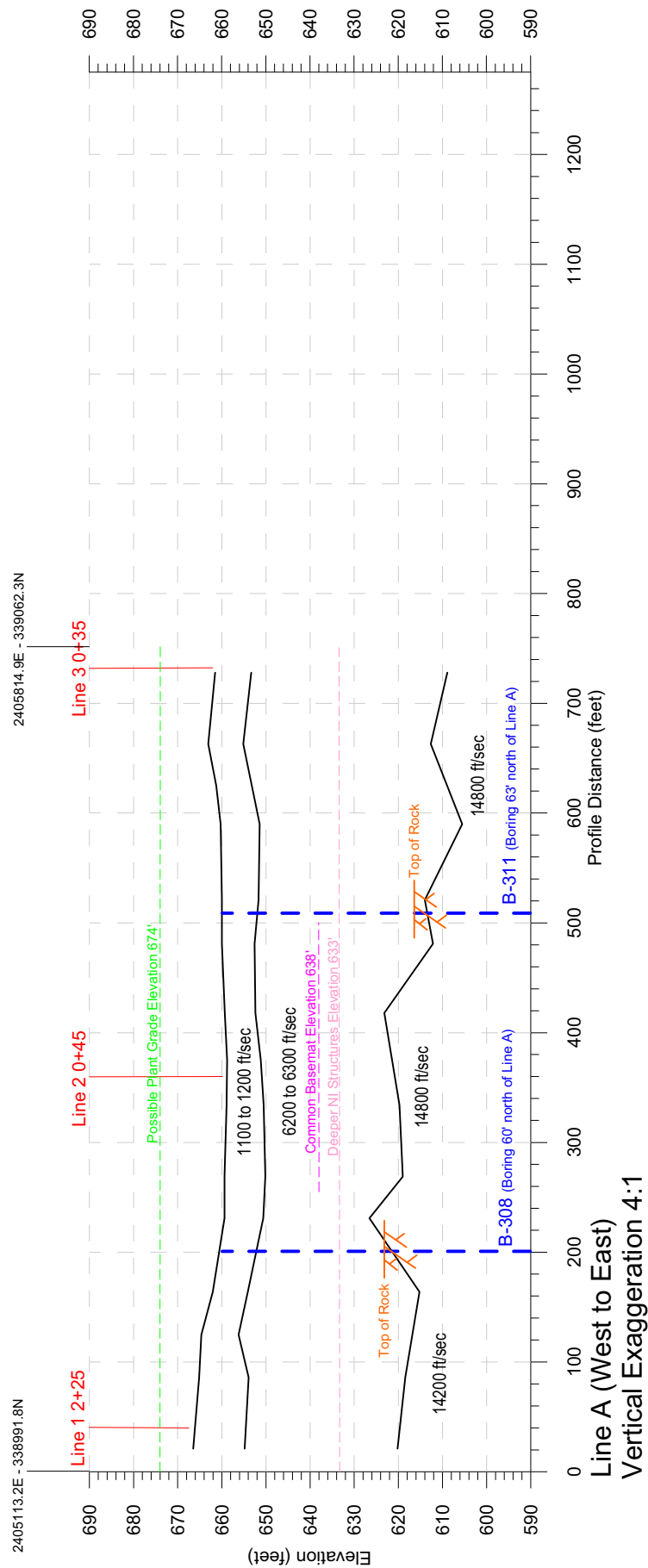


Figure 2.5-123 {Refraction Survey Page 5 of 6}

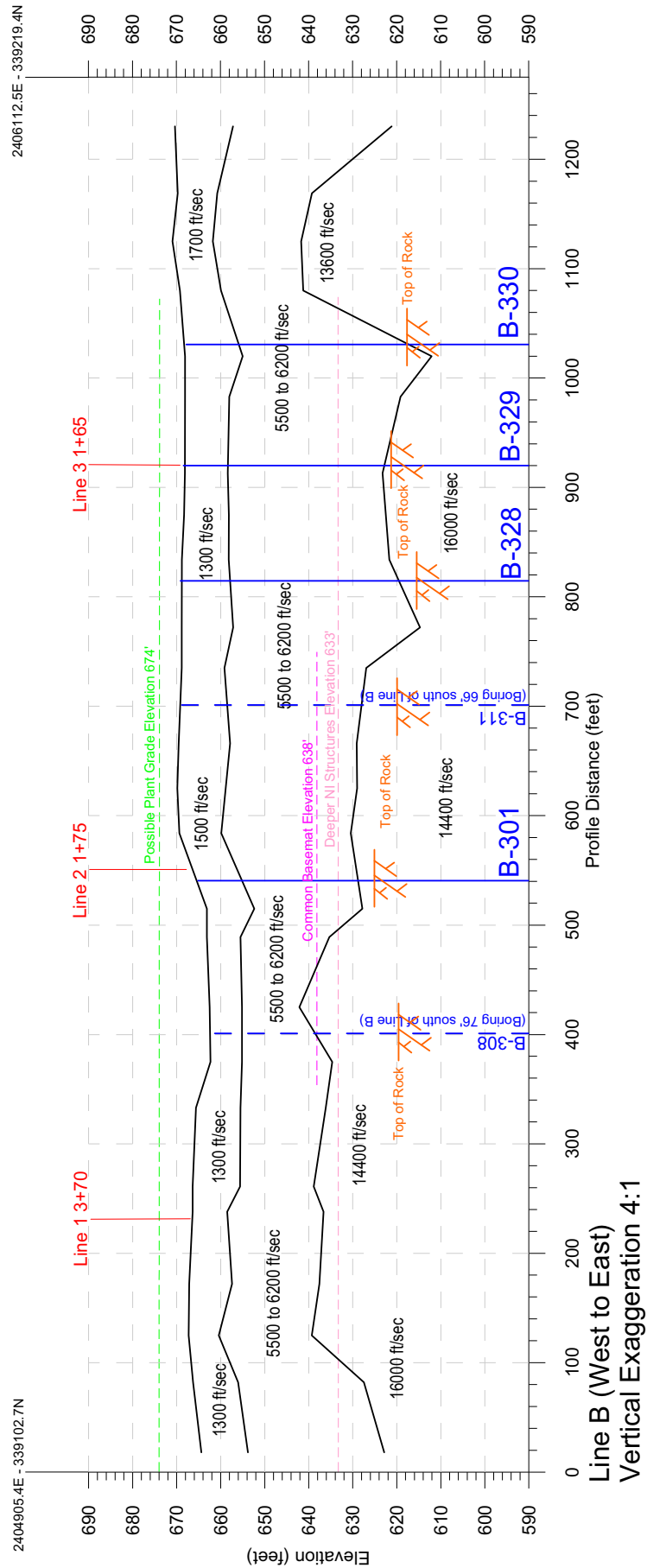


Figure 2.5-124 {Refraction Survey Page 6 of 6}

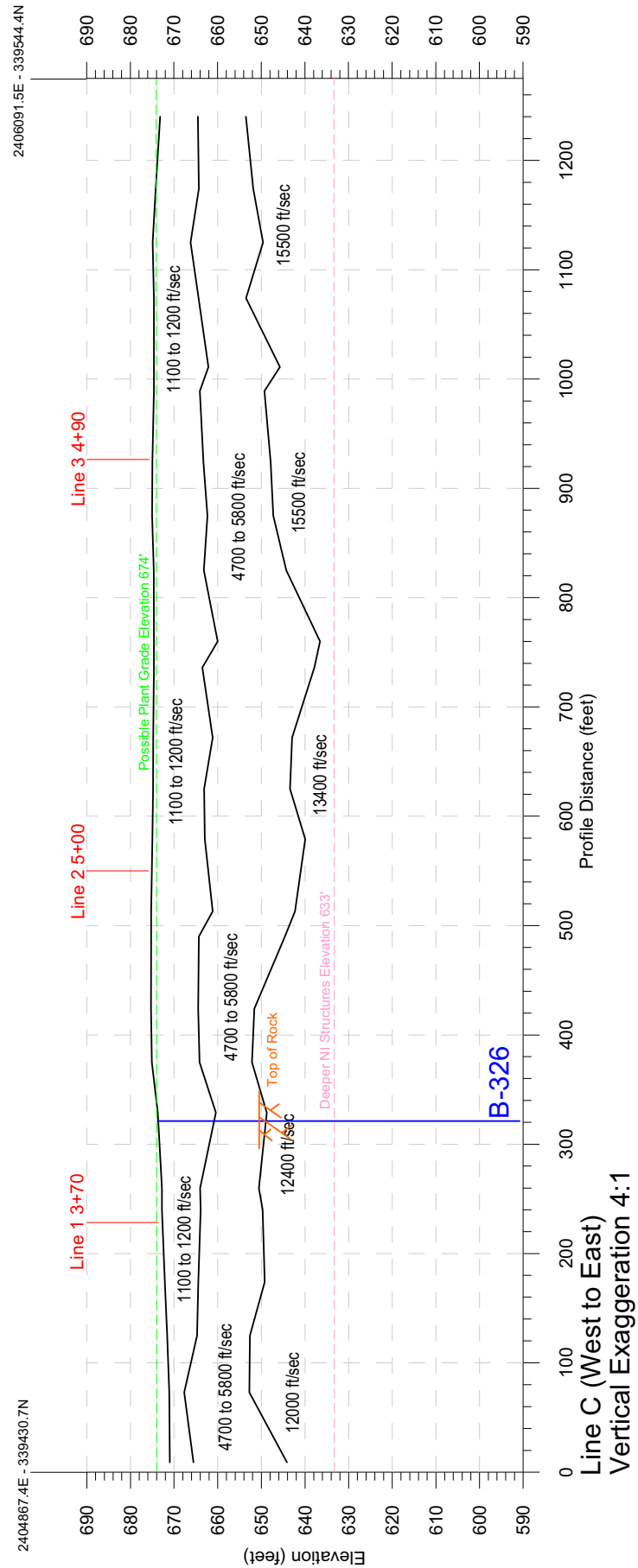


Figure 2.5-125 {Elevation of Competent Rock}

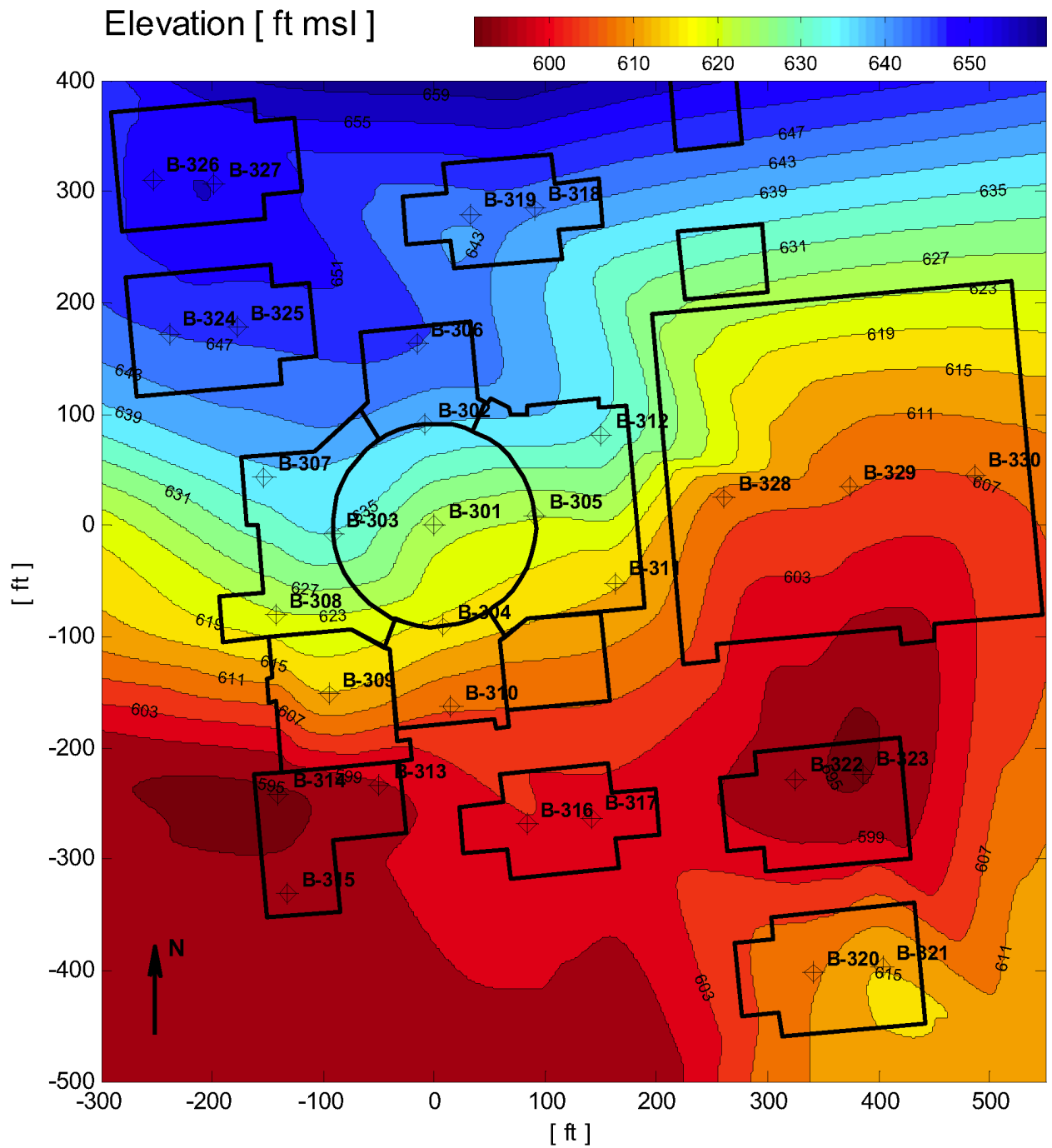


Figure 2.5-126 {Westward View of Syber Creek, with no Evidence of the Light Street Fault}



Figure 2.5-127 {View of Syber Creek Looking North, with no Expression of the Light Street Fault}

