The Phosphoria Formation in southeast Idaho has defined a north-plunging, nearly isoclinal anticline with a strike distance of nearly 1.4 miles in the hanging wall of the Meade Thrust. This anticline involves three geologic formations, including the Pennsylvanian-Potomac Wells Formation, the upper Mississippian Dinwoody Formation, and the Triassic Phosphoria Formation. Structural analysis indicates the Phosphoria Formation has been dramatically thickened and buried by foreland thrusting during deformation.

**Stratigraphic Analysis**

**Devonian Sedimentary Undivided**
- Upper Member:
  - Muddy mudstone, light grey, thinly bedded, with some calcareous nodules. (t=200-500')
  - Thin and medium bedded calcareous siltstone and sandy siltstone, interbedded with thin to medium bedded, light brown weathering, very fine grained micritic sandstone. (t=40-140')
- Middle Member:
  - Light grey to light brown sandstone, siltstone, and shale. Recessive, characterized by thin bedded calcareous siltstone and sandstone. (t=80-140')
- Lower Member:
  - Thin bedded, light grey to light brown sandstone, siltstone, and shale. Recessive, characterized by thin bedded calcareous siltstone and sandstone. (t=80-140')

**Triassic Sedimentary Rocks**
- Upper member:
  - Medium to thick bedded, tabular, laterally continuous, forming, subrounded blocky ledges. (t=500-700')
- Lower member:
  - Thin to medium bedded ammonite- (brachiopod and ammonite-bearing) sandy rudstone form resistant ledges. (t=900-1200')

**Mesozoic**

**Tertiary Sedimentary Rocks**
- Boundstone wackestone, thin bedded, light grey, interbedded with thin to medium bedded, sandy micrite. (t=80-140')
- Medium to thick bedded, tabular, laterally continuous, forming, subrounded blocky ledges. (t=500-700')

**Structural Analysis**

**Regional Folding**
- The mapping area is located in the hanging wall of the Meade thrust in the Idaho-Wyoming thrust belt. The primary structure in the area is the Rex Chert member of the Phosphoria Formation, which is a tight and semi-tight, partly northwest-southeast trending anticline. The detailed mapping of the Phosphoria Formation in southeast Idaho has defined a north-plunging, nearly isoclinal anticline with a strike distance of nearly 1.4 miles in the hanging wall of the Meade Thrust. This anticline involves three geologic formations, including the Pennsylvanian-Potomac Wells Formation, the upper Mississippian Dinwoody Formation, and the Triassic Phosphoria Formation. Structural analysis indicates the Phosphoria Formation has been dramatically thickened and buried by foreland thrusting during deformation.

**Evidence of Flexural Slipping**
- The anticline is characterized by flexural slip folding, with building parallel slip scarps along the steep limbs of the fold. Flexural slip is suggested by structural discontinuities between the upper member of the Wells Formation and the overlying Rex Chert member of the Phosphoria, and between the Rex Chert and the overlying lower member of the Dinwoody Formation. Flexural slip is believed to have caused local structural thinning (and possibly thickening) of the Meade Peak member of the Phosphoria Formation.

**Map Symbols**
- Building
- Building (top known)
- Outcrop
- Contact
- Folded
- Syndeform
- Fault

**Features**
- Unfolds
- Inferred Thrust Fault
- Syncline
- Spring
- Pond
- Highway
- Exploration Trench
- Quarry
- Road Intersection
- Contour Interval: 20 feet
- Scale: 1:24,000
- Survey Site

**References**