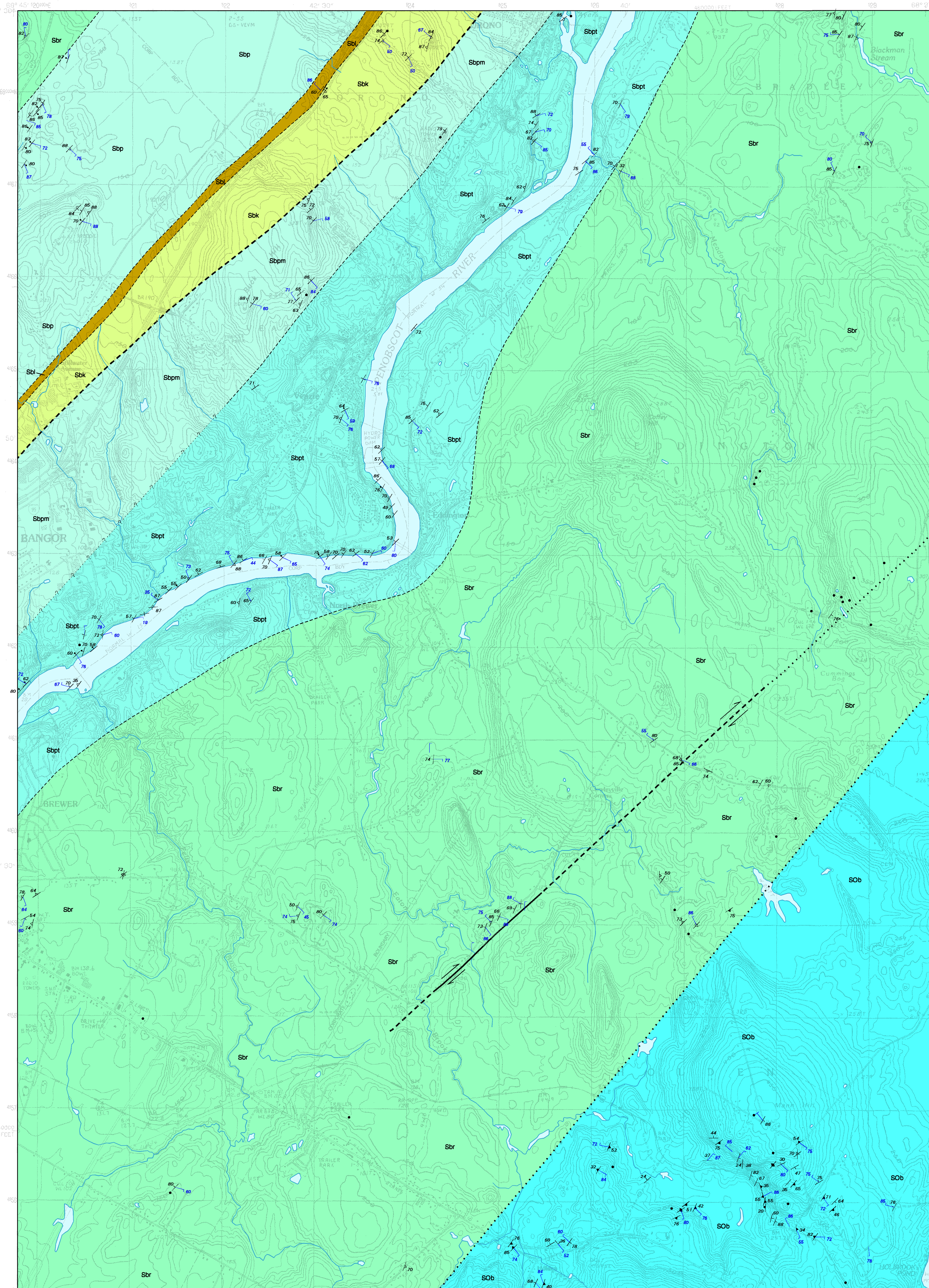

EXPLANATION OF UNITS

Stratified Rocks

Silurian (?)

VASSALBORO GROUP

Bangor Formation (new name). Dominated by thick-bedded feldspathic metawacke. Divided into three members.

Sbk — **Kenduskeag Stream Member** (new name). Medium to dark greenish gray, very fine-grained to fine-grained feldspathic metawacke and greenish gray slate. The metawackes are also micaceous. Beds of metawacke are of variable thickness, generally between 15 cm and 45 cm. Beds greater than 1 meter in thickness are uncommon. Metawacke beds are generally poorly graded to ungraded, and lack parallel and ripple lamination, rip-up clasts, and sole markings. Dark greenish gray slate and phyllite is interbedded with the metawackes. These finer grained beds typically range in thickness between 3 and 40 cm. Sedimentary structures are uncommon, but include graded beds, ripple cross-lamination and rare flute and groove casts.

Sbl — **Lover's Leap Member** (new name). Grayish black to black siltstone and claystone slate with interbeds of medium dark gray to dark gray, well-sorted, very fine-grained calcareous quartz-rich meta-arenite identical to that in the Brewer Formation. Overall this unit is similar to the Brewer Formation. Exposed mainly in the Bangor quadrangle to the west.

Sbp — **Penobscot River Member, unifferentiated** (new name). Medium gray to dark gray, medium-grained to very fine-grained feldspathic metawacke. Muscovite is locally a common accessory mineral. Siltstone and claystone slate is a minor lithology. Beds of metawacke are of variable thickness ranging from 15 cm to in excess of 2 meters. Thinner metawacke beds may exhibit singly, or in combination, parallel lamination, ripple cross-lamination, or convolute lamination. Thicker metawacke beds are commonly texturally graded. Thicker metawacke beds may exhibit load structures or parallel lamination, and may contain slate rip-up clasts. Flute and/or groove casts on the soles of metawacke beds are rare.

Sbpm — *Medium bedded facies* - Medium to dark gray, fine-grained to very fine-grained metawacke in beds ranging from 20 to 30 cm in thickness. Sequences of thinly bedded metawacke and slate are interbedded with sequences of thickly bedded, graded, structureless or parallel-laminated metawacke. The thinly bedded metawackes commonly exhibit parallel laminations and/or ripple cross-laminations. Convolute laminations are locally present. These structures may comprise the entirety of a bed, or they may be stacked, with ripple cross-laminations overlying a parallel-laminated interval. Thick metawacke beds commonly exhibit textural grading from fine-grained to very fine-grained sand. Additionally, some beds are structureless, or have a graded or structureless interval underlying a parallel-laminated interval. Clasts of slate up to a few centimeters across, interpreted as rip-up clasts, are common near the bases, or occur as isolated clasts within metawacke beds, but may also be present at different levels in the bed. Rarely, the soles of thicker beds exhibit flute or groove casts.

Sbpt — *Thick bedded facies* - Medium dark gray to dark gray, very fine-grained to medium-grained feldspathic metawacke. Detrital muscovite is locally present. Thin beds of metasiltstone, and less commonly, claystone slate are interbedded with the metawackes. Beds range in thickness from approximately 0.5 m to 2+ m. Beds are typically devoid of sedimentary structures; parallel lamination and elongated pipe-like structures similar to well documented dewatering features, however, are locally common. Ripple cross-lamination is rare. Graded bedding is present, and grading commonly ranges from fine-grained sand at the base of a bed to very fine-grained sand at the top. Shale or slate rip-up clasts are present locally and may be present at any position in the bed. Flame structures associated with load or flute casts are uncommon to rare.

Sbr — **Brewer Formation** (new name). Dark gray, grayish black or black, fine-grained to very fine-grained siltstone and claystone slate. Locally the cleavage surfaces exhibit a rusty stain. Rusty-weathering, medium dark gray to dark gray, well sorted, very fine-grained calcareous quartz-rich meta-arenite and noncalcareous feldspathic metawacke are subordinate rock types. Beds commonly range in thickness from 3 to 15 cm, but beds exceeding 1 m are locally present. Sedimentary structures are common, including the parallel-laminated (T_b) and ripple-laminated (T_c) turbidite intervals. Single turbidite intervals may characterize the entire bed or the intervals may be sequentially arranged. Locally, sole markings, primarily groove casts are present on the bases of thicker sand beds. Dark gray to grayish black micritic metalimestone is locally present in beds less than 4 cm thick. Beds weather to various shades of dark brown and brownish black. No sedimentary structures have been observed in the metalimestone.

Silurian - Ordovician (?)

FREDERICTON BELT

SOb — **Bucksport Formation.** Dark grayish granoblastic metasandstone, in two varieties. One exhibits definitive laminations which consist of alternation of dark gray non-calcareous quartz - rich laminae and tan-weathering, medium to medium dark gray calcareous quartz-rich laminae. Differential weathering produces a striped appearance of alternating dark gray and tan laminae. The second variety is texturally similar, but the alternating calcareous and non-calcareous bands are not present. This variety is slightly to moderately calcareous. Locally, very fine grains of biotite are present in both varieties. Bedding, where unequivocally identified, ranges from medium (30± cm) to moderately thick (~75 cm). Laminations within beds are commonly folded. Also in this unit is rusty weathering, dark gray to black phyllite locally with well developed sufidic stains. Textural variations in the phyllite suggest the protolith ranged from a silty claystone to a fine-grained siltstone. Also, several outcrops appear to be transitional from phyllite to very fine-grained biotite-quartz schist. Cleavages are moderately irregular, suggesting a phacoidal cleavage. Slate is a minor lithology and is found as thin to medium interbeds in the metasandstone. Commonly the slate exhibits thin laminae of tan weathering, non-calcareous metasiltstone. These laminae are typically parallel, ranging in thickness from less than a millimeter to approximately 10 millimeters. Ripple forms in the siltstone are rare. Because of the alternation of tan-weathering siltstone and grayish black slate, the beds have a "pinstripe" appearance.

GEOLOGIC TIME SCALE

Geologic Age		Absolute Age*
Cenozoic Era		0-65
Mesozoic Era	Cretaceous Period	65-142
	Jurassic Period	142-200
	Triassic Period	200-253
Paleozoic Era	Permian Period	253-300
	Carboniferous Period	300-360
	Devonian Period	360-418
	Silurian Period	418-443
	Ordovician Period	443-489
	Cambrian Period	489-542
Precambrian time		Older than 542

* In millions of years before present. (Okulitch, A. V., 2004, Geological time chart, 2004: Geological Survey of Canada, Open File 3040 (National Earth Science Series, Geological Atlas) - REVISION.)

Bedrock Geology of the Veazie Quadrangle, Maine

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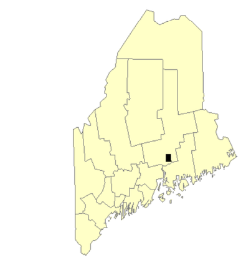
Open-File No. 11-58
2011

For additional information, see Open-File Report 11-147. This map supersedes a portion of Open-File Map 76-21.



Quadrangle Location

TRUE NORTH

SCALE 1 : 24,000

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 0 1 KILOMETER

CONTOUR INTERVAL 10 FEET

SOURCES OF INFORMATION

Bedrock geologic mapping by Stephen G. Pollock during the 2005 field season.

Topographic base from U.S. Geological Survey Veazie quadrangle, scale 1:24,000 using standard U.S. Geological Survey topographic map symbols.

The use of industry, firm, or local government names on this map is for location purposes only and does not impute responsibility for any present or potential effects on the natural resources.

EXPLANATION OF SYMBOLS

- Outcrop with no structural information shown.
- Strike and dip of bedding (inclined, vertical, overturned, upright)
- Strike and dip of slaty cleavage (inclined, vertical)
- Strike and dip of cleavage or very fine-grained schistosity (inclined, vertical)
- Strike and dip of joint or joint set (inclined, vertical)

EXPLANATION OF MAP LINES

Contact between mapped units (well located, approximately located, poorly located)

Fault. Arrows indicate interpreted sense of motion, if known. (well located, approximately located, inferred).

ADDITIONAL SOURCES OF INFORMATION

Griffin, John R., 1976, Reconnaissance bedrock geology of the Orono [15-minute] quadrangle, Maine: Maine Geological Survey, Open-File Map 76-21 (scale 1:62,500).

Pollock, Stephen G., 2011, Stratigraphy and structural geology of the Bangor and Veazie 7.5' quadrangles, Maine: Maine Geological Survey, Open-File Report 11-147, 8 p.