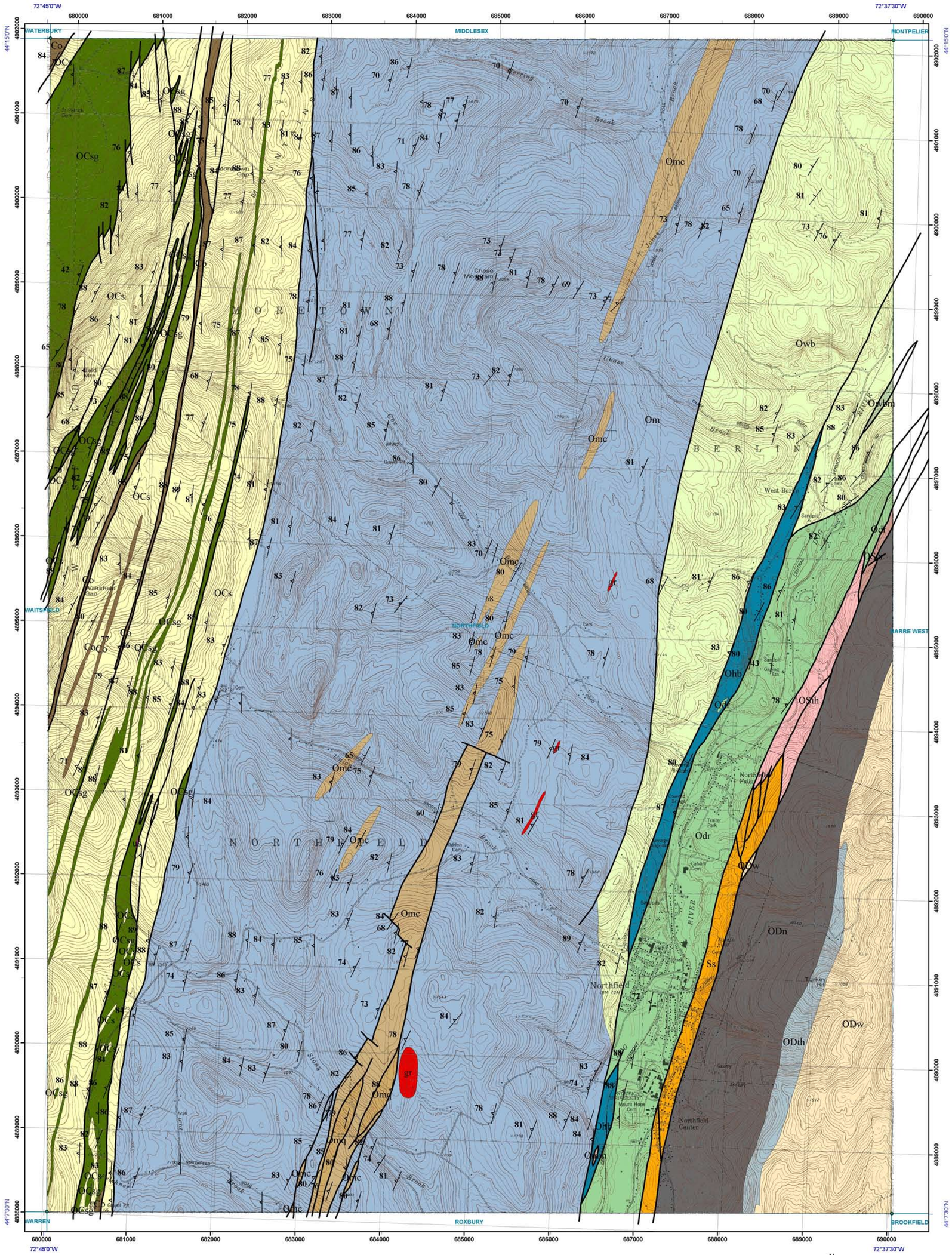


DESCRIPTION OF MAP UNITS

Intrusive Igneous Rocks

gr — Northfield and Edgerton granite: Weakly porphyritic, muscovite-bearing white trondhjemite as lensoidal intrusions, also sills or metatuff horizons

Waits River Formation

ODw — Waits River Fm.: Well-bedded, dark gray, quartz-muscovite phyllite interbedded with brown-weathering calcareous sandstone.

Northfield Formation

ODn — Northfield Formation: Dark gray quartz-sericite slate and phyllite with graded bedding and interbeds of metasiltstone and conglomerate.

ODth — Turkey Hill Member: Slates and phyllites with consistent presence of brown-weathering thin beds of calcareous metasiltstone and metasandstone.

Shaw Mountain Formation

Ss — Shaw Mountain Formation: Yellow-rusty weathering, quartz pebble conglomerate; crinoidal, calcareous white quartz metasandstone with micaceous partings; pinkish-buff to white quartz-muscovite mylonites.

Crosstown Road Formation

OScr — Crosstown Road Formation: Green-weathering metavolcanic rocks lacking pyroclastic texture and ankerite; notable absence of interbedded metasediments.

Irish Hill Road Formation

OSih — Irish Hill Road Formation: Blue-green schistose volcanoclastics with 1-2mm blue quartz and plagioclase crystals; plagioclase occurs frequently as clusters in a matrix of chlorite+/- biotite, epidote, calcite, muscovite, albite and opagues; ankerite occurs as a post-strain mineral.

West Berlin Formation

Owb — West Berlin Formation: Chlorite- rich, biotite-bearing, mafic schists lacking pyroclastic textures; minerals include albite, clinopyroxene, blue-green amphibole, quartz, chlorite, epidote, muscovite, biotite, calcite, sphene, ankerite, pyrite, magnetite, uvarovite garnet, zircon, rutile and tourmaline; associated with red-brown biotite-bearing quartzite and phylliite.

Owbm — Mylonitic member

Cram Hill Formation

Odr — Cram Hill Formation: Rusty weathering micaceous quartzite and gray phyllite; local thin limey beds.

Harlow Bridge Quartzite

Ohb — Harlow Bridge Quartzite: Brown, biotite-bearing quartzites with tourmaline and zircon.

Moretown Formation

Om — Moretown Formation: Blue-gray to green-gray, well-bedded laminated quartzite and micaceous schist, phyllitic quartzite, phyllite, and slaty phyllite, locally with graded bedding preserved; dominant mineralogy is muscovite, chlorite, quartz, albite, and opagues; minor lithologies include chalky-weathering feldspathic metawackes, sub-ophitic plagioclase-epidote-chlorite-calcite-quartz-albite-sphene greenstone, ankeritic greenstone, and quartz or albite porphyroblastic schist.

Omc — Carbonaceous member: Rusty-weathering dark gray phyllite, locally graphitic with minor beds and lenses of carbonaceous quartzite.

Omm — Mylonitic member

Omq — Gray quartzite member: Gray quartzite and metasiltstone with minor amounts of albite, muscovite, chlorite and tourmaline.

Stowe Formation

OCs — Stowe Formation (undivided): Green to blue-green, fine- to medium- grained, muscovite-chlorite-quartz-albite schist, locally with magnetite, laminated pinstripe to wispy fabric with quartz veins, includes orange, pink and purple color variegated schists, spotted schists with pyrrhotite or ankerite, and deep orange weathering mylonites with blue-green amphibole as radiating bladed clusters.

OCsg — Greenstone member: Strongly laminated, green to yellow-green, epidote- rich gneissic schists with epidote-quartz-chlorite knots and lenses, locally blastomylonitic with plagioclase; assemblages include epidote-muscovite-chlorite-magnetite, ankerite-plagioclase-muscovite-chlorite-magnetite, and epidote-muscovite-quartz-magnetite; minor strongly laminated, brick-red weathering, ankerite-rich greenstones, pale yellow-green phyllites, spotted magnetite granofels, and polydeformed, porphyroblastic, blue-black muscovite-albite-quartz-magnetite schist.

us — Serpentized ultramafic: Massive, magnetite-bearing serpentinite with relict olivine and orthopyroxene.

Ottauquechee Formation

Co — Ottauquechee Formation: Strongly tectonized, rusty weathering, dark gray to black, graphitic, phyllitic schist with pyrite and/or pyrrhotite; locally silver-gray mylonite; local massive to laminar, dark to light gray, quartzite lenses and discontinuous layers ith cross-cutting quartz veins, with chlorite and/or calcite.

Fault

Strike and dip of bedding

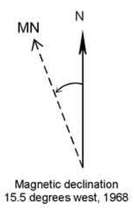
Strike and dip of overturned bedding

Strike and dip of cleavage

USGS 24K Quadrangle Boundaries

Base map from U.S. Geological Survey.
Quadrangle names printed in blue.
Coordinate System: Vermont State Plane, meters, NAD 83.
Geographic coordinates shown at topo corners are in NAD 83.
Grid overlay on map is Universal Transverse Mercator, Zone 18N, NAD 27.
Digitizatiion and Cartography by D. Dreher and M. Gale
Date: December 2006

1:24,000
0 0.5 1 Miles
0 0.5 1 Kilometers
Contour Interval 20 Feet



Magnetic declination
15.5 degrees west, 1968

BEDROCK GEOLOGIC MAP OF THE NORTHFIELD 7.5 MINUTE QUADRANGLE, VERMONT

by
David Westerman
1994

Research supported by the Vermont Geological Survey, Dept. of Environmental Conservation, VT ANR.
This geologic map was funded in part by the USGS National Cooperative Mapping Program.
The views and conclusions contained in this document are those of the authors and should not be interpreted as necessarily representing the official policies, either expressed or implied, of the U.S. Government.

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Vermont Geological Survey Open-File Report VG94-4:
Westerman, David, 1994, Bedrock Geology of the Northfield Quadrangle, Vermont, Scale 1:24,000

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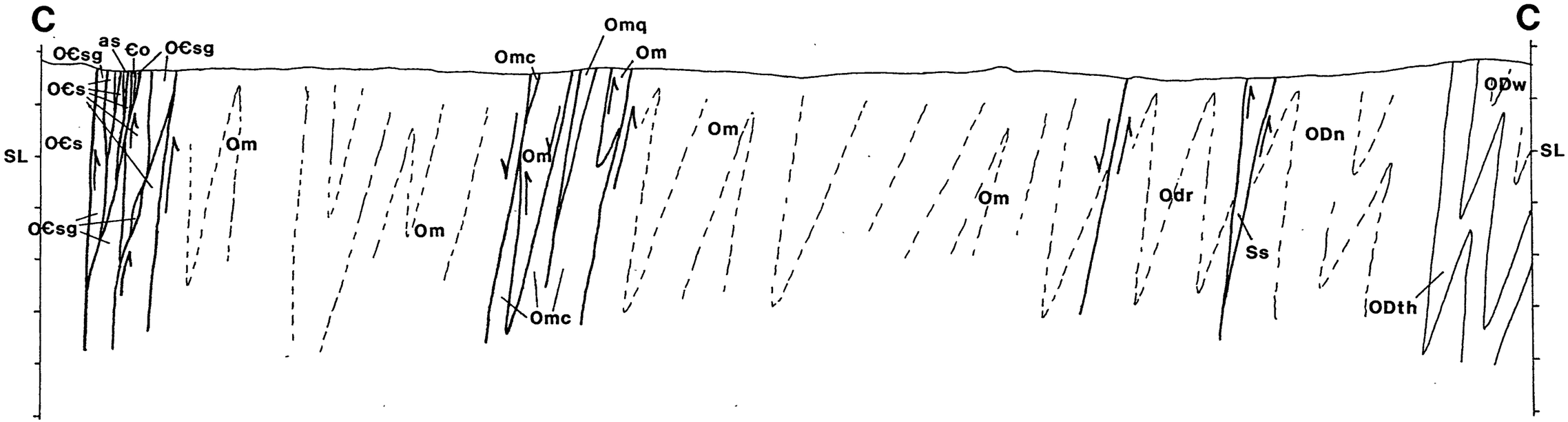

2000 Feet

GEOLOGIC SECTION ALONG THE SOUTHERN EDGE OF THE NORTHFIELD QUADRANGLE, VERMONT

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

STATE OF VERMONT
VERMONT GEOLOGICAL SURVEY
CHARLES A. RATTE, STATE GEOLOGIST

NORTHFIELD QUADRANGLE
VERMONT-WASHINGTON CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
NW/4 BARRE 15' QUADRANGLE

Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA

Topography by photogrammetric methods from aerial photographs taken 1973. Field checked 1975. Map edited 1980

Projection and 10,000-foot grid ticks: Vermont coordinate system, (transverse Mercator)
1000-meter Universal Transverse Mercator grid, zone 18
1927 North American Datum
To place on the predicted North American Datum 1983 move the projection lines 2 meters south and 36 meters west as shown by dashed corner ticks

SCALE 1:24 000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

UTM GRID AND 1980 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U S GEOLOGICAL SURVEY, RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

ROAD CLASSIFICATION

Primary highway, hard surface
Secondary highway, hard surface
Light duty road, hard or improved surface
Unimproved road
Interstate Route
U S Route
State Route

NORTHFIELD, VT.
NW/4 BARRE 15' QUADRANGLE
N4407.5—W7237.5/7.5
1980

DMA 6472 II NW—SERIES V815

LEGEND

Ces	STOWE FORMATION UNDIFFERENTIATED
Cesg	STOWE GREENSTONES
Co	OTTAUQUECHEE FORMATION
as	ALBITIC SCHIST
us	ULTRAMAFIC SCHIST
gr	GRANITE (KNOWN AS NORTHFIELD & EDGERTON)
ODw	WAITS RIVER FORMATION
ODth	TURKEY HILL FORMATION
ODn	NORTHFIELD FORMATION
Ss	SHAW MOUNTAIN FORMATION
OSsr	CROSSTOWN ROAD FORMATION
OSih	IRISH HILL ROAD FORMATION
Owb / Owbm	WEST BERLIN FORMATION Owbm = MYLONITE
Odr/Ocr	~~DOG~~ RIVER ~~FORMATION~~/CRAM HILL FM.
Ohb	HARLOW BRIDGE QUARTZITE
Om / Omc / Omq	MORETOWN FORMATION Omc = CARBONACEOUS MEMBER Omq = GRAY QUARTZITE MEMBER gs = GREENSCHIST

68 STRIKE AND DIP OF BEDDING
73 STRIKE AND DIP OF DIKE (bs=basalt, ap=aplite, gr=granite)
80 STRIKE AND DIP OF CLEAVAGE
OUTCROP LOCATION
GEOLOGIC CONTACT
FAULT

Westerman, D. S., 1994, Bedrock Geology o the Northfield Quadrangle, Vermont: Vermont Geological Survey Open File Repo VG94-4, 1 plate and text, scale 1:24,000.

Geology by David S Westerman (1983-1988)