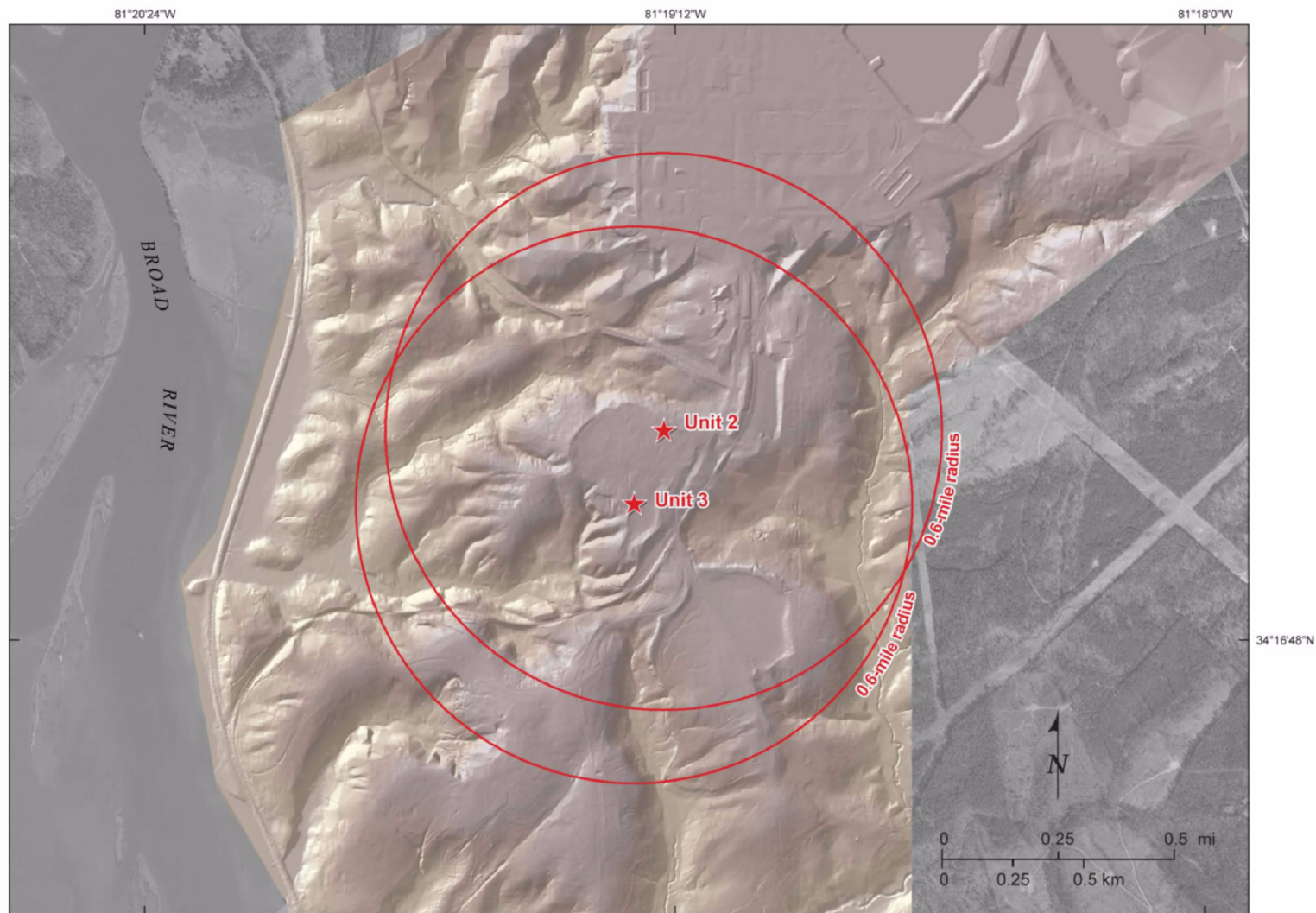


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Source: DEM (Digital Elevation Model) Hillshade generated from the contours of 2006 Glenn Associates Surveying, Inc. AutoCAD DWG Digital Data File.

Figure 2.5.1-223. Site Shaded Relief Map

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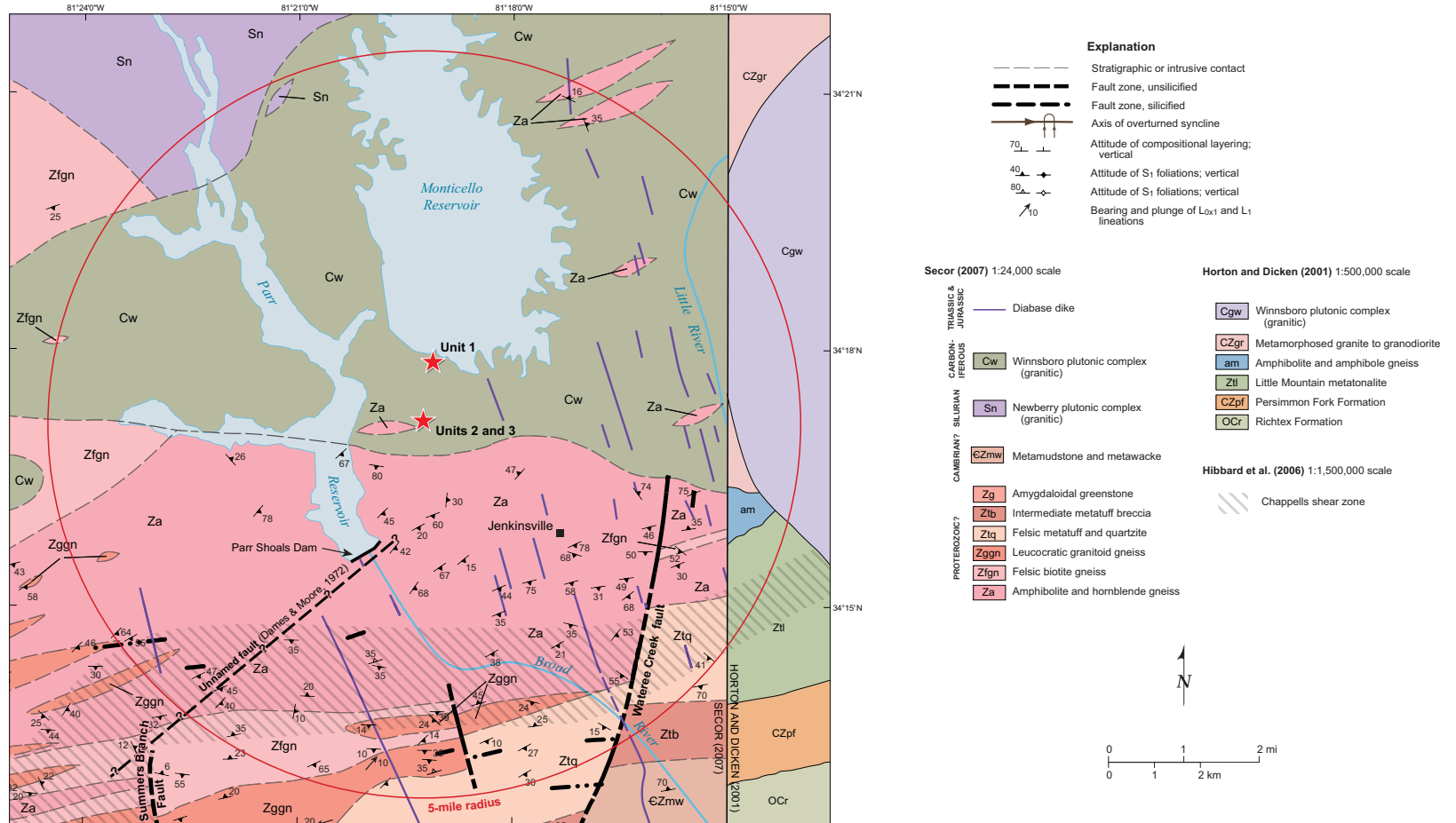


Figure 2.5.1-224. Site Area Geologic Map

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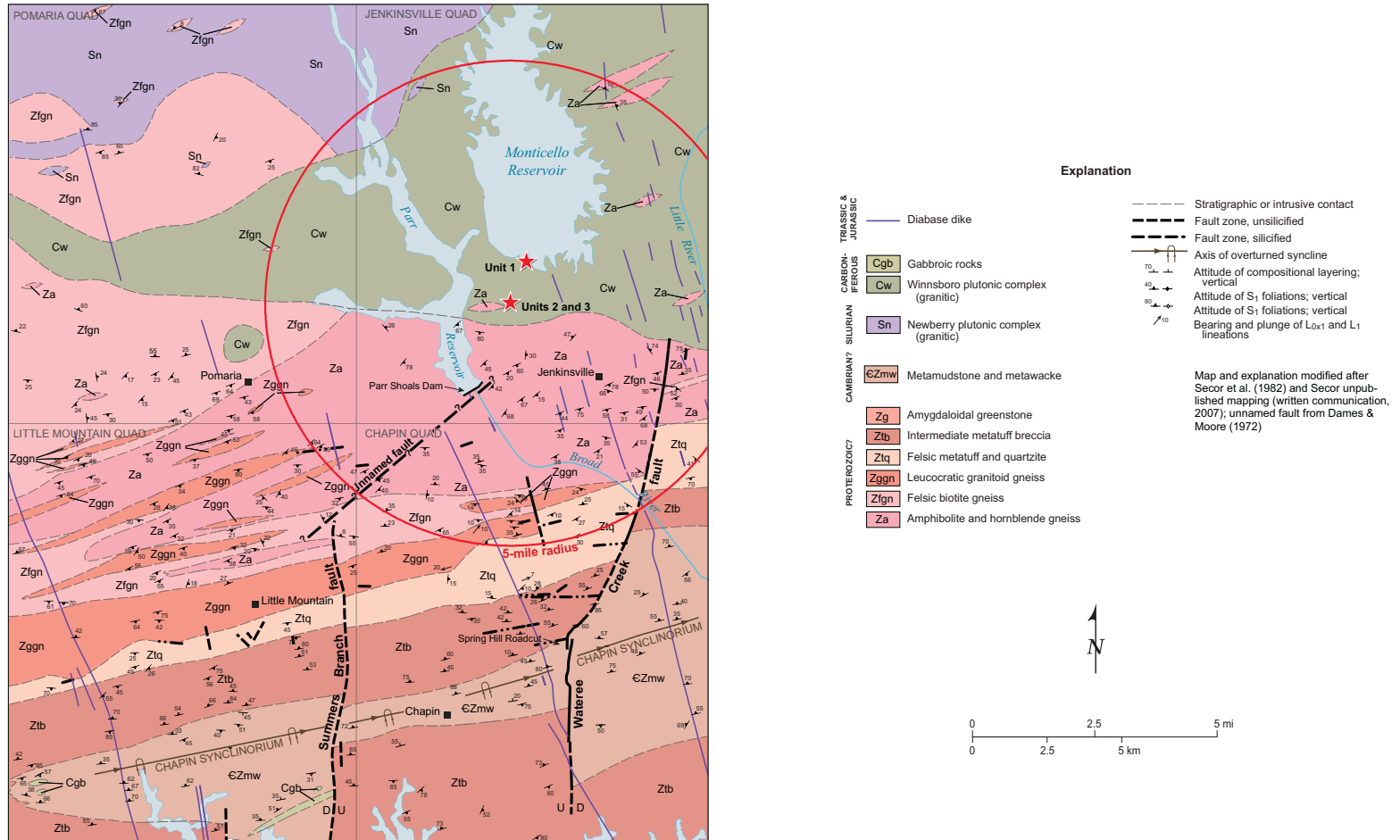


Figure 2.5.1-225. Geologic Map of the Jenkinsville, Pomaria, Little Mountain and Chapin 7.5-Minute Quadrangles

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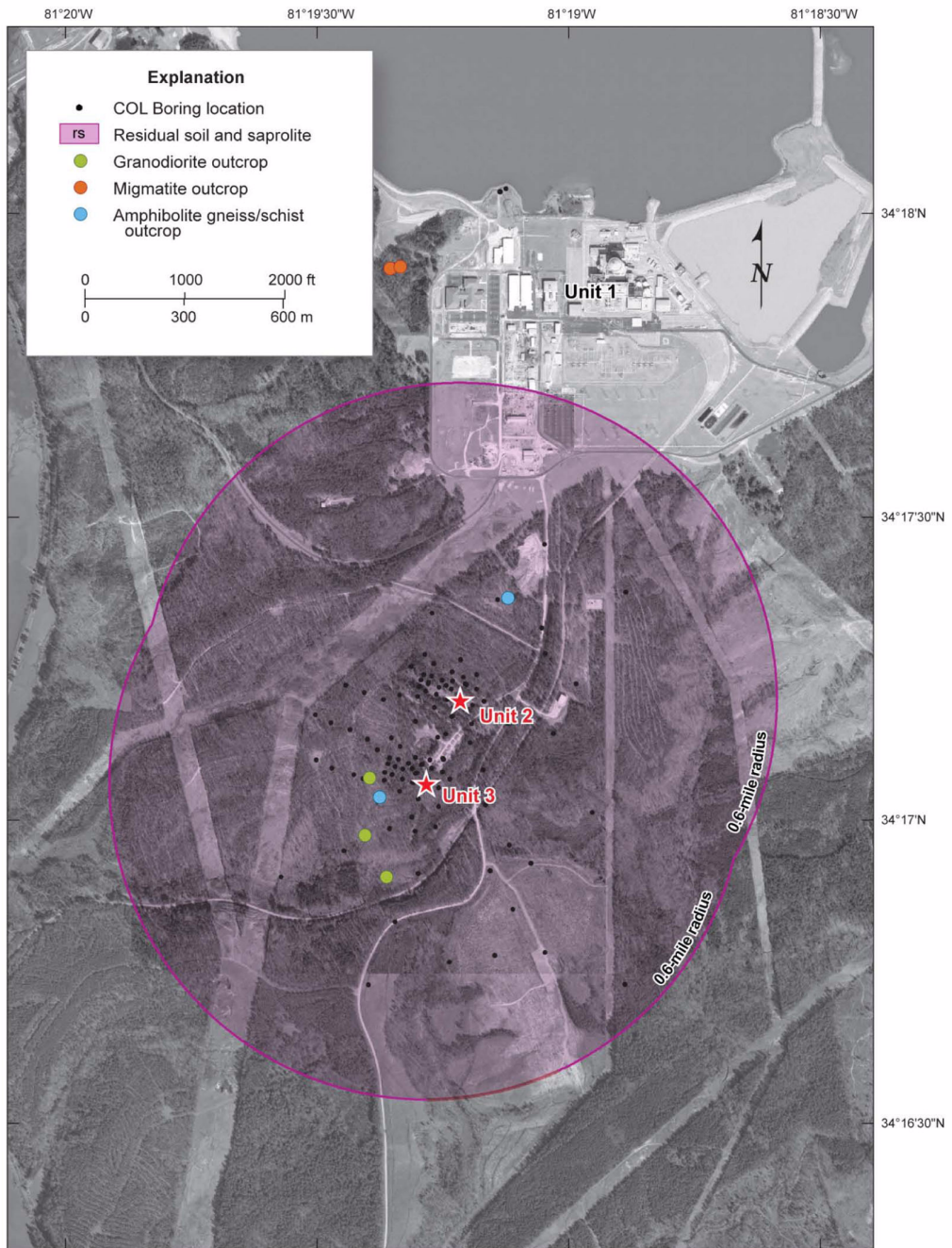


Figure 2.5.1-226. Map of Surficial Geology, Plant Layout and Borehole Locations for the Site Area

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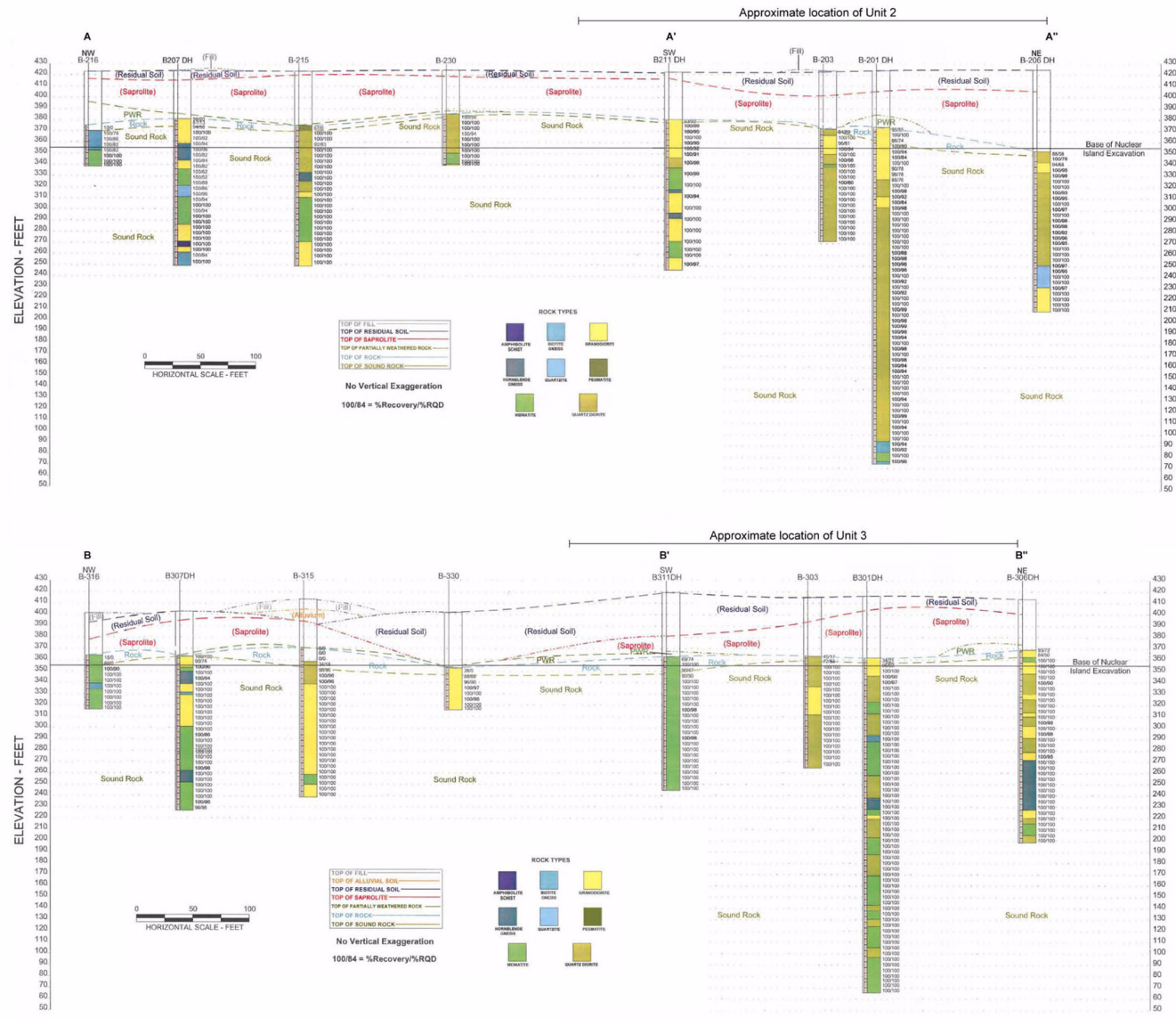
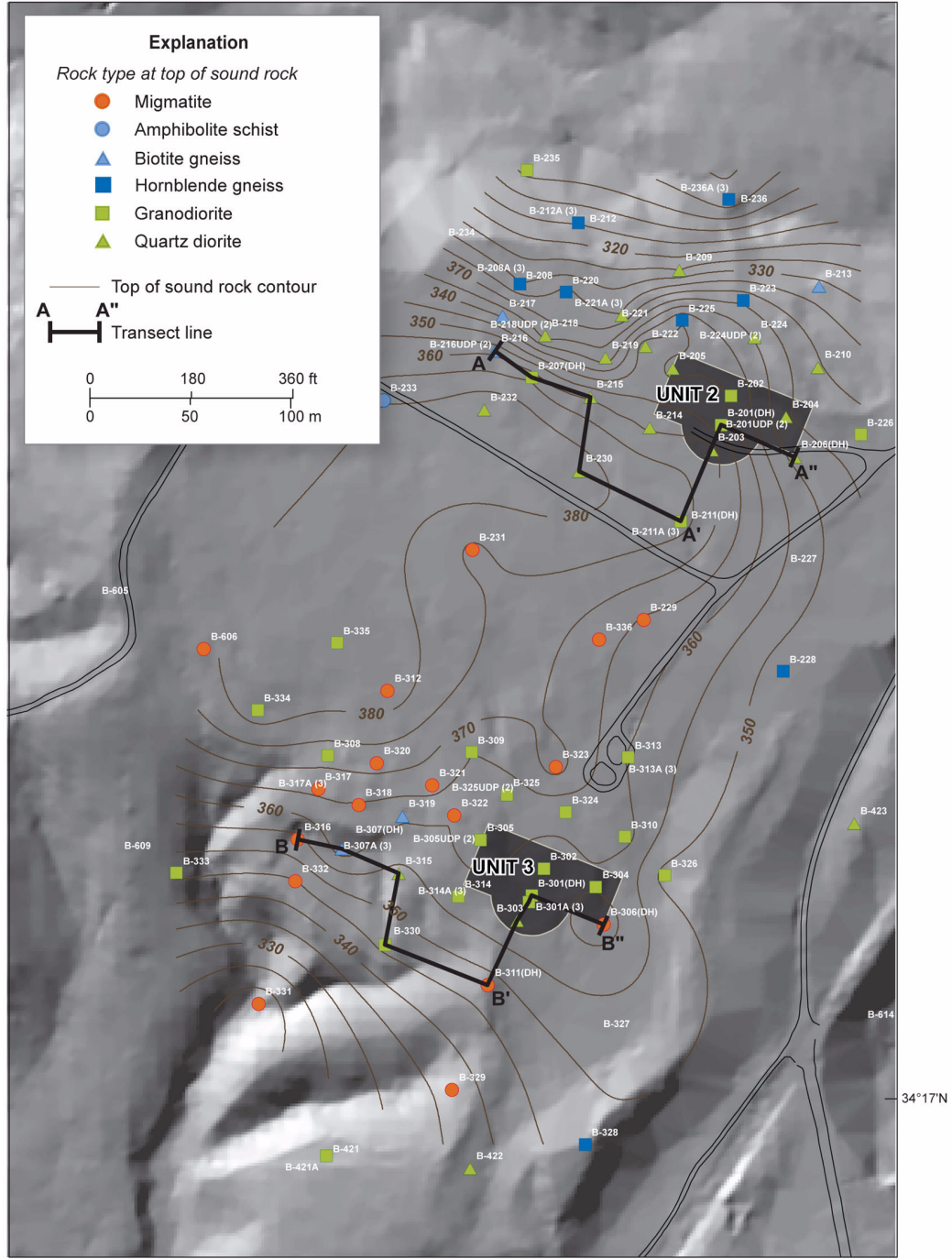


Figure 2.5.1-227. Geologic Cross Sections A-A' and B-B'

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**Figure 2.5.1-228. Contour Map of Sound Rock Surface at Units 2 and 3**

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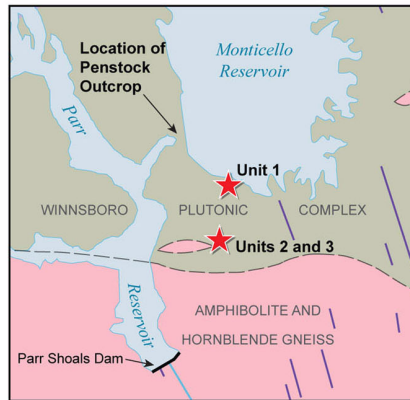
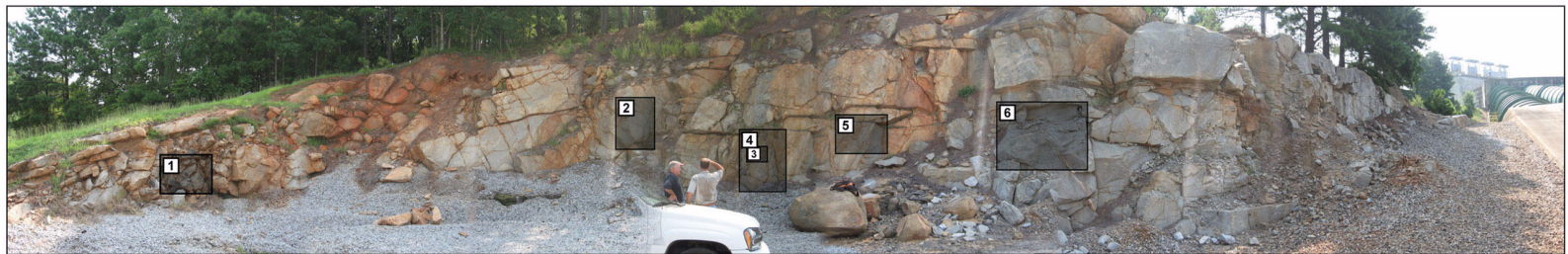
Brecciated mafic inclusions in granodiorite matrix



Flow structures



Cross-cutting relationships



Brecciated mafic inclusions in granodiorite matrix



Flow structures



Flow structures

Figure 2.5.1-229. Photographs of Fairfield Pumped Storage Facility Penstock Outcrop

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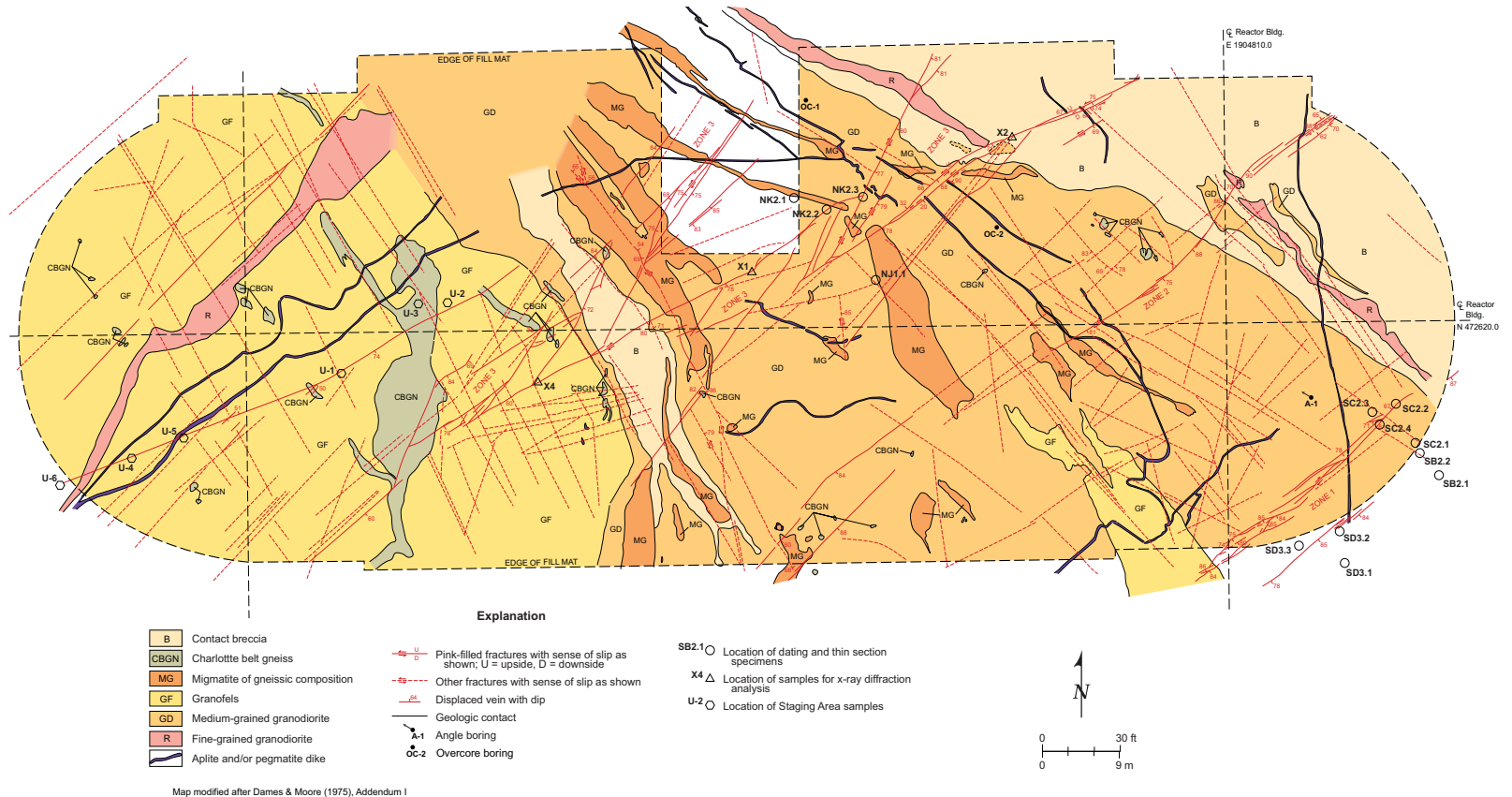


Figure 2.5.1-230. Structure Map of Unit 1 Excavation



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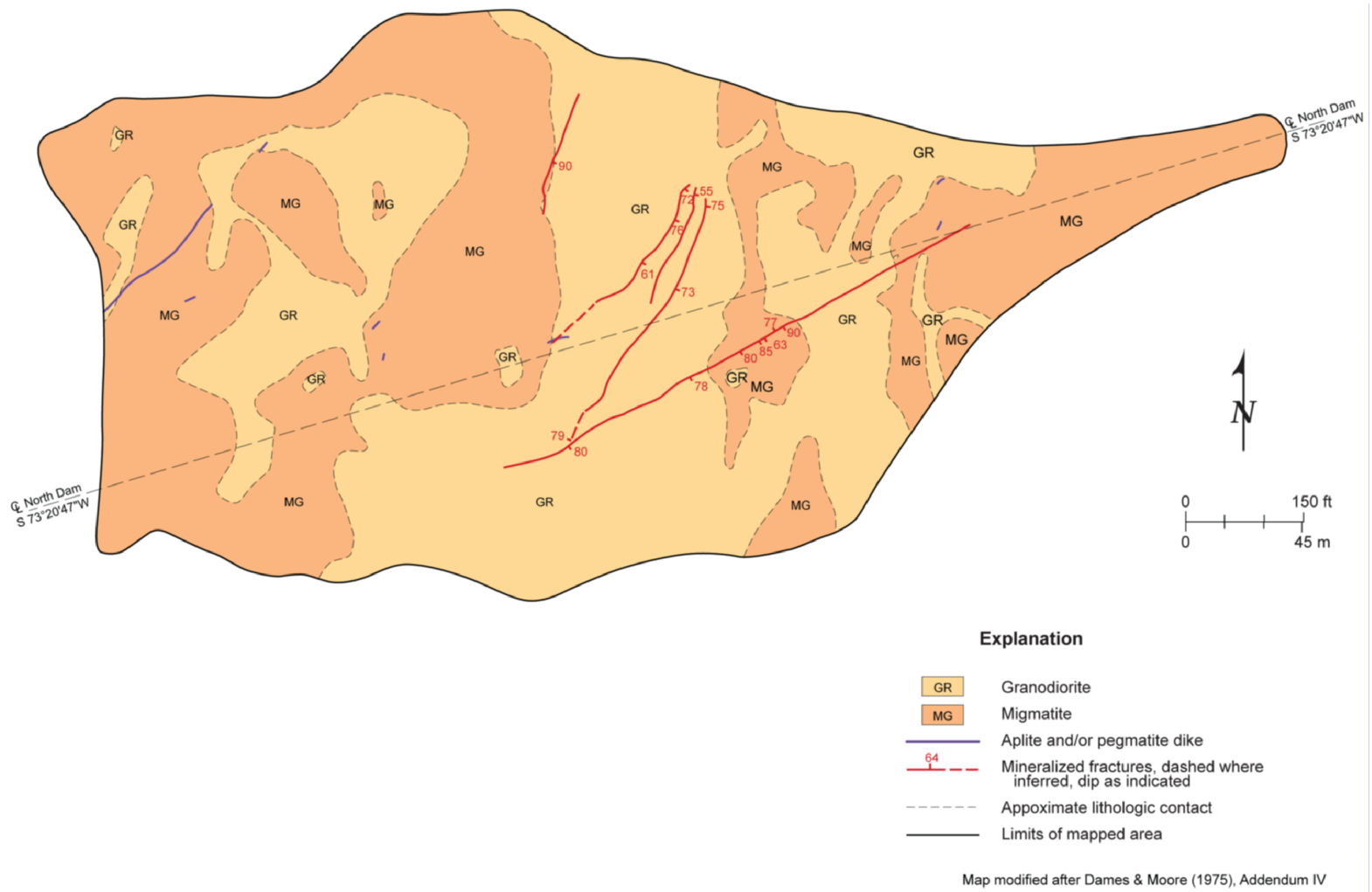


Figure 2.5.1-231. Structure Map of the Unit 1 Service Water Pond North Dam Site

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| Physiographic Province                                                                                                       | Lithotectonic Element<br><small>(Hibbard et al. 2006; 2007)</small>              |                                                                                   | Lithotectonic Element<br><small>(Hatcher et al. 2007)</small>      |                                           |  |
|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------|--|
| Appalachian Plateau and Valley and Ridge                                                                                     | <b>Laurentian Realm</b>                                                          | lapetus drift facies – passive margin sequence overlain by Taconic foreland basin | <b>Laurential Platform and Rifted Margin</b>                       | Platform rocks and clastic wedges         |  |
| <i>~~~~ Great Smoky and Associated faults ~~~~~</i>                                                                          |                                                                                  | <i>Great Smoky and associated faults</i>                                          |                                                                    | <i>Great Smoky and associated faults</i>  |  |
|                                                                                                                              |                                                                                  | lapetus Rift facies                                                               |                                                                    | Rifted Margin rocks                       |  |
| Blue Ridge                                                                                                                   | <i>~~~ Hollins Line – Pleasant Grove fault system ~~~</i>                        |                                                                                   | <i>~~~~~ Hayesville – Soque River fault ~~~~~</i>                  |                                           |  |
|                                                                                                                              | <b>Iapetan Realm</b>                                                             | Multiply tectonized accretionary complex                                          | Terranes accreted during Taconian Events                           |                                           |  |
|                                                                                                                              |                                                                                  | Brevard Zone                                                                      | <i>~~~ Chattahoochee - Holland Mountain - Burnsville fault ~~~</i> |                                           |  |
|                                                                                                                              |                                                                                  | Six Mile nappe                                                                    | <b>Alleghanian events</b>                                          | Tugalo terrane and Smith River allochthon |  |
|                                                                                                                              |                                                                                  | Brindle Creek Fault                                                               |                                                                    | <i>Brindle Creek fault</i>                |  |
|                                                                                                                              | <b>Peri-Gondwanan Realm</b>                                                      | Unnamed gneiss and schist                                                         | Cat Square terrane                                                 |                                           |  |
|                                                                                                                              |                                                                                  | <i>~~~~~ Central Piedmont Shear Zone ~~~~~</i>                                    |                                                                    | ~ Central Piedmont Shear Zone ~~~~~       |  |
| Piedmont                                                                                                                     |                                                                                  | Suprastructural magmatic-arc and associated rocks                                 | Kings Mountain terrane                                             |                                           |  |
|                                                                                                                              |                                                                                  | Infrastructural magmatic-arc oceanic rocks (includes Kings Mtn.)                  | Central Piedmont Suture                                            |                                           |  |
|                                                                                                                              |                                                                                  |                                                                                   | Carolina Superterrane                                              | Carolina terrane                          |  |
|                                                                                                                              |                                                                                  |                                                                                   | Charlotte terrane                                                  |                                           |  |
|                                                                                                                              | Continental rift basins and magmatism related to formation of the Atlantic Ocean |                                                                                   | Triassic - Jurassic basins                                         |                                           |  |
| <i>//////////////////////////////////// Pre - Cretaceous Unconformity - Fall Line //////////////////////////////////////</i> |                                                                                  |                                                                                   |                                                                    |                                           |  |
| Coastal Plain                                                                                                                | Coastal Plain                                                                    |                                                                                   | Coastal Plain and subsurface terranes                              |                                           |  |

**Figure 2.5.1-232. Correlations Between Physiographic Provinces and Recent Lithotectonic Classifications**