GEOLOGIC MAP OF THE BAKER 1° x 2° QUADRANGLE WEST OF SNAKE RIVER

Scale 1:250,000

5 0 5 10 15 20 Statute Miles

5 0 5 10 15 20 25 30 Kilometers

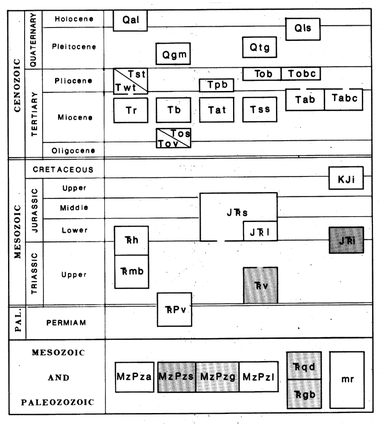
5 0 5 10 15 Nautical Miles

CONTOUR INTERVAL 200 FEET
WITH SUPPLEMENTARY CONTOURS AT 100 FOOT INTERVALS

TRANSVERSE MERCATOR PROJECTION

1960 MAGNETIC DECLINATION FOR THIS SHEET VARIES FROM 19°30' EASTERLY FOR THE CENTER OF THE WEST EDGE TO 19°00' EASTERLY FOR THE CENTER OF THE EAST EDGE. MEAN ANNUAL CHANGE IS 0°02' WESTERLY.

CHRONOLITHOGRAPH
(TIME ROCK CHART)



EXPLANATION

Qal	Alluvium: *Mainly valley fill and stream channel deposits consisting of unconsolidated silt, sand, and gravel.*
Qls	Landslide debris
Qtg	Terrace and fan deposits: *Unconsolidated gravel, cobbles, and boulders with intermixed clay, silt, and sand.*
Qgm	Glaciofluvial deposits: *Unsorted bouldery gravel, sand, and silt of terminal and lateral moraines.*
Tob	Basalt: *Mostly thin, gently dipping flows of gray to black olivine-bearing basalt and basaltic andesite.*
Tobc	Small mafic volcanic centers: *probably the source of* (Tob) *flows.*
Tst	Tuffaceous sedimentary rocks: *Poorly consolidated, water-laid silicic volcanic ash, tuffaceous clay, siltstone, sandstone, minor diatomite, mud-flow deposits, air-fall and ash-flow tuffs, and some coarse epiclastic deposits. Chiefly lacustrine except in the northern part of the map area where the upper part of the sequence includes gravelly fluviatile deposits.*
Tpb	Basalt: *Thin basalt flows and small eruptive centers. Locally overlies welded tuff of unit* (Twt) *and some sedimentary rocks of unit* (Tst).
Twt	Silicic welded and non-welded tuff: *Some tuffaceous sedimentary rocks included.*
Tab	Andesite and basalt: *Platy-jointed flows of hypersthene andesite and basalt. The unit is exposed only in the northern part of the map area. Stratigraphic relations are uncertain.*
Tabc	Mafic shield volcano: *probably the source of* (Tab) *flows.*
Tss	Tuffaceous sedimentary rocks: *Semi consolidated to well-consolidated, bedded, fine-grained tuffaceous sediments and water-laid tuff; lesser amounts of arkosic sandstone and siltstone, impure diatomite, pumicite and palagonite tuff.*
Tat	Ash flow tuffs and tuffaceous sedimentary rocks: *Partly to densely welded silicic ash-flow tuff. Includes some non-welded tuff and tuffaceous sedimentary rocks.*
Tb	Basalt and andesite: *Chiefly flow on flow basalt. Includes some andesite flows, basaltic and andesitic flow breccias, palagonite tuff and breccia, and minor silicic tuff and tuffaceous sedimentary rocks. In southwest part of area includes some silicic flows at top of section.*
Tr	Rhyolite and andesite: *Rhyolitic and subordinate andesitic flows, flow breccia, welded and non-welded tuff, tuff breccia and small intrusive masses, commonly flow banded and locally perlitic. Includes part of Dooley Rhyolite Breccia of Gilluly (1937).*
Tos	Volcaniclastic sedimentary rocks: *Poorly sorted andesite and dacite pebble and boulder conglomerate, breccia and water-laid tuff.*
Tov	Andesite and dacite: *Flows, breccia, tuff, and intrusive rocks consisting of porphyritic hornblende andesite and dacite.*
JTRl	Limestone: *Massive and thin-bedded limestone. Minor wacke, siltstone and arkosic sandstone.*
JTRs	Sedimentary rocks: *Volcanic wacke and siltstone. Some conglomeratic wacke and thin limestone lenses.*
TRh	Sedimentary rocks: *Graywacke and laminated siltstone; minor chert, thin-bedded limestone and conglomerate. Mapped as Hurwal Formation by Prostka (1962).*
TRmb	Limestone: *Massive conglomeratic and coralline limestone interbedded with thin-bedded pyritic and carbonaceous limestone and calcareous shale. Named Martin Bridge Formation by Ross (1938).*
TRv	Volcanic and sedimentary rocks: *Lava flows, flow breccia agglomerate, tuff; volcaniclastic congolmerate, breccia, sandstone, and siltstone. Chiefly andesitic; some basaltic and rhyllitic rocks. Minor limestone.*
mr	Mixed sedimentary, volcanic and intrusive rocks: *Windows and fault slices of older rocks in* (JTRs) *terrain. Includes rocks typical of units* (TRgb), (MzPzs) *and* (MzPzg).
TRPv	Volcanic and sedimentary rocks: *Lava flows, flow breccia, and agglomerate; pyroclastic rocks; subordinate epiclastic conglomerate, sandstone, and argillite; minor chert and limestone. Volcanic rocks include spilite and keratophyre. Includes Clover Creek Greenstone of Gilluly (1937).*
MzPzs	Foliated sedimentary and volcanic rocks and marble: *Includes Burnt River Schist of Gilluly (1937). Phyllitic quartzite, quartz phyllite, pelitic phyllite, minor slate, conglomerate and marble* (M_zP_zs). *Mostly greenstone and greenschist* (M_zP_zg). *Marble with interlayered phyllite and slate* (M_zP_zl); *includes Nelson Marble of Prostka (1967).*
MzPzl	
MzPzg	
MzPza	Sedimentary and volcanic rocks: *Argillite, chert and tuff; subordinate lava flows, conglomerate, and limestone. Includes Elkhorn Ridge Argillite of Gilluly (1937).*

PLUTONIC ROCKS

KJi	Upper Jurassic-Lower Cretaceous plutons: *Medium-grained hornblende and biotite quartz diorite and granodiorite. Some trondhjemite and gabbro.*
JTRi	Upper Triassic — Lower Jurassic quartz diorite.
TRqd	Pre-Upper Triassic intrusive complex: *Chiefly quartz diorite and "albite granite"* (TRqd); *gabbro and altered gabbro, minor periodtite, pyroxenite, and serpentinite* (TRgb)
TRgb	

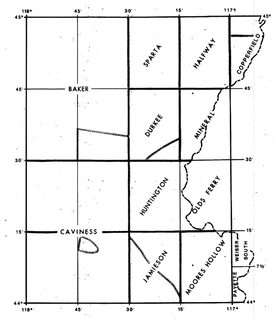
GEOLOGIC SYMBOLS

- Contact (dashed where gradational or inferred)
- Fault showing downthrown side (dashed where inferred)
- Fault, High-angle reverse
- Anticline (showing trace of axial plane and bearing and plunge of axis. Dashed where approximately located)
- Shncline (showing trace of axial plane and bearing and plunge of axis)
- Strike and dip of beds or flows

SECTIONIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

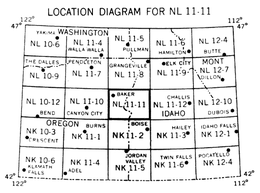
Index Map of Topographic Quadrangle and the Geologic Maps



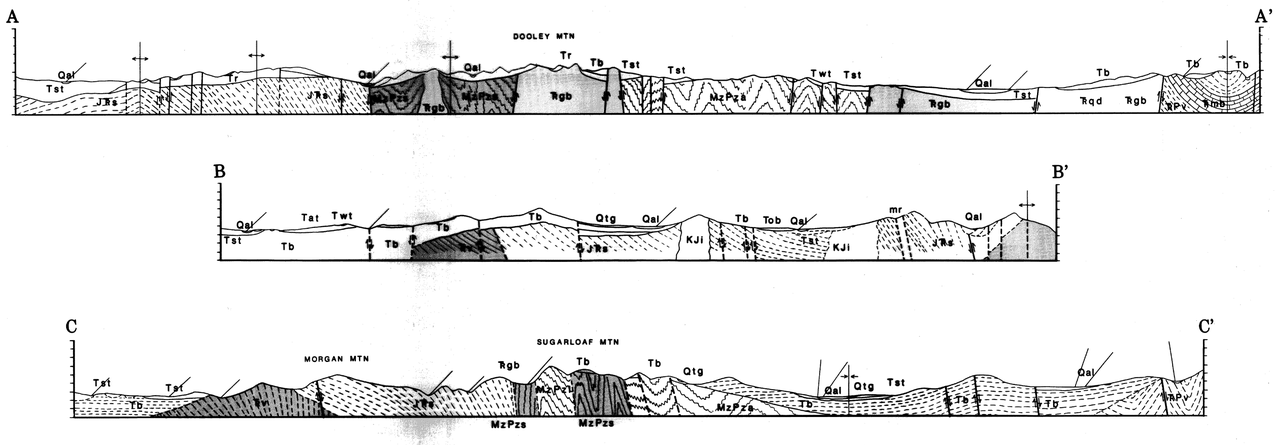
GEOLOGIC MAPPING

- Unpublished reconnaissance mapping by J.R. McIntyre, 1969-1972 and H.C. Brooks, 1972-1973; modified extensively from Gilluly, James, 1937, Geology and mineral resources of the Baker quadrangle, U.S. Geol. Survey Bull. 879.
- Modified from Ashley, R.P., 1966, Metamorphic petrology and structure of the Burnt River Canyon area, northeastern Oregon: Stanford Univ. doctoral thesis.
- Prostka, H.J., and Bateman, R.L., 1962, Geology of the Sparta quadrangle: Oregon Dept. Geol. and Mineral Indus. GMS-1.
- Prostka, H.J., 1967, Preliminary geologic map of the Durkee quadrangle, Oregon: Oregon Dept. Geol. and Mineral Indus. GMS-3.
- Pre-Cenozoic geology reinterpreted by H.C. Brooks.
- Reconnaissance mapping by J.R. McIntyre, H.C. Brooks, and T.L. Vallier in 1967-1972.
- Vallier, T.L., 1973, Geologic map of the Snake River Canyon, Oregon and Idaho: Oregon Dept. Geol and Mineral Indus. GMS-6.
- Mapping by T.L. Vallier in 1967.
- Mapping by H.C. Brooks in 1962-1973.
- Modified from Wolff, Ernest, 1966, The geology of the northern half of the Caviness quadrangle, Oregon: Univ. Oregon doctoral thesis.
- Reconnaissance mapping by G.W. Walker in 1969-1970; some contacts according to reconnaissance mapping by R.E. Corcoran in 1963.
- Wagner, N.S., Brooks, H.C., and Imlay, R.W., 1963, Marine Jurassic exposures in the Juniper Mountain area of eastern Oregon: Am. Assoc. Petrol. Geologists Bull., v. 47, p. 687-701.
- Carlat, J.E., 1954, The geology of the southwest portion of the Jamieson quadrangle, Malheur County, Oregon: Univ. Oregon master's thesis.
- Calkins, J.A., 1954, The geology of the northeastern half of the Jamieson quadrangle, Oregon: Univ. Oregon master's thesis.

LOCATION DIAGRAM FOR NL 11-11



Geologic Cross Sections



Geologic compilation by H. C. Brooks, J. R. McIntyre and G. W. Walker.

Cartography by S. R. Renoud, 1976