

Base map from digitally scanned USGS 1:100,000 composite film base, 1986.
Projection and 10,000-meter grid, zone 11.
Universal Transverse Mercator, 25,000 foot grid ticks based on Idaho coordinate system, west zone.
1987 North American Datum.

SCALE 1:100,000
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
Contour interval 50 meters
National geodetic vertical datum of 1929

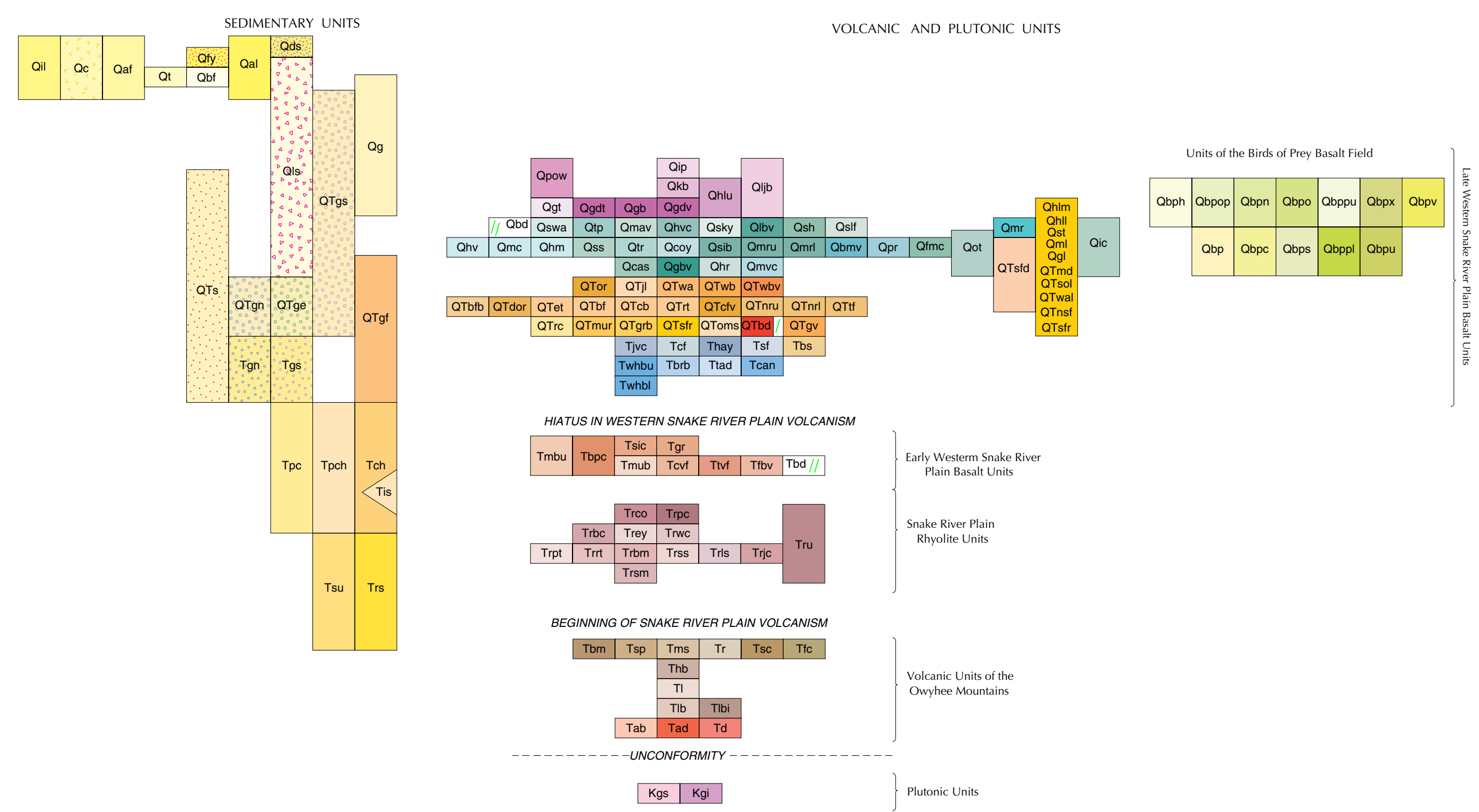
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Map version 11-28-2006.

GEOLOGIC MAP OF THE MURPHY 30 X 60 MINUTE QUADRANGLE, ADA, CANYON, ELMORE, AND OWYHEE COUNTIES, IDAHO

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2006

Disclaimer: This Digital Web Map is an informal report and may be revised and formally published at a later time. Its content and format may not conform to agency standards.

CORRELATION OF MAP UNITS



MAP UNITS

- SEDIMENTARY UNITS**
 - Unconsolidated Surficial Materials (Holocene and Pleistocene)
 - Qal Alluvium
 - Qbr Bornevillite flood deposits
 - Qd Landslide deposits
 - Qg Gravel and associated clastic materials from unknown sources
 - Ql Intermittent lake deposits
 - Qaf Alluvial fan deposits
 - Qf Post-Bornevillite flood alluvial fans
 - Qs Sand
 - Qr Terrace and flood plain deposits modified by the Bornevillite Flood
 - Qc Colluvium
 - Sedimentary Units of the Western Snake River Plain and Owyhee Mountains (Pleistocene, Pliocene, and Miocene)
 - Qtp Older gravels and associated clastic materials from northern sources
 - Qtr Gravel and associated clastic materials from southern sources, includes materials transported westward from the Owyhee Mountains
 - Qtm Gravel and associated clastic materials from northern sources
 - Qtn Gravel and associated clastic materials from eastern sources
 - Qto Clarendon Ferry Formation of the Idaho Group, includes some younger lacustrine and fluvial sediments
 - Qts Idaho Group and other fluvial, lacustrine, and eolian sediments in the NE part of the Murphy quadrangle
 - Qm Snake River Plain units of Miocene age
 - Qp Older gravels and associated clastic materials from southern sources
- VOLCANIC AND PLUTONIC UNITS**
 - Older gravels and associated clastic materials from northern sources
 - Poison Creek Formation of the Idaho Group
 - Chalk Hills Formation of the Idaho Group
 - Poison Creek and Chalk Hills Formations, undivided
 - Cemented sandstone beds within the Chalk Hills Formation
 - Owyhee Mountains units of Miocene age
 - Sucker Creek Formation
 - Sedimentary basin fill of the Reynolds Basin area
 - BIRDS OF PREY BASALT FIELD UNITS OF THE WESTERN SNAKE RIVER PLAIN (Pleistocene)**
 - Qpp Basalt that flowed north and south from the south-central part of the Central Ridge Vent Complex
 - Qpc Basalt of Corder Creek
 - Qph Basalt of Highy Cave
 - Qpu Upper basalt of Promontory Point
 - Qpl Lower basalt of Promontory Point
 - Qps Basalt of Old Powerline Road
 - Qpn Basalt of the National Guard Area
 - Qpr Basalt of the Orchard Railroad Siding
 - Qpt Basalt of Hat Butte vent area
 - Qps Basalt of Sand Creek
 - Qpc Basalt of Christmas Mountain
 - Qpu Central Ridge Vent Complex
 - Qpv Undifferentiated basalt flows on the periphery of the Birds of Prey area whose sources are unknown
 - Late Western Snake River Plain Basalt Units (Pleistocene and Pliocene)**
 - Units with both high alkali and high alumina contents
 - Qp1 Kuna Butte basalt field
 - Qp2 Basalt of Powers Butte
 - Qp3 Middle basalt of Halverson Lake
 - Qp4 Basalt of Glendale Road
 - Qp5 Basalt of Little Joe Butte
 - Units with high alumina but only ordinary alkali contents
 - Qp6 Grouch Drain volcanic complex
 - Qp7 Basalt flows of the Grouch Drain volcanic complex
 - Qp8 Tepha and Mast deposits of the Grouch Drain volcanic complex
 - Qp9 Upper basalt of Halverson Lake
 - Qp0 Basalt of Guffey Table
 - Late Western Snake River Plain Basalt Units (Pleistocene)**
 - Units that were mainly erupted from non-explosive vents
 - Qp10 Basalt of the Hat Butte-McElroy Butte type
 - Qp11 Basalt of Hat Butte vent area
 - Qp12 Basalt of McElroy Butte
 - Qp13 Lower basalt of Halverson Lake

- Basalt of Swan Falls Road Hill**
- Basalt of Tomblone Patch Rapids**
- Basalt of Coyote Butte**
- Basalt of Triho Hill**
- Basalt of Indian Creek**
- Basalt of Fivemile Creek**
- Basalt of Slates Flat**
- Basalt of Midway Lateral**
- Units that were mainly erupted from explosive phreatomagmatic vents
- Missouri Avenue volcanic complex
- Hidden Valley volcanic complex
- Skyline Road volcanic complex
- Liberty Butte volcanic complex
- Basaltic tephra of Sleepy Hollow
- Basaltic spatter of South Side Boulevard
- Cattle Butte volcanic complex
- Oregon Trail volcanic field
- Guffey Butte volcanic complex
- Basalt of Sinker Butte
- Upper basalt of Moore Road
- Lower basalt of Moore Road
- Boise Meridian volcanic complex
- Priest Ranch volcanic complex
- Hulet Ranch volcanic complex
- Morini volcanic complex
- Basaltic tuff of Stoddard
- Basaltic tuff of Moore Road
- Basaltic dikes in volcanic complexes

- Late Western Snake River Plain Basalt Units (Pleistocene and Pliocene)**
 - Units that were mainly erupted from non-explosive vents
 - Qp14 Basalt of Big Foot Butte
 - Qp15 Basalt of Murphy Rim
 - Qp16 Basalt of Guffey Railroad Bridge
 - Qp17 Northern basalt of Swan Falls Reservoir
 - Qp18 Basalt of Rabbit Creek
 - Qp19 Basalt of Swan Falls Reservoir
 - Qp20 Basalt of Otter Massacre Site
 - Qp21 Upper basalt of Nahas Ranch
 - Qp22 Lower basalt of Nahas Ranch
 - Qp23 Basalt of Thomas Flat
 - Qp24 Basalt of Dunesy Butte
 - Basalt plug and dikes: (a) Basalt plug of Point 2650 volcano and (b) Basalt dikes in the Wild Horse Butte quadrangle
 - Units that were mainly erupted from explosive phreatomagmatic vents
 - Qp25 Basaltic tuff of Red Trails
 - Qp26 Jims Lateral volcanic complex
 - Qp27 Wulvers Butte volcanic complex
 - Qp28 White Butte volcanic complex
 - Qp29 Basaltic tuff of McDermott Road
 - Qp30 Dikes and plugs of the Southern Lateral
 - Qp31 Basaltic tuff of Waldvogel Canal
 - Qp32 Graywax Rapids volcanic complex
 - Qp33 Wees Bar volcanic complex
- Early Western Snake River Plain Basalt Units (Miocene)**
 - Qm1 Basaltic tuff of Swan Falls Dam
 - Qm2 Conservancy Flats volcanic complex
 - Qm3 Basaltic tuff of Emigrant Trail
 - Qm4 Basaltic tuff of Big Foot Bar
 - Qm5 Basaltic tuff of Cattle Butte area
- Late Western Snake River Plain Basalt Units (Pleistocene)**
 - Units that were mainly erupted from non-explosive vents
 - Qp34 Upper basalt of Wild Horse Butte
 - Qp35 Lower basalt of Wild Horse Butte
 - Qp36 Result of Brooks Ranch
 - Qp37 Basalt of Tadpole Lake
 - Qp38 Result of Canyon Creek
- Units that were mainly erupted from explosive phreatomagmatic vents (Miocene)**
 - Qm6 Jackson Butte volcanic complex
 - Qm7 Chatsin Flat volcanic complex
 - Qm8 Oregon Trail volcanic field
 - Qm9 Guffey Butte volcanic complex
 - Qm10 Basaltic tuff of Saylor Feedlot
 - Qm11 Basaltic tuff layers within Qm7
- Early Western Snake River Plain Basalt Units (Miocene)**
 - Qm12 Basalt flows that generally are subvertical, undivided
 - Qm13 Basalt flows associated with the Chalk Hills and Poison Creek Formations, undivided
 - Qm14 Basalt of Sinker Creek
 - Qm15 Tuff of Gabica Ranch
 - Qm16 Basaltic tuff of Murphy area
 - Qm17 Chalky volcanic field
 - Qm18 Fossil Butte volcanic complex
 - Qm19 Teapot volcanic field
 - Qm20 Basaltic dikes
- Early Western Snake River Plain Rhyolite Units (Miocene)**
 - Qr1 Rhyolite vitrophyre northwest of Sinker Creek
 - Qr2 Rhyolite of the Cerro Obispo type
 - Qr3 Rhyolite of Bowers Creek area
 - Qr4 Rhyolite lava flow of Reynolds Creek
 - Qr5 Rhyoclastic welded ignimbrite of Wilson Creek
 - Qr6 Pale Creek top segment of the Jump Creek rhyolite
 - Qr7 Rockville Table segment of the Jump Creek rhyolite
 - Qr8 Buck Mountain segment of the Jump Creek rhyolite
 - Qr9 Shaws Segment of the Jump Creek rhyolite
 - Qr10 Debris flow, landslide, and brecciated parts of the Jump Creek rhyolite vent area
 - Qr11 Jump Creek rhyolite, undifferentiated
 - Qr12 Rhyolite of Swisher Mountain
 - Qr13 Rhyolite in northeastern part of area, undifferentiated
- Volcanic Units of the Owyhee Mountains (Miocene)**
 - Qm21 Black Mountain unit of the Silver City rhyolite
 - Qm22 Plagioclase rhyolite unit of the Silver City rhyolite
 - Qm23 Milled rhyolite unit of the Silver City rhyolite
 - Qm24 Dikes and plugs of the Silver City rhyolite
 - Qm25 Silver City rhyolite, undifferentiated
 - Qm26 Wedded tuff and/or rhyolite lava flows of Flint Creek
 - Qm27 Higher basalt of the Owyhee Mountains

- Older Volcanic and Granitic Units (Oligocene and Cretaceous)**
 - Qo1 Andesite and basalt of upper Salmon Creek, Owyhee Mountains
 - Qo2 Andesite dikes and plug, Owyhee Mountains
 - Qo3 Oligocene dike rocks, Owyhee Mountains
 - Qo4 Granite of the Silver City batholith, Owyhee Mountains
 - Qo5 Granite of the Idaho batholith
- SYMBOLS**
 - Contact: dashed where approximately located
 - Fault: dashed where approximately located, dotted where concealed, bar and ball on downthrown side
 - Strike and dip of bedding
 - Strike and dip of isolation
 - Horizontal bedding
 - Fold axis: arrow indicates plunge direction
 - Syncline
 - Anticline
 - VOLCANOES:**
 - Basaltic shield
 - Basaltic cinder and spatter cones; basaltic tuff cones
 - Basaltic mounds and tuff rings
 - Subaqueous basaltic eruptive zones
 - Rhyolitic venting zones

- REFERENCES**
 - Bonnichsen, Bill, and Martha M. Godchaux, 1996. Geologic Map of the Walker Butte Quadrangle, Ada, Canyon, and Owyhee Counties, Idaho. Idaho Geological Survey Geologic Map 21, 1:24,000.
 - Modified from Jenks and Bonnichsen, 1996.
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 - Modified from Bonnichsen and Godchaux, 1996.
 - Geology modified from Eiken and others, 1981, by John D. Kauffman to fit the Murphy 30 x 60 minute base map, 2003.
 - Modified from Eiken and others, 1981, with additions and unit subdivisions based on geologic mapping by Bill Bonnichsen and Martha M. Godchaux, 1987-2002.
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