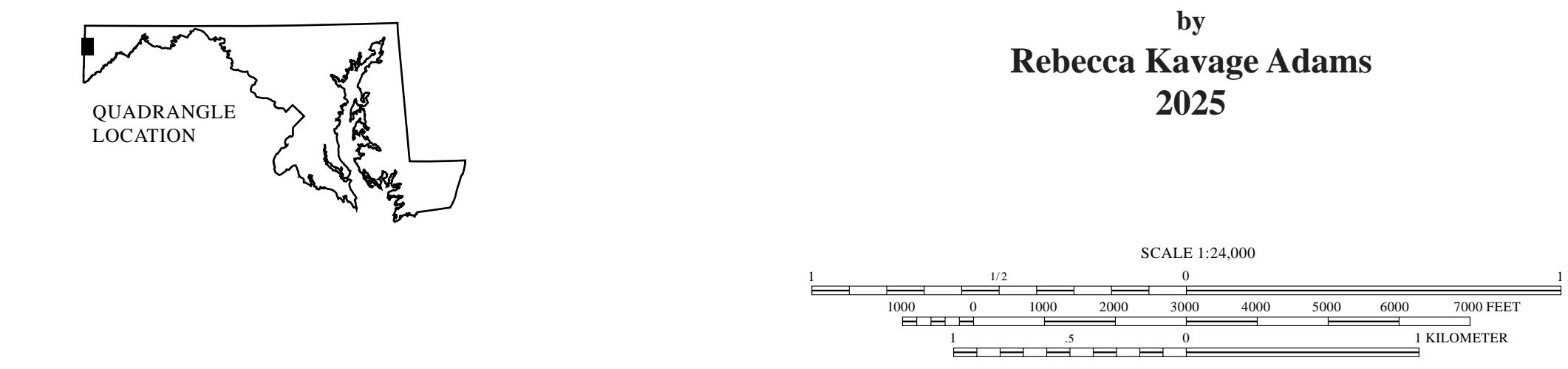


Geologic Map of the Maryland Portion of the Sang Run Quadrangle, Garrett County, Maryland

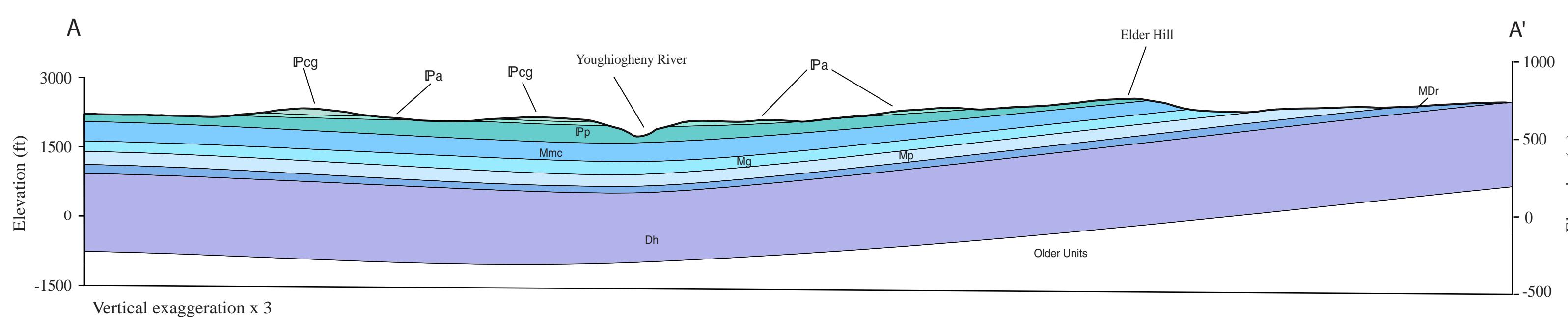
by
Rebecca Kavage Adams
2025



1	2	3
4	5	6
6	7	8

1. Brandonville
2. Friendsville
3. Accident
4. Catoctin
5. McHenry
6. Terra Alta
7. Oakland
8. Deer Park

Adjoining 7.5' quadrangle names
(Sang Run quadrangle shaded)



Description of Map Units

Alluvium

Unconsolidated clay, sand, silt, pebbles, cobbles and boulders. Olive gray to medium dark gray, weathering moderate brown. Finer alluvium such as sand, silt and gravel underlies many of the lower gradient streams, while steeper streams are frequently flooded by bedrock or locally derived cobbles and boulders. Valley floors are narrow in the steep terrain of resistant sandstones (Pottsville Formation) and coarse conglomerate is transitional with alluvium. Floodplains develop sinuosity on the soluble limestones of the Greenbrier Formation. Total thickness ranges from a thin veneer to 15 feet (5 m).

Colluvium

Unconsolidated coarse cobbles, boulders and large blocks of sandstone and conglomerate. Light olive gray to yellowish gray. Typically derived from massive Pottsville Formation sandstones that were transported by gravity, debris flow, and freeze-thaw processes. Abundant on steeper slopes adjacent to the Youghiogheny River. Includes boulder streams and boulder fields. Thickness estimated at 3 to 50 feet (1-15 m).

Peatland and swamp deposits

Peat, clay and sandy clay. Peat is grayish brown with thickness of 3 feet (1 m). Beneath peat is clay and sandy clay ranging from light brown to brown with plant debris and wood fragments. Deposits are located near the southwest corner of the quadrangle where solution of the Greenbrier Limestone forms a broad, poorly drained valley above the resistant Pottsville Formation sandstones at Muddy Falls. Total thickness is greater than 11 feet (3.5 m) (Cox, 1968).

Terrace deposits

Very poorly sorted clay, sand, pebbles, gravel and boulders from 55 to 80 feet (17-25 m) above the Youghiogheny River. Clasts are moderately well rounded to well rounded. Thickness is estimated at 10 feet (3 m).

Conemaugh Group

Glenshaw Formation

Shale, sandstone, siltstone, limestone, coal and underlay. Shale medium gray to black, thinly bedded, fissile, typically found in association with coal and clay layers. Coarse olive gray sandstone weathers yellowish brown with black and orange stained pitted surfaces. Some tabular cross bedding present. Only lower portion of Conemaugh Group corresponding to Glenshaw Formation is present including Lower Bakerstown (lb) and Brush Creek (bc) coals. The Mahoning Sandstone above the Upper Freeport Coal is also present. Base is mapped at the top of the Upper Freeport Coal. Total thickness is 800-900 feet (245-275 m), thickness present on Sang Run quadrangle is 200-250 feet (60-75 m).

Allegheny Formation

Sandstone, conglomerate, shale, coal and underlay. Interbedded sandstone and conglomerate, very light to medium light gray, thick-bedded to massive with white quartz pebbles. Tabular cross bedding and iron staining, common and occasional iron banding. Erosional channel bases are covered with plant fossils, black and moderate brown iron staining and stylolites. Shale, medium gray to black, thinly bedded, fissile, typically found in contact with coal and clay layers and capped by resistant sandstone layers. Three mineable coals are mapped (from top): Upper Freeport (uf), Upper and Lower Kittanning (uk, lk). Upper Freeport marks the top of the Allegheny Formation. Base is mapped on occurrence of Clarion (cl), Mt. Savage of Swartz, 1922 coal and clay zone and/or the top of the Homewood Sandstone. Commercial coal mining in the Upper Youghiogheny basin was largely confined to the northwest and southeast quadrants of the Sang Run quadrangle. 200-250 feet (60-75 m) thick.

Pottsville Formation

Sandstone, conglomerate, shale, coal and underlay. Four sandstone members are recognized but not mapped (top to bottom): the Homewood Sandstone, Lower and Upper Conquerington Sandstone, and Sharon Sandstone (Swartz, 1922). The Homewood Sandstone is massive, white-gray, conglomeratic sandstone with tabular cross bedding, erosional channel bases with fossil plant fragments. The Lower and Upper Conquerington Sandstones are olive green to yellowish brown, thin-bedded to massive coarse-grained sandstone, parting on layers, cross bedded with channel fill bases underlain by plant fossils up to 6 feet. The Sharon Sandstone is pale yellowish brown, massive, conglomeratic sandstone with pebbles up to 0.5 inches. Occasional shale, thin coal, and underlay of thin shale and sandstone. The Homewood Sandstone is mapped at the base of the Sang Run quadrangle. The Pottsville Formation is mapped based on the location of abandoned mine adits. The Pottsville Formation rests unconformably on the March Chunk Formation. Base is beneath the Sharon Sandstone where present, but frequently covered so it is mapped on disappearance of olive green sandstone and appearance of red and green argillaceous lithology or red soil. The Homewood and Conquerington Sandstones form ledges and cliffs in the Upper Youghiogheny at near Swallow Falls and River Hill. Quarried historically and presently for sand. Total thickness is 150-200 feet (45-60 m).

March Chunk Formation

Shale, siltstone, sandstone and limestone. Shale reddish gray, olive green, thin-bedded, fissile with root casts. Easily weathered and typically covered. Forms reddish gray soil. Siltstone and sandstone, thin- to medium-bedded, light olive gray, argillaceous, micaceous, frequently cross bedded in multi-layered fluvial layers that outcrop as small ridges on hillsides and bedrock steps in streams. Base is mapped in red and green shale below 15-foot (5 m) thick Reynolds Member, that is gray fossiliferous sandy limestone. Best exposure is in the Youghiogheny River upstream of the mouth of Hoyes Run and in Hoyes Run. Total thickness is 450 feet (150 m).

Greenbrier Formation

Limestone, shale, siltstone and sandstone. Four members are recognized but not mapped (Brezinski, 1989). The basal Loyallanna Member is reddish gray to light gray, arenaceous limestone with strong cross bedding accentuated by weathering, approximately 50 feet (15 m) thick. The overlying Deer Valley Member is light olive gray, massive, crystalline limestone with white to pink calcite veins and siltstones with thin silt beds that occur every 4-6 inches. It weathers to moderate yellowish brown and is approximately 15 feet (5 m) thick. The Savage Dam Member overlies the Deer Valley Member, and is comprised of mostly clastic reddish gray, grayish green, thin-bedded siltstone and shale with variegated mudcracks. The sandstone layers are pale, yellowish brown to yellowish gray, thick to massive, cross bedded with calcareous. Approximate thickness of the Savage Dam Member is 75 feet (25 m). The upper Wymples Gap Member is light olive gray to dark gray, shale with thin siltstones and arenaceous limestone with abundant brachiopods and crinoid fossils. Bedding is thin to massive and bedrock is horizontal and massive. A distinct reddish orange emerges upon breakage of shale. White calcite slickensides are present on fracture planes. Thickness is approximately 45 feet (14 m). The base of the Greenbrier Formation is mapped at base of Loyallanna Member, frequently expressed as a topographic break above the Purslane Formation. The Greenbrier Formation appears along the southeastern end of the Accidental Anticline in the upper Hoyes Run valley, lower Sang Run valley, and along the Youghiogheny River from upstream of Steep Run to below Sang Run. It is also exposed in the northwest end of the Brier Mountain Anticline at quarries near Cranesville Swamp. Shale caves form along the Youghiogheny corridor upstream of Sang Run where white calcareous sandstones weather away under clastic layers in the Savage Dam Member. Total thickness is 185 feet (56 m).

Purslane Formation

Sandstone and conglomerate. Sandstone is predominant in the upper portion of the formation and is light olive gray, thin- to medium-bedded, flaggy, cross bedded, and contains erosional bases with shale rip up clasts. Weathers moderate gray. The base of the formation is a massive yellowish gray to very pale orange conglomerate with rounded, clear to white quartz pebbles ranging from 0.3-2 inches (1.5 cm). Some layers within this basal conglomerate are friable, white, and have erosional channel bases. The base of the Purslane Formation is mapped below the massive conglomerate, which forms ledges and block fields subordinate to those of the Greenbrier Formation. The Purslane Formation appears in the northeast section of the quadrangle in the headwaters of Piney Run on the southern nose of the Accidental Anticline. A small, previously unmapped section of the upper Purslane is also exposed in the mouth of Steep Run at the Youghiogheny River. Equivalent to upper portion of the Price Formation in West Virginia. Total thickness is 250-300 feet (75-90 m).

Rockwell Formation

Shale, siltstone and sandstone. Shale is grayish red, greenish gray, thin-bedded, hocky with root-casts. Siltstone and sandstone are olive green and grayish red, cross bedded, blocky. Calcareous channel lag conglomerate is present near confluence of Stony Creek and South Bear Branch. Mostly covered and mapped on presence of grayish red soil. Base not present on quadrangle. Equivalent to the Hampshire Group in West Virginia. Thickness exposed in the Sang Run Quadrangle is 50-100 feet (15-30 m).

Hampshire Formation

Shale, siltstone and sandstone. Shale is grayish red, greenish gray, thin-bedded, hocky with root-casts. Siltstone and sandstone are olive green and grayish red, cross bedded, blocky. Calcareous channel lag conglomerate is present near confluence of Stony Creek and South Bear Branch. Mostly covered and mapped on presence of grayish red soil. Base not present on quadrangle. Equivalent to the Hampshire Group in West Virginia. Thickness exposed in the Sang Run Quadrangle is 50-100 feet (15-30 m).

References

Baker-Wibberly and Associates, Inc., 1973, Mine abutment measures for the Northern Youghiogheny River Complex, unpublished report to the Maryland Geological Survey, 103 p.
Brezinski, D.K., 1989, The Mississippian System in Maryland: Maryland Geological Survey Report of Investigations No. 52, 75 p.
Cox, D.D., 1968, A late-glacial pollen record from the West Virginia-Maryland border: Castanea, v. 33, p. 137-149.
Jacobsen, E.F., and Lyons, P.C., 1985, Coal geology of the lower Youghiogheny coal field, Garrett County, Maryland: U.S. Geological Survey Coal Map 101, scale 1:24,000.
Swartz, C.K., and Baker, W.A., 1922, The coal formations and mines of Maryland, in Second Report on the coals of Maryland: Maryland Geological Survey, v. 11, pt. 1, 296 p.

Explanation of Map Symbols

Explanation of Map Symbols	
Planar Features	
Contacts	Multiple measurements at a single locality
Geologic contacts; approximately located, dotted where concealed	30° Inclined bedding; showing strike and dip
	20° Inclined bedding
Faults	
U D Fault; approximately located. U refers to up thrown side, D to down thrown side	Horizontal bedding
	Inclined joint
	Inclined joint
	Vertical joint
	Vertical joint
Other Features	
Projected outcrop trace of coal bed, dotted where concealed, question mark where identity questionable	Quarry, active
	Quarry, inactive
	Mine prospect or adit, inactive
Coal Beds	
uk	
	Stream
	Topographic index contour (100-ft interval)
	Topographic intermediate contour (20-ft interval)
Hydrography	
	Water body (e.g. lakes, ponds, rivers)

U.S. Geological Survey (USGS) US Topo 7.5 minute series
Coordinate System: NAD 1983 (2011) StatePlane Maryland FIPS 1900 (US Feet)
Projection: Lambert Conformal Conic
Horizontal Datum: North American Datum 1983 (2011) (NAD 1983 (2011))
Vertical Datum: North American Vertical Datum 1988 (NAVD88)
Geographic coordinates (latitude-longitude) shown at near corners



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