

 $holimits_{jv}$  Johns Valley Shale (Pennsylvanian) – The Johns Valley Shale typically consists of alternating intervals of gravishblack shale and light gray micaceous, silty, fine-to-medium grained sandstone. The shale weathers to a buff gray color and the sandstone weathers to a light to dark brown color. Thin beds of black siliceous shale and chart with siderite concretions are present in some shale. Chaotic intervals occur near the base of the formation and may contain exotic, calcareous fossiliferous siltstones. Carbonized plan remains occur in some of the silty sandstones. The formation has a thickness of about 2,500 feet, but structural deformation prevents an accurate estimate for this area. Deep marine turbidite deposition is indicated by the abundant sedimentary features and trace fossils. The formation is conformable with both the underlying Jackfork Sandstone and the overlying Atoka Formation (Pennsylvanian).

Pi Jackfork Sandstone (Pennsylvanian) – The Jackfork Sandstone contains alternating layers of grayish black shale, fine-to-medium-grained light gray, quartzose sandstone. Shales weather reddish- to tannish- gray in color. The sandstone weathers white to reddish-brown in color. Some granule-conglomerate intervals occur in massive quartzose sands in both the upper and lower portions of the formation. Thin intervals of black siliceous shale with some pinkish sidente laminae are sometimes present. Debris flows containing clasts of shale, sandstone, and sidente are locally present sedimentary features and trace fossils. In the Athens Plateau, the Jackfork Sandstone has a total thickness of about 7,000 to 7,500 feet in the quadrangle, about 800 feet of the uppermost Jackfork Sandstone and thick conformable sequences of younger Pennsylvanian strata are absent due to overlap by Lower Cretaceous strata.

## Symbols

Formation Contact

Trust Fault

Strike and Dip

Tear Fault

X Gravel Pit

## References

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