DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE MAINE GEOLOGICAL SURVEY

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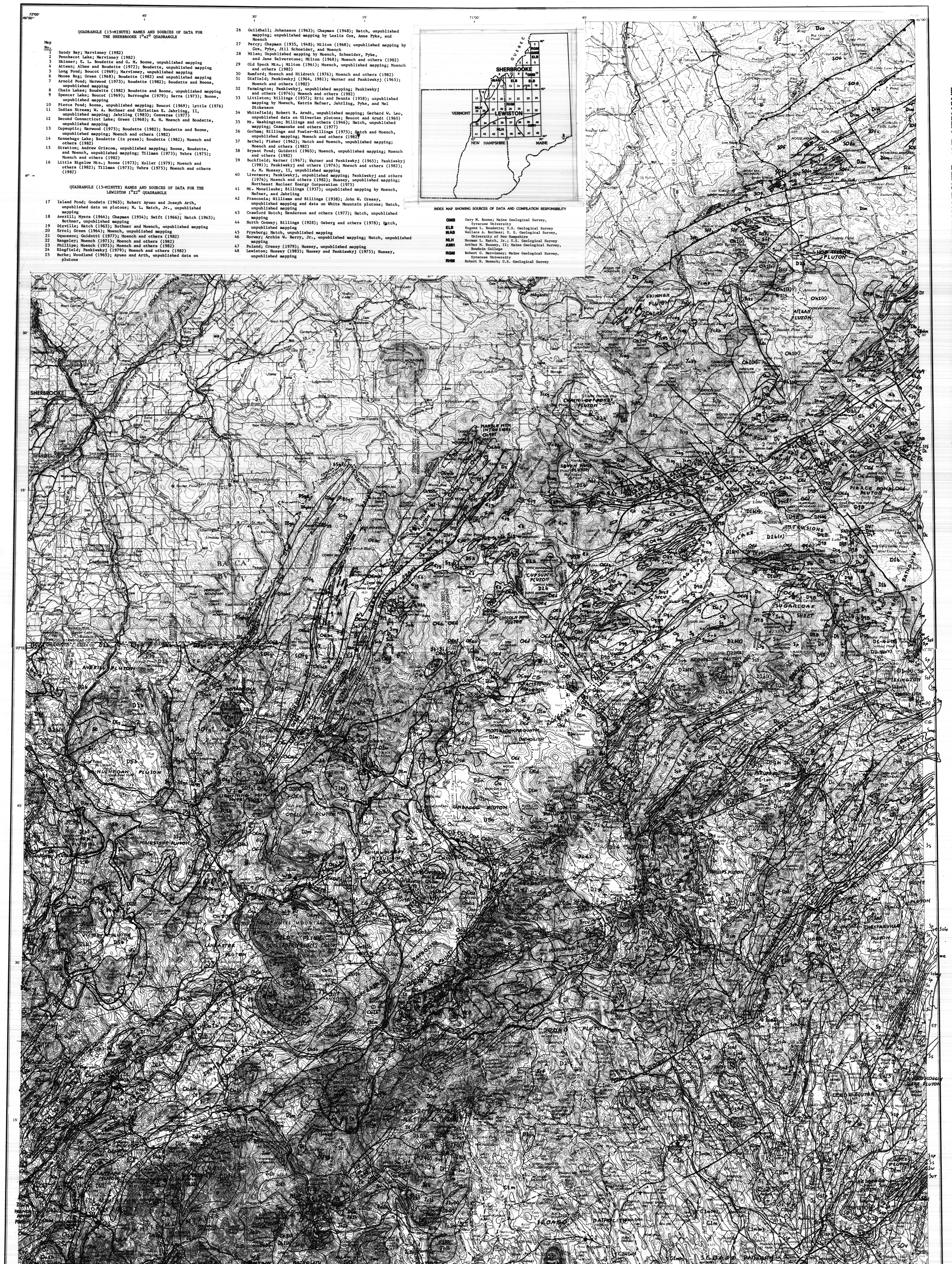
OPEN-FILE REPORT 84-0650
SHEET 1 OF 1



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Prepared by the U.S. Army Topographic Command (RMSX), Washington, D.C. Compiled in 1956 from United States quadrangles, 1:50,000 and 1:62,500, 1912-51. Planimetry revised in part from aerial photographs taken 1951. Map field checked 1956. Revised in 1972 by the U.S. Geological Survey from aerial photographs taken 1972.
100,000-foot grids based on Maine coordinate system, west zone, New Hampshire and Vermont coordinate systems.
Location of geodetic control established by government agencies is shown on corresponding 1:250,000-scale Geodetic Control Diagram

SCALE 1:250 000
5 0 5 10 MILES
5 0 5 10 KILOMETRES

GEOLOGIC MAP OF THE SHERBROOKE – LEWISTON AREA, MAINE, NEW HAMPSHIRE, AND VERMONT

Edited by
Robert H. Moench
1984

GEOLOGIC MAP OF THE SHERBROOKE 1°X2° QUADRANGLE, MAINE, NEW HAMPSHIRE, AND VERMONT,

BY
E. L. BOUDETTE, G. M. BOONE, W. A. BOTHNER, R. G. MARVINNEY, R. H. MOENCH AND J. N. ALEINIKOFF

GEOLOGIC MAP OF THE LEWISTON 1°X2° QUADRANGLE, MAINE, NEW HAMPSHIRE, AND VERMONT,

BY
R. H. MOENCH, N. L HATCH, JR., A. M. HUSSEY II, AND J. N. ALEINIKOFF

DESCRIPTION OF MAP UNITS

Units queried where lithic or stratigraphic identification is conjectural. Location of small units is given by 15-minute quadrangle (quad)

MESOZOIC ROCKS OF WHITE-MOUNTAIN PLUTONIC-VOLCANIC SUITE--Mainly Jurassic in map area, but with sparse Cretaceous intrusions and innumerable undated hypabyssal dikes. Anorogenic epizonal plutons, ring dike-cauldron complexes, and volcanic rocks. [See explanation of symbols in section on PLUTONIC ROCK COMPOSITIONS below]

CRETACEOUS AND CRETACEOUS(?) ROCKS
Kb Alkali-olivine basalt plug and volcanic breccia at Red Ridge, west edge of Old Speck Mountain quad
K10 Porphyritic foid-bearing syenite with minor intrusive breccia at Pleasant Mountain, Fryeburg quad
K1Ar Riebeckite granite at Hart Ledge; similar rock exposed also in dike 5 mi northeast of North Conway
K4 Ferrohastingsite quartz syenite at Hart Ledge
K7 Ferrohastingsite and/or hedenbergite syenite at Hart Ledge

JURASSIC ROCKS
J1(a) Aphanitic intrusive rhyolite porphyry at Gay Brook, Guildhall quad
Jc1b Conway Granite--Typically coarse-grained biotite granite; locally fine-grained or porphyritic. Includes Black Cap Granite, fine-grained biotite granite
Jc1(z) Contact breccia in Franconia quad--Conway Granite containing abundant angular fragments of Kinsman Quartz Monzonite and metamorphic rocks
J1Ab Alkali-feldspar biotite granite at Mount Monadnock, Averill quad
J1A1 Leucocratic, locally porphyritic alkali-feldspar granite with conspicuous grains of smoky quartz, Dixville quad
J1b(z) Intrusion breccia at Pliny Range, Mt. Washington quad--Biotite granite containing abundant fragments of Ordovician syenite and hornblende gneiss
J1(x) Feldspar-porphyritic biotite-hornblende granite of Pliny Range
Jo1h Mount Osceola Granite--Granite containing biotite, hornblende, fayalite, and ferrohedenbergite; locally includes rocks mapped as hastingsite granite
J1r Riebeckite granite--Alkali-feldspar granite with a few percent riebeckite, locally accompanied by hastingsite
J1r(x) Porphyritic riebeckite granite at Robbins Ridge, North Conway quad--Granite with phenocrysts of microperthite in fine-grained matrix of quartz, feldspar, biotite, and riebeckite
J11(x) Mount Lafayette Granite Porphyry--Granite with phenocrysts of smoky quartz, microperthite, and minor oligoclase, hastingsite, hedenbergite, and fayalite in a fine-grained matrix of same minerals
J4 Quartz syenite--Hastingsite or hastingsite-biotite quartz syenite
J4(x) Porphyritic quartz syenite with phenocrysts of microperthite and quartz in a fine-grained matrix of feldspar, quartz, and minor ferrohastingsite, hedenbergite, or fayalite. Includes Albany and Mount Garfield Quartz Syenites and other bodies
J4C9A Quartz monzonite to diorite of Pliny Range--Variable hornblende-biotite quartz monzonite, quartz monzodiorite, and pyroxene-biotite-hornblende diorite
J5 Hornblende-biotite quartz monzodiorite of Pliny Range--locally containing minor pyroxene
J6 Hornblende-quartz diorite at Coppermine Brook, Franconia quad
J7 Syenite--Hedenbergite-soda hornblende syenite; locally grades to quartz syenite
J7(x) Porphyritic syenite and alkali-feldspar syenite--At Mt. Carrigan, Crawford Notch quad, rock is gray porphyry with phenocrysts of microperthite in a matrix of feldspar, quartz, and ferrohastingsite. At Cape Horn, Averill quad, rock is syenite with resorbed phenocrysts of alkali feldspar in matrix of alkali feldspar, hornblende, hedenbergite, and magnetite
J9A Diorite--In Dixville quad, rock is hornblende-biotite diorite, brecciated and intruded by Conway Granite. At Mt. Monadnock, Averill quad, rock is hornblende-biotite-hedenbergite diorite
J9B Olivine-augite gabbro at Dry River, Crawford Notch quad
Jmv Moat volcanics--Tuffs, flows, and breccias of alkali rhyolite, basalt, andesite, and sparse trachyte

MESOZOIC OR CARBONIFEROUS ROCKS--Dark-green, medium-grained gabbro or diorite of pluton at Choate Hill, Norway quad; age and structure of body is uncertain

CARBONIFEROUS INTRUSIVE ROCKS
ROCKS OF SEBAGO BATHOLITH AND RELATED BODIES--Subhorizontal sheets in regional sillimanite zone, emplaced near upper boundary of middle crust
C1m Two-mica granite
C1m(m) Mixed two-mica granite and metamorphic rocks of Sebago batholith
ANDROSCOGGIN LAKE PLUTON--Upper crustal(?) steep-walled mafic-ultramafic-alkalic pluton in Livermore Falls quad
C7 Syenite
C4 Quartz syenite
C9,13 Alkali gabbro and ultramafic rocks

CARBONIFEROUS OR DEVONIAN ROCKS
CD1m Two-mica granite--Small bodies of uncertain age east of Sebago batholith
DEVONIAN ROCKS OF NEW HAMPSHIRE PLUTONIC SUITE
TWO-MICA GRANITE AND RELATED ROCKS--Mainly subhorizontal sheets in regional sillimanite zone, emplaced near upper boundary of middle crust
D1(p) Pegmatite and pegmatitic granite
D1m Two-mica granite
D1m(x) Variably porphyritic two-mica granite of French Pond pluton, Moosilauke quad
D1m(s) Seriate-porphyritic two-mica granite
Dt1 Spherulitic felsite at Thrasher Peaks, Cupsuptic quad--Small bodies intrusive into Seboomook Formation of Tumble Dick belt
D1g Intrusive garnet rhyolite, Pierce Pond quad--Small bodies intrusive into Tarratine Formation
FELSIC TO INTERMEDIATE CALC-ALKALINE ROCKS--Mainly irregular subhorizontal sheets in regional sillimanite zone, emplaced in middle crust; and steep-walled plutons in and outside sillimanite zone, emplaced across the middle- to upper-crustal boundary. Generally peraluminous; the listed varieties of biotite granite, granodiorite, tonalite, and quartz monzodiorite lack hornblende and typically have minor primary or secondary muscovite
D1-4b(x) Porphyritic biotite granite and quartz syenite of Lexington batholith
D1bt Magnetite-bearing biotite granite of Newark pluton, Burke quad
D1b Biotite granite
D1b(x) Feldspar-porphyritic biotite granite
D1-2m Two-mica granodiorite and granite of Phillips pluton, Phillips quad
Dk1(x) Kinsman Quartz Monzonite--Mainly weakly foliated feldspar-porphyritic biotite granite
Db2 Bethlehem Gneiss--Mainly strongly foliated biotite granodiorite
D2b Biotite granodiorite
D2b(x) Feldspar-porphyritic biotite granodiorite
D2h Hornblende-biotite granodiorite of Hog Island and Chain-of-Ponds plutons, Attean and Chain Lakes quads
D5b Biotite quartz monzodiorite of Nulhegan pluton, Island Pond quad
D5a Augite-bearing biotite-hornblende quartz monzodiorite of Umbagog pluton, Oquossoc quad
D5h Biotite-hornblende quartz monzodiorite of Parmachenee pluton, Cupsuptic quad
D2-6 Biotite granodiorite and hornblende-biotite tonalite and quartz diorite of Songo pluton, Bethel quad, and Mooselookmeguntic batholith
D2-6,1 Subequal amounts of two-mica granite intrusive into unit D2-6 in Mooselookmeguntic batholith
D3-6 Hornblende-biotite tonalite to diorite at border of Lexington batholith
D6 Quartz diorite--Undivided; typically contains biotite and hornblende
D6c Cummingtonite-bearing quartz diorite of Flagstaff Lake Intrusions
D4C-5 Biotite quartz monzonite and quartz monzodiorite of Phillips pluton, Dixfield quad
D3gp Pentlandite-bearing garnetiferous tonalite, northeastern Rumford quad--Pentlandite is intergrown with pyrrhotite in widely scattered nodules 1-2 cm across; rock contains almandine and Mg-rich biotite. Interpreted as hybrid tonalite contaminated by ultramafic rock
D31 Trondhjemite of Howard Pond pluton, southwestern Rumford quad--Probably related to mafic-ultramafic rocks of Plumbago pluton, both emplaced along Plumbago Mountain premetamorphic slide
D7C-9 Monzonite to gabbro of Echo Lake pluton, Island Pond quad--Grades northward to feldspar-porphyritic granodiorite of pluton
MAINLY THOLEIITIC MAFIC ROCKS--Emplaced largely in upper crust prior to emplacement of most calc-alkaline felsic and intermediate rocks and two-mica granite; wide variety of shapes controlled by earlier structural features, particularly premetamorphic slides. Strongly metamorphosed to amphibolite in sillimanite zone southwest of Rangely Lake
D9A Diorite at Huston Brook, Little Bigelow Mtn. quad--Mixed with feldspar-prophyritic biotite granite
D9B Metagabbro--Massive to layered troctolite, norite, gabbro, and minor diorite of Flagstaff Lake Intrusions, Pierce Pond and Plumbago Mountain plutons, Sugarloaf sheet, Doctors Island dike, and many small bodies
D13 Layered gabbro and ultramafic rocks of Plumbago pluton, southwestern Rumford quad--Small funnel-shaped body emplaced along Plumbago Mountain slide

SILURIAN PLUTONIC ROCKS--May be more abundant than shown, at expense of Ordovician plutonic rocks. Variably metamorphosed and foliated felsic rocks
Sm1 Marble Mountain Intrusions, Moose Bog quad--Sheeted hypabyssal felsic dikes; probably part of bimodal dike swarm intrusive into Cambrian or Ordovician volcanics at Mohawk River
S11 Leucocratic biotite granite of Moody Ledge pluton, Moosilauke quad
Se1-2 Biotite granite to granodiorite of East Inlet pluton, Second Connecticut Lake quad--Largest of many bodies intrusive into Cambrian or Ordovician volcanics at Mohawk River and intruded by rocks of unit Sml

MIDDLE AND UPPER ORDOVICIAN ROCKS--Further dating may reveal presence of Silurian plutonic rocks in this assemblage
INTRUSIONS AT CHICKWOLNEPY STREAM--Weakly to strongly foliated and metamorphosed tholeiitic mafic and tonalitic intrusions in Milan quad, and possible mafic correlatives in Moose Bog and Arnold Pond quads. Interpreted as small, subvolcanic spreading center related to Ammonoosuc Volcanics
Oc3h Hornblende-biotite tonalite--Irregular plutons and small segregations associated with mafic rocks
Oc3h(x) Quartz-porphyritic hornblende-biotite tonalite
Oc9B Gabbro and diabase--Includes strongly foliated coarse-grained gabbro, and less foliated fine-grained gabbro intruded by subvertical diabase dikes, commonly sheeted
HIGHLANDCROFT PLUTONIC SUITE--Weakly to strongly foliated and metamorphosed plutons north of the Oliverian domes; mainly calc-alkaline felsic to intermediate rocks and minor two-mica granite emplaced in middle(?) and upper crust
Oh1 Granite--Undivided
Oh1m Two-mica granite of Cambridge Black pluton, Milan quad
Oh1-2(x) Feldspar-porphyritic granite or granodiorite of Adamstown pluton
Oh1(x) Feldspar-porphyritic hornblende-biotite granite of Attean pluton
Oh1(f) Aplitic granite facies of Attean pluton
Oh1-2h Hornblende-biotite granite to granodiorite of Skinner pluton
Oh2-3h Hornblende-biotite granodiorite to tonalite of Lancaster pluton
Oh4Ch Hornblende-biotite quartz monzonite--Rock of type locality of Highlandcroft Plutonic Suite, Littleton quad
OLIVERIAN PLUTONIC SUITE--Weakly to strongly foliated core intrusives of the Oliverian domes; mainly calc-alkaline felsic to intermediate rocks emplaced in middle(?) and upper crust, in part probably comagmatic with and subvolcanic to the Ammonoosuc Volcanics. Core intrusive rock of domes may represent resurgent chambers of calderas
Oo1m Two-mica granite of Jefferson batholith
Oo1b Biotite granite of Jefferson batholith, and of Owls Head and Sugar Hill plutons
Oo1b(x) Feldspar-porphyritic biotite granite of Jefferson batholith
Oo1-3b Biotite granite to tonalite of Jefferson batholith
Oo1-3b(x) Quartz-porphyritic biotite granite to tonalite of Jefferson batholith
Oo1h Hornblende-biotite granite of Jefferson batholith
Oo2b Biotite granodiorite of Whitefield pluton
Oo2-3h Hornblende granodiorite and tonalite of Landaff pluton
Oo3b Biotite tonalite of Remick pluton
Oo4Ch Hornblende biotite quartz monzonite of Jefferson batholith
Oo7h Hornblende-biotite syenite of Jefferson batholith

9 UNDATED FOLIATED MAFIC INTRUSIVE ROCKS--Isolated dikes, sheeted dikes, and small plutons of epidiorite, metadiabase, and metagabbro; weakly to strongly foliated and metamorphosed to greenstone or amphibolite. Mainly tholeiitic gabbro in composition; in part feeder to Ordovician and younger mafic volcanic rocks

CAMBRIAN PLUTONIC ROCKS
BOIL MOUNTAIN OPHIOLITE COMPLEX--Interpreted as plutonic member of ophiolite, ramped onto Proterozoic Y rocks of Chain Lakes massif; occurs locally as rafts in melange of Hurricane Mountain Formation. Volcanic upper member of the ophiolite is represented by metabasalt, commonly pillowed, of the Jim Pond Formation
Єb6 Quartz diorite and trondhjemite
Єb13 Epidiorite, gabbro, and ultramafic rocks
S Serpentinite--Hydrated remobilized ultramafic rocks intruded along faults

STRATIFIED METAMORPHIC ROCKS--Variably metamorphosed from subgreenschist to upper amphibolite facies, where rocks are locally converted to migmatitic gneiss. Sedimentary nomenclature emphasized in following descriptions, except units exposed only in areas of high metamorphic grade
Dto TOMHEGAN FORMATION (LOWER DEVONIAN)--Main part is dark tuffaceous sandstone, slate, rusty-weathered siltstsone and minor quartzite; lower contact disconformable
Dtokc Felsic tuff and volcaniclastic rocks of Kineo Volcanic Member
Dtokm Massive intrusive felsite of Kineo Volcanic Member
Dt TARRATINE FORMATION (LOWER DEVONIAN)--Mainly interbedded dark sandstone, slate, and siltstone; grades laterally and downward to Seboomook Formation
Dtm Misery Quartzite Member--Thickly bedded quartzite, dark sandstone, siltstone and slate, and sparse quartzite-pebble conglomerate
Dtmp McKenney Ponds Limestone Member--White-weathered fossiliferous limestone and subordinate calcareous arkose, conglomerate, slate, and dark sandstone
Dhm HEALD MOUNTAIN RHYOLITE (LOWER DEVONIAN)--Mainly massive felsite and flow breccia
Dhmd Dark tuff member--Lapilli of pumice and felsite in matrix of dark, fine-grained tuff
Dmv UNNAMED MAFIC VOLCANIC ROCKS (LOWER DEVONIAN)--South edge of Spencer Lake quad
Ds SEBOOMOOK FORMATION (LOWER DEVONIAN)--Undivided; in areas of migmatitic gneisses lower part includes abundant remnants of Hildreths Formation. Typically cyclically interbedded dark-gray slate and light-gray graded wacke, in variable proportions; lower contact is unconformable in Moose River and Roach River synclinoria, but is conformable in Kearsarge-central Maine synclinorium
Dsc Camera Hill Greenstone Member--Feldspar porphyritic flows of intermediate(?) composition; locally vesicular near lower contact
Dsd Day Mountain Member--Cyclically interbedded wacke and subequal to subordinate gray pelitic schist
Dsdc Granule conglomerate lenses--Thick beds of coarse wacke and granule conglomerate interstratified with typical rocks of member
Dsdl Metalimestone lenses--Thinly interbedded arenaceous limestone, calcareous siltstone, and minor sulfidic wacke and gray schist
Dst Temple Stream Member--Dark-gray, rusty-weathered, sulfidic-graphitic pelitic schist and wacke
Dsm Mount Blue Member--Similar to Day Mountain Member, but contains greater proportion of gray pelitic schist
Dpk PARKER BOG FORMATION (LOWER DEVONIAN)--Interbedded light-gray limestone and flinty felsite; exposed lower contact is thrust fault
Db BECK POND LIMESTONE (LOWER DEVONIAN)--Coarse quartzose limestone, stromatoporoid biostromes, and light and dark granite-boulder conglomerate; lower contact probably an unconformity
Dhb HOBBSTOWN FORMATION (LOWER DEVONIAN)--Main part is coarse-grained arkose and conglomerate; lower member is pebble to boulder roundstone conglomerate; lower contact is a disconformity
Dh HILDRETHS FORMATION (LOWER DEVONIAN)--Thinly bedded calcareous sandstone and siltstone, local white marble, abundant thin to thick beds of dark wacke and common sulfidic schist; lower contact is conformable
Dhs Sulfidic schist member--Interbedded sulfidic-graphitic schist and wacke
Dc CARRABASSETT FORMATION (LOWER DEVONIAN)--Contains a thin upper member of thinly interbedded wacke or impure quartzite and gray slate or pelitic schist, and a thick lower member of massive gray pelitic slate or schist and greatly subordinate graded wacke; lower contact is gradational and conformable. In areas of migmatitic gneisses, lower part contains abundant remnants of Madrid Formation
Dcs Sulfidic schist member--Interbedded sulfidic-graphitic pelitic schist and subordinate wacke
Dcq Impure quartzite member--Interbedded impure quartzitic and subordinate gray pelitic schist mapped in Little Bigelow Mtn. quad
Dsc SEBOOMOOK, HILDRETHS, AND CARRABASSETT FORMATIONS--Undivided, in Bryant Pond quad
Dl LITTLETON FORMATION (LOWER DEVONIAN)--Identical to principal lithologies of Seboomook and Carrabassett Formations; lower contact with Fitch Formation is conformable. In areas of migmatitic gneisses, lower part contains abundant remnants of Madrid Formation
Dlv Volcanic member--Interbedded gray pelitic schist, felsic crystal and lithic tuff, tuff breccia, basaltic greenstone or amphibolite (locally pillowed) and volcaniclastic metagraywacke
Dlm Metagraywacke at Mount Moosilauke--Dark, feldspathic, laminated to massive volcaniclastic metagraywacke and subordinate gray pelitic schist
Dco COMPTON FORMATION (LOWER DEVONIAN)--Cyclically interbedded gray slate and graded graywacke; identical to Seboomook Formation
Dim IRONBOUND MOUNTAIN FORMATION (LOWER DEVONIAN)--Gray thinly bedded slate and greatly subordinate graded wacke; lower contact with Frontenac Formation possibly conformable
ROCKS AT TUMBLE DICK MOUNTAIN (LOWER DEVONIAN?)--Metavolcanic and metasedimentary rocks associated with Seboomook Formation between Deer Pond and Thrasher Peaks faults; lower contact not exposed
Dtdg Graphitic-sulfidic phyllite and subordinate felsic metatuff and laminated metachert
Dtdf Felsic volcanics--Mainly thickly to thinly interbedded aquagene feldspar-crystal and lithic tuff and subordinate gray phyllite
Dtdm Volcanic siltstone--Massive to faintly bedded gray feldspathic phyllite, commonly magnetic
Dtdb Basaltic greenstone, commonly pillowed
Dtdt Felsic metatuff-breccia at Prospect Mountain
Dms MEETINGHOUSE SLATE (LOWER DEVONIAN?)--Dark-gray slate or phyllite with thin, commonly graded wacke beds and laminations; lower contact(?) is the Monroe fault
DSg GILE MOUNTAIN FORMATION (LOWER DEVONIAN? OR SILURIAN?)--Mainly gray phyllite interbedded with wacke; commonly contains white quartzite, and locally contains impure limestone. Lower contact with rocks assigned to Frontenac and Waits River Formations is interpreted to be conformable
DSgv Basaltic greenstone or amphibolite
DSgc Thinly bedded, commonly cross-laminated calcareous siltstone and gray slate
DSgf Gray phyllite with feldspar clasts
DSgp Interbedded gray phyllite and metagraywacke
DSghs Grit at Hall Stream--Thickly bedded, feldspathic, volcaniclastic grit interbedded with gray slate
DSgg Graded metagraywacke--Cyclically interbedded graded beds of wacke and subordinate gray phyllite
DSgh Hornblende schist--Variable dense-black amphibolite to amphibole-rich, quartzose calc-silicate rocks; typically low in plagioclase
DSw WAITS RIVER FORMATION (LOWER DEVONIAN? OR SILURIAN?)--Dark-gray, commonly graphitic phyllite, calcareous phyllite, and brown arenaceous limestone; lower contact not exposed in area
DSwv Mafic volcanic lenses
DSgn UNDIVIDED GNEISSIC AND MIGMATITIC ROCKS (DEVONIAN AND SILURIAN)--Identification of formations uncertain owing to obliteration of bedding
DSfs CLASTIC ROCKS AT FOXS CAMP (DEVONIAN AND SILURIAN)--Fossiliferous grit and sandstone
UNNAMED STRATA OF OUTLIERS (DEVONIAN? OR SILURIAN)--Sedimentary rocks lying unconformably on Silurian rocks in the Arnold Pond quad
DSr Red slate, gray metasiltstone, and felsic metavolcanic rocks (Devonian? or Silurian)
DЄx UNDATED MEGABRECCIA AT BURNSIDE MOUNTAIN (MIDDLE OR LOWER PALEOZOIC)--Schist-matrix breccia of Albee Formation, gray magnetite-rich phyllite, and amphibolite
DЄxg Graphitic-sulfidic, schist-matrix sliver breccia
Sfl CALCAREOUS ROCKS AT FOXS CAMP (SILURIAN)--Fossiliferous limestone
Sscs CONGLOMERATE AT FOXS CAMP (SILURIAN)--Fossiliferous conglomerate, grit, and calcareous sandstone at Sally Mountain; lower contact is an unconformity
Shm HARDWOOD MOUNTAIN FORMATION (SILURIAN)--Mixed calcareous mudstone and siltstone and minor but conspicuous limestone conglomerate; lower contact is inferred unconformity
Sul UNNAMED CALCAREOUS ROCKS (SILURIAN)--Mainly calcareous phyllite and slate along south limb of Moose River synclinorium
UNNAMED STRATA OF OUTLIERS (SILURIAN)--Sedimentary rocks lying unconformably on pre-Silurian rocks in the Arnold Pond, Second Connecticut Lake, and Cupsuptic quads
Sl Impure argillaceous limestone (Silurian)
Sq Quartzite, quartz grit, and quartz pebble conglomerate (Silurian)
ROCKS AT RICE MOUNTAIN (SILURIAN)--Previously mapped as Rice Mountain Member of Dixville Formation (Middle Ordovician) in Errol quad
Srp Gray, rusty-weathered, aluminous schist and thin to thick, poorly graded beds of feldspathic quartzite
Srg Graphitic-sulfidic phyllite and subordinate feldspathic quartzite, metachert, and amphibolite. In belt adjacent to Thrasher Peaks fault, unit is richly graphitic-sulfidic, schist-matrix sliver breccia
Srcg Stratified polymictic conglomerate at Rice Mountain
ROCKS AT CLEAR STREAM (SILURIAN)--Previously mapped as Clear Stream Member of Dixville Formation in Errol quad; lower contact is inferred unconformity
Scf Felsic metatuff, manganiferous metachert, and coticule
Sca Greenish-gray, pyritic, siliceous argillite, argillaceous metachert, and minor quartzite and felsic metatuff
Scb Basaltic greenstone and amphibolite, commonly pillowed, and minor manganiferous metachert and siliceous magnetite iron-formation
Scc Polymictic metaconglomerate at Dummer Hill--Interstratified pebble to cobble volcanic-plutonic conglomerate, basaltic amphibolite and banded, siliceous magnetite iron-formation. Conglomerate has clasts of mafic and felsic metavolcanic rocks probably derived from Ammonoosuc Volcanics, granitic rocks, gabbro, and metasedimentary rocks of Albee Formation
Stf FORMATION AT THE FORKS (UPPER SILURIAN, PRIDOLI)--Divisible into an upper member of thickly bedded, slightly calcareous, feldspathic sandstone, and a lower member of thinly bedded, calcareous sandstone and siltstone, impure limestone and thin basal conglomerate; lower contact marks an unconformity (R. G. Marvinney, written commun., 1984)
Sf FITCH FORMATION (UPPER SILURIAN, PRIDOLI)--Metamorphosed limestone and calcareous sandstone, siltstone, and dark pelitic schist; lower contact is unconformable
Sfc FITCH FORMATION AND CLOUGH QUARTZITE--Undivided
Sc CLOUGH QUARTZITE (LOWER SILURIAN, UPPER LLANDOVERY)--Orthoquartzite, quartz conglomerate and minor light pelitic schist; lower contact unconformable
Sm MADRID FORMATION (UPPER SILURIAN)--Upper member is thickly to thinly bedded, calcareous, feldspathic sandstsone, siltstone, and minor to abundant dark pelitic schist. Lower member is thinly bedded, impure limestone and calcareous sandstone and siltstone. Lower contact is conformable
Sme Eastern facies--Lacks thinly bedded, calcareous lower member
Smsf MADRID AND SMALLS FALLS FORMATIONS--Undivided
Ssf SMALLS FALLS FORMATION (SILURIAN, LUDLOW AND WENLOCK)--Upper member is thinly bedded, sulfidic-graphitic, impure limestone, calcareous sandstone, siltstone and shale, and local ironstone. Lower member is interbedded, sulfidic-graphitic, pelitic schist and quartzite, and local quartz granule conglomerate. Lower contact is conformable
Ssfe Eastern facies--Lacks thinly bedded, calcareous, upper member
Sp PERRY MOUNTAIN FORMATION (SILURIAN)--Sharply interbedded, commonly cross-laminated quartzite and light-colored pelitic schist; includes felsic volcanics in Kennebago Lake quad and volcaniclastic rocks in Kingfield quad. Lower contact is gradational and conformable
SANGERVILLE FORMATION (SILURIAN, WENLOCK TO LLANDOVERY)--Clastic rocks similar to Rangeley Formation, and carbonate rocks; lower contact with Waterville Formation is conformable
Ss Principal facies--Thinly to thickly interbedded, lithic sandstone and gray to greenish, laminated or massive slate or pelitic schist
Ssa Anasagunticook Member--Mainly thinly bedded to laminated, feldspathic siltstone and slate or pelitic schist, and local thinly bedded, cross-laminated, lithic sandstone
Ssal Limestone lenses--Similar to Patch Mtn. Member
Ssc Metaconglomerate member--Thickly bedded, lithic, conglomeratic sandstone, sandstone, and slate or pelitic schist
Ssp Patch Mountain Member--Thinly interbedded, gray, micritic limestone, limey sandstone, siltstone, and slate or pelitic schist
Ssr Rusty-weathered, sulfidic-graphitic, pelitic schist
Sst Thorncrag Hill Member--Dark-gray, migmatitic pelitic gneiss and sporadic beds of calc-silicate rock
Sstp Taylor Pond Member--Dark-gray, feldspathic, biotite and hornblende-biotite granofels, thinly bedded calc-silicate rock and sparse coticule

Sur UNNAMED SULFIDIC SCHIST (SILURIAN?)--Associated with units Sst and Sstp in Lewiston 15-minute quad
RANGELEY FORMATION (SILURIAN, LLANDOVERY)--West-derived subaqueous conglomerate, proximal turbiditic, feldspathic sandstone and dark slate or pelitic schist; lower contact conformable
Sr Undivided, largely parts C and B; may locally include Perry Mountain Formation
Src Part C--Undivided
Srcu Upper pelitic schist and metasandstone member--Thickly to thinly interbedded, dark pelitic schist, sandstone, and local grit
Srcl Lower quartz conglomeratic member--Thickly bedded, quartz pebble to granule conglomerate, quartz conglomeratic sandstone, feldspathic sandstone, and subequal to subordinate gray slate or pelitic schist; quartz conglomerate is locally fossiliferous in Kennebago Lake quad. Unit includes fossiliferous impure limestone in Kennebago Lake quad and north of Flagstaff Lake in Stratton quad
Srcq Orthoquartzite and quartz conglomerate in Kennebago Lake quad--Identical to Clough Quartzite
Part B
Srb Dark pelitic schist and feldspathic sandstone
Srbc Polymictic conglomerate, dark pelitic schist and feldspathic sandstone
Part A
Sra Dark pelitic schist and feldspathic sandstone
Srac Polymictic conglomerate--Boulder to pebble conglomerate with plutonic, volcanic, and sedimentary clasts forming upper and northwestern facies of subaqueous fanglomerate
Sras Massively bedded, feldspathic sandstone--Lower and distal southeastern facies of subaqueous fanglomerate
Srba Parts B and A--Undivided in Kennebago Lake quad
Spr PERRY MOUNTAIN AND RANGELEY FORMATIONS--Undivided in Old Speck Mountain quad
Sw WATERVILLE FORMATION (SILURIAN)--Thinly bedded, gray to greenish slate or pelitic schist, impure quartzite and sparse calcareous beds; lower contact conformable
Sg GREENVALE COVE FORMATION (SILURIAN?, LOWER LLANDOVERY?)--Laminated and thinly bedded, feldspathic sandstone and siltstone; lower contact is conformable
SOgq GREENVALE COVE AND QUIMBY FORMATIONS--Undivided
SOv VASSALBORO FORMATION (SILURIAN OR ORDOVICIAN)--Variably thickly to thinly bedded, feldspathic biotite granofels and thin beds of greenish-gray calc-silicate rock; lower contact not exposed
SOf FRONTENAC FORMATION (SILURIAN? OR ORDOVICIAN?)--In part previously mapped as Gile Mountain Formation in Dixville quad. Thickly to thinly interbedded, fine-grained, gray, feldspathic sandstone and dark-gray slate or pelitic phyllite
SOfc Greenstone member at Canada Falls--Dark-green basaltic greenstone, commonly pillowed, and minor green slate
SOfg Gray metagraywacke and subordinate gray to black phyllite in Indian Stream quad; gray phyllitic quartz-mica schist in Averill quad
SOfl Metalimestone, calcareous metasiltstone and gray to black phyllite--Previously mapped as Waits River Formation in Dixville quad
SOfh Hornblende schist--Black to greenish, quartzose, plagioclase-poor hornblende schist and hornblendic calc-silicate rock
Oq QUIMBY FORMATION (UPPER ORDOVICIAN?)--Undivided. Lower contact is conformable
Oqs Shale member--Thinly interbedded, rusty-weathered, dark-gray slate or pelitic phyllite and volcaniclastic graywacke
Oqg Graywacke member--Thickly bedded, volcaniclastic graywacke, conglomeratic graywacke and minor rusty-weathered, dark-gray slate or pelitic schist; local basal conglomerate with clasts of granitic and volcanic rocks in Milan quad
Oqgn Garnet granofels--Partially melted rocks in border zone of gabbro of Flagstaff Lake Intrusions; may include partially melted rocks of Greenvale Cove Formation
Oqv Felsic metavolcanic member--Small soda-rhyolite flow-banded flows and probable tuffs, apparently laterally gradational to graywacke member
Ocs UNNAMED CALC-SILICATE GNEISS (UPPER ORDOVICIAN?)--Thinly bedded, white and greenish cal-silicate rock near Upton; lower contact is inferred to mark a local unconformity above previously deformed Ammonoosuc Volcanics
Ol LOBSTER MOUNTAIN VOLCANICS (MIDDLE ORDOVICIAN)--Felsite, felsic tuff, agglomerate, and basaltic greenstone
Oa AMMONOOSUC VOLCANICS (UPPER? AND MIDDLE ORDOVICIAN)--Undivided; considered coeval with formation at Kamankeag Pond. Lower contact abruptly gradational in most areas; interpreted to be conformable
Oap Interbedded, greenish-gray phyllite, white felsic tuff, epiclastic tuffaceous siltstone and sandstone, and basaltic greenstone--exposed in upper part of Ammonoosuc in Littleton quad; identical to formation at Happy Corner
Oaf Mainly felsic metatuff--Massively bedded tuff, lapilli tuff and agglomeratic tuff; includes abundant subaqueous pyroclastic flow deposits
Oab Mainly basaltic greenstone and amphibolite
Oax Mixed metavolcanic rocks--Complexly interstratified felsic and subordinate mafic and intermediate metavolanic rocks, and minor to abundant volcaniclastic metasedimentary rocks. Felsic rocks are predominantly pyroclastic but locally include probable flows, domes, and hypabyssal intrusives
Oabs Interstratified nonsulfidic volcaniclastic metasedimentary rocks and basaltic greenstone or amphibolite--Constitutes lower member in Littleton and Moosilauke quads and the nonsulfidic facies of the lower member in the Milan quad
Oabr Interstratified, rusty-weathered, sulfidic-graphitic, volcaniclastic metasedimentary rocks and basaltic greenstone or amphibolite--Constitutes sulfidic facies of lower member in the Milan quad. Correlates approximately with Partridge Formation and formation at Kamankeag Pond
Oasg Poorly stratified, volcanic metagraywacke and minor felsic metatuff and basaltic amphibolite
Oafe Silicate-facies iron-formation at Hampshire Hills, Milan quad--Mainly garnet-chlorite gneiss, locally with staurolite and commonly with disseminated or banded magnetite
Oak Quartz-kyanite gneiss at Hampshire Hills, New Hampshire--White fine- to medium-grained gneiss composed of quartz, kyanite, and sparse muscovite; locally has matrix-supported elliptical clasts of same rock
FORMATION AT KAMANKEAG POND (MIDDLE ORDOVICIAN)--Previously mapped as Dixville Formation
Oks Black slate member--Graptolite-bearing black slate interbedded with subordinate impure quartzite and sparse polymictic conglomerate and lenses of basaltic greenstone
Okg Basaltic greenstone member--Thickly bedded, commonly pillowed basalt
Op PARTRIDGE FORMATION (MIDDLE ORDOVICIAN)--Lies above a thin lower member (unit Oabs) and below a thick middle member (unit Oax) of the Ammonoosuc Volcanics in the Littleton and Moosilauke quads. Mainly black, sulfidic slate and schist; contains thinly bedded, slump-deformed, white, sugary metachert near lower contact. Lower contact is conformable
Od DIXVILLE FORMATION (MIDDLE OR LOWER ORDOVICIAN)--Restricted to Dixie Brook Member of Dixville Formation of previous usage. Mainly interbedded, rusty-weathered, sulfidic, variably graphitic, pelitic schist and quartzite. Grades laterally to Albee Formation and lies conformably above Albee
FORMATION AT HAPPY CORNER (ORDOVICIAN OR CAMBRIAN)--Previously mapped as Frontenac Formation in Second Connecticut Lake, Moose Bog, and Arnold Pond quads, and as Gile Mountain Formation in Dixville quad
OЄhc Thinly interbedded greenish-gray phyllite and epiclastic felsic tuff; includes abundant metadiabase included in unit 9
OЄhcb Basaltic member--Pyroclastic and pillowed basaltic greenstone
VOLCANICS AT MOHAWK RIVER (ORDOVICIAN OR CAMBRIAN)--Previously mapped as volcanic members of Frontenac Formation in Second Connecticut Lake quad, and as Kidderville Volcanics in Dixville quad
OЄmb Basaltic member--Pyroclastic and pillowed basaltic greenstone and amphibolite
OЄmx Mixed volcanics--Bimodal volcnic rocks, iron formation, sulfidic-graphitic slate or pelitic phyllite and volcaniclastic graywacke
OЄms Gray to black phyllite and metagraywacke
OЄmg Gedrite-bearing schist--Sulfidic quartz-biotite-oligoclase-gedrite schist and thinly bedded chert exposed west of Gay Brook, Guildhall quad; interpreted as metamorphosed, hydrothermally altered volcanics and chemical sediments
OЄmq Interbedded quartzite and sulfidic and nonsulfidic pelitic schist, and minor metavolcanic rocks; similar to Dixville and Albee Formations. Lies conformably below mixed volcanics (OЄmx)
OЄa ALBEE FORMATION (ORDOVICIAN AND CAMBRIAN?)--Mapped in New Hampshire. Interbedded quartzite, feldspathic quartzite, calcareous grit, and subequal amounts of light-colored slate or pelitic schist. Lower contact typically abruptly gradational and conformable; locally discordant
OЄaj ALBEE, HURRICANE MOUNTAIN, AND JIM POND FORMATIONS--Undivided in Lewiston 1°x2° quad
OЄd DEAD RIVER FORMATION (ORDOVICIAN AND CAMBRIAN?)--Mapped in Maine. Similar to Albee Formation. Lower contact abruptly gradational and conformable
OЄdq Quartzite-rich member--Subequal amounts of quartzite and slate or pelitic schist
AZISCOHOS FORMATION (ORDOVICIAN AND CAMBRIAN?)--Interpreted as pelitic facies of lower parts of Albee and Dixville Formations. Lower contact not exposed
OЄzu Upper member--Gray, pelitic phyllite with sparse siltstone laminations; contains abundant lenses of vein quartz
OЄzl Lower member--Rusty-weathered, dark-gray, pelitic phyllite with thin coticule laminations and sparse thin beds of feldspathic tuff; contains abundant lenses of vein quartz
Єh HURRICANE MOUNTAIN FORMATION (CAMBRIAN?)--In Sherbrooke 1°x2° quad mainly rusty-weathered, dark, siliceous, scaly slate with flaser-deformed thin sandstone beds and scaly-matrix polymictic melange; locally well bedded; contains rafts of ultramafic rocks, pillow basalt and felsic volcanics. In Littleton quad typically sharply interbedded, rusty-weathered, dark, siliceous phyllite and tuffaceous sandstone; locally flaser-deformed melange. Lower contact with Jim Pond Formation is gradational
JIM POND FORMATION (CAMBRIAN)
Єj Undivided upper units; includes rusty and scaly melange, iron-formation, keratophyre, graywacke and olistostromal melange
Єjm Quartzwacke member of Magalloway River--Mainly massively bedded quartzwacke and feldspathic quartzwacke; includes olistostromal melange zones
Єjk or k Keratophyre
Єjp Epiclastic facies at Percy--Interbedded, iron- and magnesium-rich, pelitic schist and feldspathic metagraywacke in Percy quad. Lies discordantly below Albee Formation. Tentatively considered an epiclastic facies of the Jim Pond Formation
Єjte Mainly fine-grained feldspathic tuff and epiclastic tuffaceous shale and sandstone in Littleton quad; locally contains thickly bedded, quartz-feldspar, crystal tuff, basaltic greenstone, and bulbous masses of fine-grained quartz
Єjf Dark melange similar to Hurricane Mountain Formation
Єjg Greenstone--In Sherbrooke 1°x2° quad mainly pillowed basalt; some basaltic, tephritic, and lapilli tuff layers. In Littleton 15' quad mainly thickly and thinly bedded greenstone; locally contains basaltic, lithic, lapilli tuff
Yc ROCKS OF CHAIN LAKES MASSIF (PROTEROZOIC Y?)--Mainly massive to poorly stratified diamictite with pebble- to boulder-sized clasts of vein quartz, mafic and felsic plutonic and volcanic rocks, and previously deformed and metamorphosed sedimentary rocks supported by homogeneous matrix of massive, aluminous, quartz-feldspar-mica granofels
Ycd Dioritic rocks
Ycmb Polymictic breccia at Kibby Mountain
Ycks Spotted granofels at Kibby Mountain
Yckb Breccia at McKenny Pond
Yceg Massive granofels at Bug Eye Pond
Ycsg Granofels and gneiss at Sarumpus Falls
Ycbl Layered granofels and gneiss at Bag Pond Mountain
Yctp Semipelitic gneiss at Twin Bridge
Yccg Gneissic granofels at Coburn Gore

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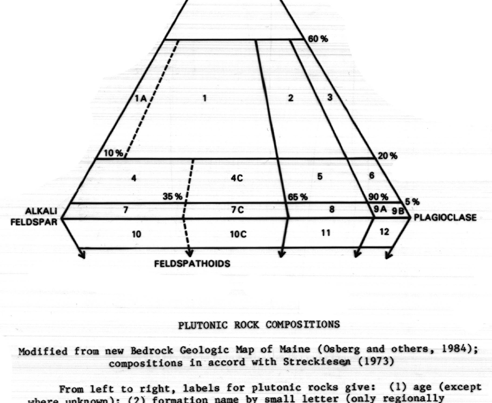
MAP SYMBOLS

CONTACT--Queried where conjectural or poorly located; dotted across lakes
BOUNDARY OF UNDIVIDED ROCKS
STRATIGRAPHIC DISCONTINUITY--Boundary of uncertain origin where one or more formations in normal sequence are absent, owing alternatively to erosion, or nondeposition, or faulting
FAULTS--Queried where conjectural; dotted across lakes
?
Late faults--Characterized by brittle deformation or cataclasis in walls--Includes faults active after Acadian metamorphism and between emplacement of Paleozoic and Mesozoic plutons, and faults active prior to metamorphism and emplacement of Devonian plutons
Normal fault--Bar and ball on downthrown side
Strike slip fault--Arrows indicate relative movement of opposing walls
Thrust fault--Medium to high angle; teeth on side of hanging wall
Early fault or slide--Bar and ball on downthrown side. Characterized by sharp surfaces crossed by early schistosity; little or no evidence of cataclasis or brittle deformation; close temporal relation inferred between faulting and early folding
St CG
METAMORPHIC ISOGRAD--Approximately located; hachures point to areas of higher rank. Si, sillimanite; St, staurolite (partly based on retrograded pseudomorphs); CG, chlorite to garnet; C, chlorite
APPROXIMATE BOUNDARY OF MIGMATITIC GNEISS--Hachures point to area where metasedimentary rocks are unbedded, poorly layered, coarsely crystallized gneiss that commonly contains semiconcordant lenses and wisps of granitoid rocks, pods of quartz, and meter-sized remnants of calc-silicate rock or granofels, some disoriented relative to the fabric of the gneiss. Identification of formations is difficult and commonly conjectural. Calcareous granofels and calc-silicate rocks of the Hildreths Formation and Madrid Formation are particularly disrupted and these formations are shown in gneissic areas only where their remnants are abundant and recognized with confidence
● W1 ISOTOPICALLY DATED INTRUSIVE AND METAVOLCANIC ROCKS

Number	Description, source of data, and method	Age (m.y.)
	White Mountain intrusive-volcanic suite	
W1	Alkali-feldspar biotite granite of Mt. Monadnock stock; Foland and Faul, 1977; K/Ar biotite	171± 4
W2	Conway Granite of Lightning Mtn. intrusions (Gore Mtn.); Foland and Faul, 1977; K/Ar biotite	168± 3
W3	Conway Granite of Percy Peaks pluton; Foland and Faul, 1977; K/Ar biotite	165± 4
W4	Conway Granite of Pilot-Pliny intrusions; Foland and Faul, 1977; K/Ar biotite	181± 4
W5	Feldspar-porphyritic hornblende-biotite granite (hastingsite granite?) of Pilot-Pliny intrusions; Foland and Faul, 1977; K/Ar biotite	188± 5
W6	Conway Granite at Franconia Notch; Foland and Faul, 1977; K/Ar biotite	194± 4
W7	Conway Granite at Bald Face Mtn.; Foland and Faul, 1977; biotite	171± 4
W8	Conway Granite of White Mountain batholith; Foland and Faul, 1977; K/Ar biotite	180± 4
W9	Conway Granite of White Mountain batholith at Redstone quarry; Foland and Faul, 1977; K/Ar biotite	175± 5
W10	Porphyritic foid-bearing syenite at Mt. Pleasant; Foland and Faul, 1977; K/Ar biotite	112± 3
W11	Ferrohastingsite syenite of Hart Ledge intrusions; Weston Geophysical Laboratory; K/Ar biotite	136
	Carboniferous intrusive rocks	
C1	Pink two-mica granite of Sebago batholith; Aleinikoff, 1984; U/Pb zircon	324± 3
C2	Gray two-mica granite of Sebago batholith; Aleinikoff, 1984; U/Pb zircon	324± 3
	Devonian intrusive rocks	
D1	Dike of foliated granitic rock intrusive into gabbro of Sugarloaf sheet (site from Boone, 1973); Zartman and others, 1970; K/Ar biotite	406±12
D2	Hornblende-biotite granodiorite of Chain of Ponds pluton; Heitzler and Lux, 1984; 40Ar/39Ar incremental release	372± 1.5
D3	Two-mica granite of Lexington batholith; Naylor, 1973; Rb/Sr mineral isochron	352±12
D4	Two-mica granite of Mooselookmeguntic batholith; Zartman in Moench and Zartman, 1976; Rb/Sr whole rock	371± 6
D5	Quartz monzodiorite of Umbagog pluton; Aleinikoff (this map); U/Pb zircon	382± 3
D6	Two-mica granite of Odell pluton; Aleinikoff (this map); U/Pb zircon	380± 5
	Oliverian plutonic suite and associated Silurian rocks	
O1	Granite correlated with Moody Ledge pluton; Aleinikoff (this map); U/Pb zircon	423± 4
O2	Medium- and coarse-grained syenite of Jefferson batholith; Foland and Loiselle, 1981; Rb/Sr whole rock	441± 5
O3	Muscovite-bearing biotite granite of Jefferson batholith; Aleinikoff (this map); U/Pb zircon	434± 4
O4	Granitic rocks of Owls Head, Sugar Hill, and Whitefield plutons, and Jefferson batholith of map Zartman and Leo, 1981; U/Pb zircon	About 455
	Highlandcroft plutonic suite and associated Silurian rocks	
H1	Hornblende quartz monzonite at type locality; Aleinikoff and J. B. Lyons (this map); U/Pb zircon	450± 5
H2	Feldspar-porphyritic granite of Adamstown pluton Aleinikoff (this map); U/Pb zircon	450± 5
H3	Feldspar-porphyritic granite of Attean pluton; Aleinikoff and J. B. Lyons (this map); U/Pb zircon	443± 3
H4	Biotite granite to granodiorite of East Inlet pluton; Aleinikoff and J. B. Lyons (this map); and Eisenberg, 1981; U/Pb zircon	429± 3
H5	Hypabyssal felsic dike or felsic tuff; Aleinikoff and J. B. Lyons (this map); U/Pb zircon	418± 4
H6	Hypabyssal felsic dike; Aleinikoff and J. B. Lyons (this map); U/Pb zircon	418± 4
	Boil Mountain Ophiolitic Complex	
B1	Quartz diorite or trondhjemite intrusive into mafic rocks of complex; Eisenberg, 1981, 1982; U/Pb zircon	520±12
	Metavolcanic rocks	
V1	Felsic lithic-crystal metatuff of Rocks at Tumble Dick Mountain; Aleinikoff (this map), analysis of zircons furnished by John C. Green; U/Pb zircon	414± 4
V2	Felsic metatuff lying above metabasalt of volcanics at Clear Stream; Aleinikoff (this map); U/Pb zircon	434± 8
V3	Altered felsic metatuff (pyritic quartz-sericite schist) of volcanics at Mohawk River; Aleinikoff (this map); U/Pb zircon	500±10



PLUTONIC ROCK COMPOSITIONS

Modified from new Bedrock Geologic Map of Maine (Osberg and others, 1984); compositions in accord with Streckiesen (1973)

From left to right, labels for plutonic rocks give: (1) age (except where unknown): (2) formation name by small letter (only regionally important names shown); (3) primary mineralogical composition by number and, where appropriate, by capital letter (two or more numbers indicate compositional range or mixtures); (4) accessory minerals or rock color by small letter (deleted from some units to shorten symbol); (5) rock texture, structure, or admixtures by small letter in parenthesis

1	Granite, undivided	8	Monzodiorite
1A	Alkali feldspar granite, where known	9	Gabbro or diorite
2	Granodiorite	9A	Diorite
3	Tonalite	9B	Gabbro
4	Quartz syenite	10	Foid-bearing syenite
4C	Quartz monzonite	10C	Foid-bearing monzonite
5	Quartz monzodiorite	11	Foid-bearing monzodiorite
6	Quartz diorite	12	Foid-bearing gabbro-diorite
7	Syenite	13	Ultramafic rocks (not shown)
7C	Monzonite		

Accessory mineralogy
b Biotite; may include minor muscovite
m Muscovite, and muscovite and biotite
h Hornblende or hastingsite (±biotite)
r Riebeckite (±hastingsite)
l Leucocratic
t Abundant magnetite
g Conspicuous garnet
p Pentlandite in unit D3gp

Texture and structure
(x) Porphyritic
(p) Pegmatitic
(s) Seriate
(f) Fine-grained or aplitic
(a) Aphanitic
(z) Intrusive breccia
(m) Metasedimentary inclusions

Examples:
Jc1b Jurassic Conway Granite
J4C9A Jurassic quartz monzonite to diorite
D1m(x) Devonian porphyritic two-mica granite
Oh2-3h Ordovician Highlandcroft hornblende granodiorite to tonalite

This map is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature.