Information Circular No. 20
IDAHO BUREAU OF MINES AND GEOLOGY
MOSCOW, IDAHO
DECEMBER, 1968

Lexicon of Idaho Geologic Names

by

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State of Idaho
DON SAMUELSON, Governor

Idaho Bureau of Mines and Geology
R. R. REID, Director

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INTRODUCTION

The following pages constitute a lexicon of Idaho stratigraphic names. The purpose of this publication is to inform people interested in Idaho's rock systems about accepted usage of formal and informal names applied to layered rocks throughout the state.

Much of the core of this work comes from Keroher, G. C., and others, 1966, Lexicon of Geologic Names of the United States for 1936-1960. There have been some changes in format and not all references used by Keroher are included in this compilation. Also, some names assigned to geological rock units have been drawn from reports published after 1960. Other names have been drawn from major doctoral dissertations concerning Idaho geology.

Capitalized names indicate widely accepted formal usage of the unit involved, lower case names indicate a degree of informal usage and the fact that the Committee on Geologic Names of the U. S. Geological Survey has not yet considered the name for formal usage.

The names in this lexicon are in conformity with the usage suggested by the American Commission on Stratigraphic Nomenclature, 1961, Code of Stratigraphic Nomenclature: American Association of Petroleum Geologists Bulletin, Volume 45, Number 5, pages 645-660.

Certain suggestions by the U. S. Geological Survey have also been taken into account. U. S. Geological Survey Bull. 1274-A includes some new Idaho geologic names. It is in press and is expected to be available by Fall of 1968. Names of new Idaho formations from this forthcoming publication are included in this lexicon by courtesy of the Survey.

Attention is specially called to an addendum which includes 28 new names received after the main lexicon plates had been prepared.

ALBION RANGE GROUP: Precambrian(?)---S-Central Idaho
U.S.G.S. Lexicon 1966, p. 42 Quartzite, schist and marble
Thickness: 9,000 ft.
Type section: South-central Idaho in Albion Range, Cassia Co.
Orig. Ref.: Anderson, A. L., 1934, Jour. Geology, v. 42, no. 4, p. 377-379
Other Selected Refs.: Ross, C. P. and Forrester, J. D., 1958, Idaho Bur. Mines and Geology Bull. 15, p. 4. First called Harrison Series by Anderson, later changed to Albion.

Aldrich Formation (of Belt Supergroup): Precambrian---S Brit. Col., N Idaho
U.S.G.S. Lesicon 1966, not entered, Canadian equivalent to Prichard in U.S.

AMERICAN FALLS LAKE BEDS: Upper Pleistocene---SE Idaho
U.S.G.S. Lexicon 1966, p. 75
Thickness: Approx. 150 ft.
Unit above: Madson Basalt
Unit below: Cedar Butte Basalt
Type section: Southeast Idaho, bluffs along Snake River from American Falls dam to narrows, about 5 miles long
Orig. Ref.: Stearns, H. T., Correlation chart of Idaho compiled by Wilmarth, M. G.: Stearns, H. T., 1936, Jour. Geol., v. 44, no. 4, p. 434-439
Other Selected Refs.: Stearns, H. T., Crandall, L., and Steward, W. G., U.S. Geol. Survey Water-Supply Paper 774, p. 30, discusses beds as water source.

ANKAREH FORMATION: Lower and Upper Triassic---SE Idaho
U.S.G.S. Lexicon 1966, p. 103 Red silty shale
Thickness: Variable
Unit above: Nugget Sandstone
Unit below: Thaynes Formation
Type section: Ankareh Ridge Park City district, Utah
Orig. Ref.: Williams, J. S., 1945, Am. Jour. Sci., v. 243, p. 474-477
Other Selected Refs.: Williams gave name Ankareh to red beds near top of Thaynes Limestone and below an unconformity in the Higham Grit in NE Utah. Ankareh includes locally Higham Grit (oldest), Deadman Limestone, and Wood Shale Members. It is proposed that Ankareh Fm. include all strata between Thaynes and Nugget Formations.

Apple Creek Phyllite (of the Belt Supergroup): Precambrian---E Idaho
U.S.G.S. Lexicon 1966, not entered Phyllite
Type section: Southwest part of Lemhi quadrangle along Hayden Creek
Orig. Ref.: Anderson, A. L., 1961, Idaho Bur. Mines and Geology Pamph. no. 4, p. 19-20

ASPEN FORMATION: Lower Cretaceous---SE Idaho, SW Wyo., NW Montana, and NE Utah
U.S.G.S. Lexicon 1966, p. 154 Shale
Thickness: Ranges from 15-2,015 ft.
Unit above: Frontier Formation
Unit below: Bear River Formation
Type section: Old Railroad Station at Aspen, Wyom. center sec. 29, T14S, R11W
Orig. Ref.: Veatch, A. C., 1907, U.S. Geol. Survey Prof. Paper 56
Other Selected Refs.: Actually a member of the Mancos Shale in Uinta basin, Utah (thickness 15-95)
Gardner, L. S., 1944, U.S. Geol. Survey Bull. 944-A, p. 6, mapped this shale in the Irvine quadrangle as 2,015 ft. thick.

Banbury Basalt (of Idaho Group): Middle Pliocene
U.S.G.S. Lexicon 1966, not entered
Thickness: Variable
Unit above: Chalk Hills Formation
Unit below: Poison Creek Formation
Type section: Southwest Snake River Plain
Orig. Ref.: Malde, H. E. and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199

Bancroft Springs Basalt (of Snake River Group): Upper Pleistocene---S Idaho
U.S.G.S. Lexicon 1966, not entered
Unit above: Mellon Gravel
Unit below: Sand Springs Basalt
Type section: Southwest Snake River Plain
Orig. Ref.: Malde, H. E., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199

Bannock Volcanic Formation: Precambrian or Lower Cambrian---SE Idaho
U.S.G.S. Lexicon 1966, p. 211 Lavas, tuffs, and volcanic breccia
Thickness: 400 ft. +
Unit above: Pocatello Formation
Unit below: Unnamed quartzite
Type section: Bannock Range, Bannock Co.
Orig. Ref.: Anderson, A. L., 1929, Idaho Bur. Mines and Geology Pamph. 38, p. 3
Other Selected Refs.: Ludlum, J. C., 1942, Jour. Geology, v. 50, no. 1

BAYHORSE DOLOMITE: Cambrian(?)---S-Central Idaho
U.S.G.S. Lexicon 1966, p. 243 Dolomite massive thick bedded in part oolitic
Thickness: Approx. 1,000 ft.
Unit above: Ramshorn Slate
Unit below: Garden Creek Phyllite
Type section: South-Central Idaho, at town of Bayhorse
Orig. Ref.: Ross, C. P., 1932, Idaho correlation chart compiled by M. G. Wilmarth
Other Selected Refs.: Ross, C. P., 1937, U.S. Geol. Survey Bull. 877, p. 11-14

BAYVIEW GRANITE: Cretaceous---N Idaho
U.S.G.S. Lexicon 1966, p. 246 Granitic
Unit above: Intrusive
Type section: Exposures around Bayview
Orig. Ref.: Gillson, J. L., 1927, Jour. Geology, v. 35, no. 1

Bead Lake Formation (Newport Group): Precambrian---N Idaho & E Washington (of Belt Supergroup)
U.S.G.S. Lexicon 1966, p. 247 Fine-grained argillaceous and quartzitic sandstones, light colored
Thickness: Approx. 12,500 ft.
Unit above: No Name Argillite, gradational
Unit below: Not exposed
Type section: Bead Lake District; Pend Oreille Co., Washington
Orig. Ref.: Schroeder, M. C., 1952, Washington Div. Mines and Geology Bull. 40, p. 7

BEAR RIVER FORMATION (Gannet Group): Lower Cretaceous---SE Idaho
U.S.G.S. Lexicon 1966, p. 252 Dark gray ferruginous carbonaceous shale, siltstone and sandstone
Thickness: 300-500 ft.
Unit above: Wayan Shale
Unit below: Tygee Sandstone
Type section: Southern Wyoming, southeastern Idaho, and northeastern Utah
Orig. Ref.: Hayden, F. V., 1869, U.S. Geol. Survey Colorado and New Mexico, 3rd Ann. Rept. Hayden Survey, p. 91-92
Other Selected Refs.: Vine, J. D., 1959, U.S. Geol. Survey Bull. 1055-I, p. 259, 262-263

BEAVERHEAD FORMATION (Beaverhead Conglomerate): Paleocene and Eocene---SW Montana and E-Central Idaho
U.S.G.S. Lexicon 1966, p. 260 Conglomerate
Unit above: Not exposed
Unit below: Not exposed
Type section: Southwestern Montana and East-Central Idaho near mouth of McKnight Canyon, 6 miles west of Dell, Montana
Orig. Ref.: Eardley, A. J., 1950 (abst), Geol. Soc. America Bull., v. 61, no. 12
Other Selected Refs.: Lowell, W. R., and Klepper, M. R., 1953, Geol. Soc. America Bull., v. 64, no. 2, p. 235-243
Propose name be used for sequence of sandstone, siltstone, and limestone. Divided into 4 mappable units at type section.

Beaverhead Granite: Eocene---SW Montana and E-Central Idaho
U.S.G.S. Lexicon 1966, p. 260 Moderately coarse-grained, light gray to pink and light green granite
Type section: Crops out in Beaverhead Range Idaho and Montana
Orig. Ref.: Scholten, Robt., Keenmon, K. A., Kupsch, W. O., 1955, Geol. Soc. America Bull., v. 66, no. 4, p. 370-372

BECHLER FORMATION (Part of Gannet Group): Lower Cretaceous---SE Idaho
U.S.G.S. Lexicon 1966, p. 262 Conglomerate, red beds and shales
Thickness: 35 to 1,000 ft.
Unit above: Draney Limestone
Unit below: Peterson Limestone
Type section: Bechler Creek which enters Stump Creek from one-fourth mile north
Orig. Ref.: Mansfield, G. R. and Roundy, P. V., 1916, U.S. Geol. Survey Prof. Paper 98G, p. 76, 82
Other Selected Refs.: Gardner, G. R., 1952, U.S. Geol. Survey Bull. 944A, p. 7
Mansfield, G. R., 1952, U.S. Geol. Survey Prof. Paper 238, describes Bechler as sandstone with scattered conglomerate in Ammon quadrangle, Idaho---probably 1,000 ft. thick.

Beirdneau Member (of Jefferson Formation): Late Devonian---Idaho
U.S.G.S. Bull. 1244A, p. A-11 Sandstone
Type section: SW¼ Bancroft quadrangle, Idaho
Orig. Ref.: Oriel, S. S., 1965, Preliminary map of Bancroft and Caribou Counties: U.S. Geol. Survey MF-299

BELT SUPERGROUP: Precambrian---N and SE Idaho
U.S.G.S. Lexicon 1966, p. 294 Siltite, argillite, quartzite, some limy, locally shaly, broad range of metamorphic stages
Thickness: Maximum 4,000 to 5,000 ft.
Unit above: Lakeview Limestone locally in north Idaho
Unit below: Pre-Belt(?)
Type section: Extensive exposures in Big and Little Belt Mtns. Central Montana
Orig. Ref.: Peale, A. C., 1893, U.S. Geol. Survey Bull. 110, p. 15-20
Other Selected Refs.: Fenton, C. L. and Fenton, M. A., 1937, Geol. Soc. America Bull., v. 48, no. 12, p. 1873-1970
Ross, C. P., 1959, U.S. Geol. Survey Prof. Paper 296, p. 16-57
Hobbs and others, 1965, U.S. Geol. Survey Prof. Paper 478, 439 p.

BIG HOLE BASALT (of the Snake River Group?): Pleistocene
U.S.G.S. Lexicon 1966, not entered Basalt
Type section: Southeast Idaho near American Falls Reservoir
Orig. Ref.: Mundorff, M. J., 1967, U.S. Geol. Survey Water Supply Paper 1846, 58 p.

Blackrock Limestone: Precambrian(?)---SE Idaho
U.S.G.S. Lexicon 1966, p. 374 Limestone
Thickness: 535 ft.
Unit above: Brigham Quartzite
Unit below: Pocatello Formation
Type section: Blackrock Creek, 2 miles northeast of Portneuf siding. Best exposure on north side several miles in length.
Orig. Ref.: Anderson, A. L., 1929, Idaho Bur. Mines and Geology Pamph. 28, p. 4
Other Selected Refs.: Ludlum, J. C., 1942, Jour. Geology, v. 50, no. 1, p. 92-93

BLACKSMITH LIMESTONE: Middle Cambrian---NE Utah, SE Idaho
U.S.G.S. Lexicon 1966, p. 375 White-gray, dull steel gray thick bedded dolomite and magnesium dolomite
Thickness: 450 to 800 ft.
Unit above: Bloomington Limestone
Unit below: Ute Limestone
Type section: Black Fork Canyon, 8 miles above its mouth and 15 miles east of Hyrum, Cache County, Utah
Orig. Ref.: Walcott, C. D., 1908, Smithsonian Misc. Colln., v. 53, no. 1804, p. 6-7
Other Selected Refs.: Deiss, Charles, 1938, Geol. Soc. America Bull., v. 49, no. 7, p. 1112-1113, 1117, 1121

Blacklead Limestone: Missippian-Pennsylvanian---N Idaho
U.S.G.S. Lexicon 1966, p. 367 Limestone
Type section: In Clearwater Mts. at head of Cayuse Creek, tributary of North Fork of Clearwater River, also in a high valley between Blacklead Peak and Rhodes Creek
Orig. Ref.: Anderson, A. L., 1930, Idaho Bur. Mines and Geology Pamph. 34
Other Selected Refs.: Moore, R. C. and others, 1944, Geol. Soc. America Bull., v. 55, no. 6, p. 701 (chart)

BLACKTAIL FORMATION (St. Regis and Revett equivalent): Precambrian---N Idaho (Belt Supergroup)
U.S.G.S. Lexicon 1966, p. 376 Argillites, siltites, some quartzite, mild metamorphic stage
Thickness: 8,300 ft.
Unit above: Wallace Formation
Unit below: Burk Formation
Type section: Blacktail Mtn., near Talache, Idaho
Orig. Ref.: Gillson, G. L., 1925, Am. Min., v. 10, p. 189; also Jour. Geology, v. 35, no. 1, p. 1-32

Black Mesa Gravel (of Idaho Group): Middle Pleistocene
U.S.G.S. Lexicon 1966, not entered
Unit above: Madson Basalt
Unit below: Bruneau Formation
Type section: Southwest Snake River Plain
Orig. Ref.: Malde, H. E., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199

Bliss Basalt, or Volcanics (abandoned): Pleistocene---S Idaho
U.S.G.S. Lexicon 1966, p. 384 Basalt
Thickness: Approx. 100 ft.
Type section: Bliss Cone and Bliss Bridge, Twin Falls, Idaho
Orig. Ref.: Stearns, 1932 (correlation chart of Idaho compiled by M. G. Wilmarth
Other Selected Refs.: Stearns, H. T., Crandall, Lynn, and Steward, W. G,, 1938, U.S. Geol. Survey Water-Supply Paper 774, p. 78-79
Probably same unit as McKinney Basalt.

BLOOMINGTON FORMATION: Middle Cambrian---SE Idaho and NE Utah
U.S.G.S. Lexicon 1966, p. 388 Olive shale and interbedded thin layers light to dark gray limestone, thin to thick gray limestone
Unit above: Nounan Formation
Unit below: Blacksmith Dolomite
Type Section: 6 miles west of Bloomington, Bear Lake Co., Idaho
Orig. Ref.: Walcott, C. D., 1908, Smithsonian Misc. Colln., v. 53, no. 1804, p. 6-7
Other Selected Refs.: Maxey, G. B., 1958, Geol. Soc. America Bull., v. 69, no. 6, p. 651-653, 672-673

Boise Granite: Cretaceous---SW Idaho
U.S.G.S. Lexicon 1966, p. 415 Granitic
Type section: Mountains north and east of Boise also north of Mountain Home
Orig. Ref.: Russell, I. C., 1902, U.S. Geol. Survey Bull. 199, p. 39

Boise Sandstone: Pliocene(?)---SW Idaho
U.S.G.S. Lexicon 1966, p. 415 Sandstone
Type section: West Idaho
Orig. Ref.: Kirkham, V. R. D., 1928, Idaho Bur. Mines and Geology Pamph. 29, p. 1

BOUNDARY RIDGE MEMBER (of Twin Creek Formation): Middle(?) Jurassic---SE Idaho, NW Wyoming, N Utah
U.S.G.S. Lexicon 1966, not entered Red, green, and yellow siltstone and oolitic limestone
Thickness: 187 ft. at Willow Creek near Idaho Falls
Unit above: Watton Canyon Member
Unit below: Rich Member
Type section: Southeast Idaho Willow Creek
Orig. Ref.: Imlay, R. W., 1967, U.S. Geol. Survey Prof. Paper 540, p. 36

BRAZER LIMESTONE (or DOLOMITE): Mississippian---NE Utah, E and S-Central Idaho
U.S.G.S. Lexicon 1966, p. 460 Limestone and dolomite
Thickness: 500-4,000 ft.
Unit above: Wells Formation
Unit below: Madison Limestone
Type section: Rich Co. Utah, Brazer Canyon
Orig. Ref.: Richardson, G. B., 1913, Am. Jour. Sci., 4th v. 36, p. 407, 413
Other Selected Refs.: Ross, C. P., 1960, U.S. Geol. Survey Prof. Paper 400-B, p. B232
Strickland, J. W., 1956, Wyoming Geol. Soc. Assoc. Guidebook 11 Ann. Field Conference, p. 51-57
Sando, W. J., Dutro, J. T., Jr. and Gere, W. C., 1959, Am. Assoc. Petroleum Geologists Bull., v. 43, no. 12, p. 2741-2769. May be part of Madison Group.

BRIGHAM QUARTZITE: Late Precambrian, Early Cambrian---NE Utah, SE Idaho
U.S.G.S. Lexicon 1966, p. 479 Quartzite
Thickness: Up to 6,000 ft.
Unit above: Langston Limestone
Unit below: Big Cottonwood Canyon Series
Type Section: West front Wasatch Range, Box Elder Co. Utah
Orig. Ref.: Wallcott, C. D., Smithsonian Misc. Colln., v. 53, no. 1804, p. 6-7
Other Selected Refs.: Stokes, W. L., 1953, Intermountain Assoc. Petroleum Geologists [Guidebook] 4th Ann. Field Conf., p. 14. Summary discussion.
Maxey, G. B., 1958, Geol. Soc. America Bull., v. 69, no. 6, p. 667. Much of Brigham Quartzite assigned to Prospect Mountain Group.
Oriel, S. S., 1965, Preliminary map of Bancroft and Caribou Counties, U.S. Geol. Survey map MF-299.

Brown Bear Leader Sandstone (in Frontier Formation): Upper Cretaceous---S Idaho
U.S.G.S. Lexicon 1966, p. 495 Massive sandstone
Thickness: 80 ft.
Unit above: Coal bed in Frontier Formation
Type section: Vicinity of Brown Bear Coal mine, Brown Bear Creek, Teton Co., Idaho
Orig. Ref.: Kiilsgaard, 1951, Idaho Bur. Mines and Geology Pamph. 92, p. 17, 32

Brown Creek Formation (of Idaho Group?): Pliocene---SE Idaho, Oreana quadrangle
U.S.G.S. Lexicon 1966, not entered Basalt, clastics, pyroclastics and diatomite
Unit above: Oreana Formation
Unit below: Tertiary silicic volcanics (Idavada?)
Type section: Vicinity of Brown Creek
Orig. Ref.: Anderson, N. R., 1965, Upper Cenozoic stratigraphy of the Oreana Idaho 15' quadrangle: (Unpub. Ph.D. dissert., Univ. of Utah) 211 p.

Bruneau Formation (of Idaho Group): Middle Pleistocene---W and S Idaho
U.S.G.S. Lexicon 1966, not entered
Unit above: Black Mesa Basalt
Unit below: Tuana Gravel
Type section: Southwest Snake River Plain
Orig. Ref.: Malde, H E., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199

BURKE FORMATION (Ravalli Group): Precambrian Belt Supergroup---NE Idaho
U.S.G.S. Lexicon 1966, p. 539 Light gray flaggy fine-grained sandstone and shales, some purple quartzite beds
Thickness: 2,000 ft. +
Unit above: Revett Formation
Unit below: Prichard Formation
Type section: Canyon Creek from Burke to Gem, Idaho
Orig. Ref.: Ransome, 1905, U.S. Geol. Survey Bull. 260, p. 275-285
Other Selected Refs.: Ransome, F. L. and Calkins, F. C., 1908, U.S. Geol. Survey Prof. Paper 62, p. 32-34
Hosterman, J. W., 1956, U.S. Geol. Survey Bull. 1027, p. 728-729. 2,220-2,500 ft. thick.

BURLEY LAKE BEDS: Pleistocene---S Idaho
U.S.G.S. Lexicon 1966, p. 540 Unconsolidated to well packed clay, silt, sand and fine gravels, intercalated basalt
Type section: Burley, Cassia Co., Idaho. Known only from drill hole records, and Minidoka Co., Rupert and Paul
Orig. Ref.: Stearns, H. T., 1932, Wilmarth correlation chart of Idaho
Other Selected Refs.: Crosthwaite, E. G., 1956, Ground-water possibilities south of the Snake River between Twin Falls and Pocatello, Idaho: U.S. Geol. Survey Circ. 371, p. 6-7

Busby Quartzite Member (of Langston Formation): Middle Cambrian---SE Idaho-N Utah
U.S.G.S. Lexicon 1966, p. 554 Quartzite
Type section: Incidental mention in Idaho
Orig. Ref.: Maxey, G. B., 1955, Dissert. Abst., v. 15, no. 4, p. 558 (See page 553, 1966 Lexicon)

Cache Valley Group (included West Spring Formation): Miocene-Pliocene---SE Idaho and NE Utah
U.S.G.S. Lexicon 1966, p. 570 Sediments(?)
Thickness: 7,674 ft.
Unit above: Mink Creek Conglomerate
Unit below: Collingston Conglomerate
Type section: North side Cache Valley, Northeast Utah, Southeast Idaho, and on Bear River below Middle Canyon
Orig. Ref.: Peale, A. C., 1879, U.S. Geol. and Geog. Survey Terr. 11th Ann. Report, p. 603-606, 634-635, 640-641
Other Selected Refs.: Smith, Neal, 1953, Intermountain Assoc. Petroleum Geologists Guidebook, 4th Ann. Field Conf., p. 73-75. Formation placed at top of Salt Lake Group. 1,000-2,000 ft. thick.
Above West Spring Formation
Adamson, R. D., Hardy, C. T., and Williams, J. S., 1955, Utah Geol. Soc. Guidebook 10, p. 1-2, 6-7

Calder Creek Member (of Wells Formation): Pennsylvanian---Idaho
U.S.G.S. Lexicon 1966, p. 578 Sedimentary(?)
Unit above: Milligen Formation
Unit below: Heglar Canyon Member
Type section: Sublett Mountain area
Orig. Ref.: Bissell, H. J., 1960, Am. Assoc. Petroleum Geologists Bull., v. 44, no. 8, p. 1427 (chart)

Caldwell Sediments: Upper Pleistocene---SW Idaho
U.S.G.S. Lexicon 1966, p. 578 Clay, silt, sand and fine gravel
Thickness: 50 ft. +
Unit above: Snake River Group
Unit below: Nampa Sediments
Type section: Boise Valley, generally below 2,500 ft. elev., Ada and Canyon Counties
Orig. Ref.: Savage, C. N., 1958, Idaho Bureau of Mines and Geology County Rept. 3, p. 20

CAMP DAVIS FORMATION (Camp Davis Conglomerate): Lower Pliocene-Upper Miocene ---W Wyoming and SE Idaho
U.S.G.S. Lexicon 1966, p. 596 Conglomerates, fanglomerates, rhyolites and andesite flow, breccias and tuffs, and fresh water limestone
Unit below: Pass Peak Conglomerate
Type section: Along E side of U.S. Highway 187 in sec. 29, T39N, R115W, Teton County, Wyoming
Orig. Ref.: Eardley, A. J. and others, 1944, Hoback---Gros Ventre---Teton Field Conf., (geologic map, privately printed)
Bayless, J. C., 1950, Michigan Acad. Sci., Arts, and Leters, Papers, v. 34, p. 211, 213-215. Formation extended into Idaho replaces name Salt Lake Formation used for SE Idaho Palisades area. Equivalent of Payette Formation?

Carmen Formation (Abandoned now Kirtley Formation): Lower Miocene---E-Central Idaho
U.S.G.S. Lexicon 1966, p. 643 Indurated thin-bedded fine-grained clastic rocks, shales and sandstones, some conglomerate
Unit below: Challis Volcanics
Type section: Exposures above and below village of Carmen and along Carmen Creek to East Salmon Basin, Lemhi County
Orig. Ref.: Anderson, A. L., 1956, Idaho Bur. Mines and Geology Pamph. 106, p. 1, 16, 28-31
Other Selected Refs.: Anderson, A. L., 1959, Idaho Bur. Mines and Geology Pamph. 118, p. 21, 27 (Preoccupies name replaced by Kirtley Formation).

CASTO VOLCANICS: Permian(?)---Central Idaho
U.S.G.S. Lexicon 1966, p. 668 Volcanics, coarse conglomerates locally, one limestone bed
Unit above: Challis Volcanics
Unit below: Older sedimentary rocks
Type section: Cover large area of Casto quadrangle
Orig. Ref.: Ross, C. P., 1927, Idaho Bur. Mines and Geology Pamph. 25 854, p. 28-35. Cut by Idaho batholith.

Cataldo Quartzite: Precambrian Belt Supergroup---N Idaho
U.S.G.S. Lexicon 1966, p. 670 Quartzite
Type section: Occurs over large area little above Pine Creek Kellogg, nearly to station of Rose Lake; near town of Tekoa, Washington
Orig. Ref.: Hershey, 1912, Geol. Soc. America Bull., v. 23, p. 526, and Hershey, 1912, Am. Jour. Sci., 4th, v. 34, p. 266-267

CEDAR BUTTE BASALT: Pleistocene---S Idaho
U.S.G.S. Lexicon 1966, p. 685 Blue pahoehoe basalt with fresh green olivine phenocrysts
Thickness: About 200 ft.
Type section: Cedar Butte, T8S, R29E, Power Co.
Orig. Ref.: Stearns, 1932, Correlation chart of Idaho compiled by M. G. Wilmarth, 1932; also Jour. Geology, v. 44, no. 4, p. 434-439

Center Creek Flow (over "Upper" Columbia River Basalt): Miocene---North-Central Idaho
U.S.G.S. Lexicon 1966, not entered Basalt
Type section: Center Creek Canyon 1,200 ft. below Doumecq Pleateau
Orig. Ref.: Bond, J. G., 1963, Geology of the Clearwater embayment: Idaho Bur. Mines and Geology Pamph. 128, 83 P.

Chalk Hills Formation (of Idaho Group): Middle Pliocene---S Idaho
U.S.G.S. Lexicon 1966, not entered
Unit above: Glenns Ferry Formation
Unit below: Banbury Basalt
Type section: Southwest Snake River Plain
Orig. Ref.: Malde, H. E., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199

Clarkston Gravels (Clarkston Stage): Pre-Wisconsin, Pleistocene---E Washington-W Idaho
U.S.G.S. Lexicon 1966, p. 824 Sands and gravels
Thickness: About 425 ft.
Type section: Clarkston, Washington
Orig. Ref.: Lupher, R. L., 1944, Geol. Soc. America Bull., v. 55, no. 12, p. 1433-1455
Other Selected Refs.: Lupher, R. L., 1945, Jour. Geology, v. 53, no. 5, p. 337-348. Clarkston Stage defined as an episode of proglacial aggradation, antedated Wisconsin Stage.

Coeur d'Alene "Facies" (Belt Supergroup): Precambrian---N Idaho and W Montana
U.S.G.S. Lexicon 1966, p. 870 Sandstones and argillaceous beds throughout the Striped Peak by reduction of lower Wallace
Type section: Coeur d'Alene Region
Orig. Ref.: Fenton, C. L. and Fenton, M. A., 1937, Geol. Soc. America Bull., v. 48, no. 12, p. 1877
Other Selected Refs.: Fenton and Fenton state Belt Supergroup is divisible in its northern basin into facies differing in lithology, stratigraphic sequence, thickness, and recorded condition of deposition. Closely related to Purcell Formation.

Coeur d'Alene Series (abandoned): Precambrian Belt Supergroup---NE Idaho
U.S.G.S. Lexicon 1966, p. 870
Type section: Coeur d'Alene Mountains, Idaho
Orig. Ref.: MacDonald, F. F., 1906, U.S. Geol. Survey Bull. 285, p. 42-43

COLUMBIA RIVER GROUP (BASALT): Miocene and Pliocene---Oregon, Washington and N Idaho
U.S.G.S. Lexicon 1966, p. 896 Basalts and some interbeds of sedimentary origin
Thickness: 3,000 ft. +
Unit above: Various mostly Palouse and Latah sediments
Unit below: Various
Type section: Columbia River Valley widespread
Orig. Ref.: Russell, I. C., 1893, U.S. Geol. Survey Bull. 108, p. 20-22
Other Selected Refs.: Many other references in 1966 U.S. Geol. Survey Lexicon Bull. 1200
Ross, C. P. and Forrester, J. D., 1958, Idaho Bur. Mines and Geology Bull. 15, p. 15-16. Columbia River Group often separated into Lower and Upper Basalt, and recently new Formation and member units are used.
Hosterman, J. W. and others, 1960, U.S. Geol. Survey Bull. 1091, p. 7. Columbia River Basalt regarded by some as ranging from as one formation included Payette and Latah Formations locally and may be over 5,280 ft. thick in the central area of Columbia River Plateau.

Copper Basin Formation: Permian?---E Idaho
U.S.G.S. Lexicon 1966, not entered Quartz, quartzite sandstone, siltstone, argillite, conglomerate, and limestone
Type section: West part Mackay quadrangle, middle portion
Orig. Ref.: Ross, C. P., 1962, Idaho Bur. Mines and Geology Pamph. 125, p. 45-48

Copper Creek Member (Muldoon Formation): Lower Mississippian---Central and E Idaho
U.S.G.S. Lexicon 1966, p. 933 Clastics
Thickness: 860 ft.
Unit above: Garfield Member
Unit below: Milligen Formation
Type section: In Muldoon trough, aligned N30W
Orig. Ref.: Thomasson, M. R., 1959, Dissert. Abst., v. 20, no. 3, p. 999

COTTONWOOD CANYON MEMBER (of Madison Limestone): Early Mississippian - Devonian---Wyoming, Montana and Idaho(?)
U.S.G.S. Lexicon 1966, not entered Silty, orange dolomite
Unit above: Basal Madison Limestone
Unit below: Jefferson Formation
Type section: Cottonwood Canyon west side of north Big Horn Co., Wyoming, 1 mile east of mouth of canyon
Orig. Ref.: Sandberg, C. A., and Klapper, Gilbert, 1967, U.S. Geol. Survey Bull., 1251-B, 70 p.

Creston Formation (Quartzite) (Equivalent Ravalli Group): Precambrian Belt---NW Montana, N Idaho, SE British Columbia
U.S.G.S. Lexicon 1966, p. 981
Type section: Canadian Pac. R.R. Station, Kootenay Province southeast British Columbia, Canada
Orig. Ref.: Daly, R. A., 1905, Canada Geol. Survey Summ. Rept., 1904, p. 96-100; 1905, Am. Jour. Sci., 4th Ser., v. 20, p. 186

Crowsnest Gravel (of Snake River Group): Upper Pleistocene---S Idaho
U.S.G.S. Lexicon 1966, not entered
Unit above: Sand Springs Basalt
Unit below: Thousand Springs Basalt
Type section: Southwest Snake River Plain
Orig. Ref.: Malde, H. E., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199

Dagmar Limestone Member (of Ute Formation): Middle Cambrian---SE Idaho and N Utah
U.S.G.S. Lexicon 1966, p. 1027 Limestone
Orig. Ref.: Maxey, 1955, Dissert. Abst., v. 15, no. 4, p. 558

DEADMAN LIMESTONE (Ankareh Group): Upper Triassic---SE Idaho and NW Wyoming
U.S.G.S. Lexicon 1966, p. 1056 Limestone
Unit above: Wood Shale
Unit below: Higham Grit
Type section: Deadman Creek northeast part T4S, R38E Paradise Valley quadrangle, Idaho---crossed by creek
Orig. Ref.: Mansfield, G. R., 1915, Wash. Acad. Sci. Jour., v. 5, p. 492
Other Selected Refs.: Kummel, Bernhard, 1954, U.S. Geol. Survey Prof. Paper 254-H, p. 180-181
Wanless, H. R., Belknap, R. L., and Foster, Helen, Geol. Soc. America Mem. 63, p. 46. Recognize Deadman Formation in Snake River Range.

Death Canyon Member (of Gros Ventre Formation): Middle Cambrian---Idaho
U.S.G.S. Lexicon 1966, not entered
Type section: Garns Mountain, SE Idaho
Orig. Ref.: Staatz, and Albee, H. W., 1966, U.S. Geol. Survey Bull. 1205

DINWOODY FORMATION (in Chugwater Group): Lower Triassic---W Wyoming, SE Idaho SW Montana, NE Utah
U.S.G.S. Lexicon 1966, p. 1121 Siltstone, limestone and sandstone
Thickness: 700-2,400 ft.
Unit above: Woodside Shale
Unit below: Phosphoria Formation
Type section: Dinwoody Canyon in Wind River Mtns. near Dubois, Wyo.
Orig. Ref.: Condit, D. D., 1916, U.S. Geol. Survey Prof. Paper 98, p. 263
Other Selected Refs.: Newell, N. D. and Kummel, Bernhard, 1942, Geol. Soc. America Bull., v. 53, no. 6, p. 940-945

DONKEY FANGLOMERATE: Pliocene(?)---S-Central Idaho
U.S.G.S. Lexicon 1966, p. 1138 Partly cemented conglomerate and sand, locally limy and porous
Thickness: 1,000 ft.
Unit below: Challis Volcanics
Type section: Donkey Hills near Donkey Creek, Borah Peak quadrangle W 1/2 T11N, R24E
Orig. Ref.: Ross, C. P., 1947, Geol. Soc. America Bull., v. 58, no. 12, p. 1095

DRANEY LIMESTONE (Fresh water deposit, Gannett Group): Lower Cretaceous---SE Idaho and W Wyoming
U.S.G.S. Lexicon 1966, p. 1155 Chiefly dolomite
Thickness: 245 ft.
Unit above: Bear River Formation
Unit below: Bechler Shale
Type section: Ridge 1-1/4 mile east of Draney Ranch on Tygee Creek, sec. 10, T8S, R46E, Idaho
Orig. Ref.: Mansfield, G. R., and Roundy, P. V., 1916, U.S. Geol. Survey Prof. Paper 98-G, p. 76
Other Selected Refs.: Gardner, L. S., 1944, U.S. Geol Survey Bull. 944-A, p. 7

Eagle Creek Interbed (of "Lower" Columbia River Basalt): Miocene---N-Central Idaho
U.S.G.S. Lexicon 1966, not entered Sand, silt and clay
Thickness: 20-40 ft.
Unit above: Rock Creek Flow
Unit below: Undesignated lava flow
Type section: Salmon River Canyon near Rock Creek
Orig. Ref.: Bond, J. G., 1963, Geology of the Clearwater embayment: Idaho Bur. Mines and Geology Pamph. 128, 83 p.

Eagle Rock Flow or Basalt: Lower Pliocene(?)---SE Idaho
U.S.G.S. Lexicon 1966, p. 1198 Basalt, local pyroclastic lenses
Type section: Crest of Eagle Rock northwest bank of Snake River, 7½ miles downstream from American Falls, and on both river banks
Orig. Ref.: Stearns, H. T., and Isotoff, Andrei, 1956, Geol. Soc. America Bull., v. 67, no. 1, p. 24, 30, 33-34

EAGLE ROCK TUFF (Renamed Walcott Tuff): Lower Pliocene(?)---S Idaho
U.S.G.S. Lexicon 1966, p. 1198 Tuff
Thickness: Approx. 35 ft.
Unit above: Neeley Lake Beds
Unit below: Massacre Volcanics
Type section: North bank of Snake River at American Falls, Idaho
Orig. Ref.: Stearns, H. T., 1932, Wilmarth correlation chart of Idaho
Other Selected Refs.: Stearns, H. T., and Isotoff, Andrei, 1956, Geol. Soc. America Bull., v. 67, no. 1, p. 23. Renamed Eagle Rock Tuff to Walcott Tuff.

EAST FORK FORMATION: Precambrian(?)---Central Idaho
U.S.G.S. Lexicon 1966, p. 1203 Metamorphosed limestone and intercalated quartzites
Thickness: 1,560 ft.
Type section: East side of headwaters of Hyndman Creek, Hailey quadrangle
Orig. Ref.: Westgate, L. G., and Ross, C. P., 1930, U.S. Geol. Survey Bull. 814, p. 10-17
Other Selected Refs.: Ross, C. P., and Forrester, J. D., 1958, Idaho Bur. Mines and Geology Bull. 15, p. 3

Edie School Rhyolites: Pliocene---E-Central Idaho and SW Montana
U.S.G.S. Lexicon 1966, p. 1214 Pale lavender rhyolitic rocks that weathers in shades of brown
Thickness: 200-250 ft.
Unit above: Snake River Basalt
Unit below: Mid-Tertiary sediments
Type section: South Medicine Lodge Basin Lima region, Clark County, Idaho
Orig. Ref.: Scholten, R., Keenmon, K. A., and Kupsch, W. O., 1955, Geol. Soc. America Bull., v. 66, no. 4, p. 376-377
Other Selected Refs.: Probable Idavada Volcanics(?) equivalent

Elephant Mountain Member (In Yakima-Ellensberg Formation):
U.S.G.S. Lexicon 1966, not entered
Unit above: Ward Gap Basalt Member
Unit below: Rattle Snake Member
Orig. Ref.: Schmincke, H. U., 1967, Geol. Soc. America Bull., v. 78, p. 321

ELLENSBURG FORMATION (includes interfingering Selah Member): Lower Pliocene---Central Washington, NW Idaho(?)
U.S.G.S. Lexicon 1966, p. 1239 Pyroclastics
Thickness: Approx. 1,600 ft.
Unit below: Yakima Formation
Type section: Yakima E quadrangle
Orig. Ref.: Russell, 1900, U.S. Geol. Survey 20th Ann. Rept., p. 100-137
Other Selected Refs.: Mackin, J. H., 1961, Wash. Div. Mines and Geology, p. 26
Waters, A. C., 1955, Geol. Soc. America Bull., v. 66, no. 6, p. 671, 673-675 (interfingers Yakima Formation).
Includes Elephant Mtn. Flow, Selah Butte Flow, and Wenas Basalt.
Mullineaux, D. R., Gard, L. M., and Crandell, D. R., 1959, Am. Assoc. Petroleum Geologists Bull., v. 43, no. 3, p. 694-695
Smiley, C. J., 1963, U. of Calif. publications in Geol. Sciences, v. 35, no. 3, p. 159-276

Emmett Formation: Pleistocene---SW Idaho
U.S.G.S. Lexicon 1966, p. 1259
Type section: Near(?) Emmett, Gem Co., Idaho
Orig. Ref.: Kirkham, V. R. D., 1928, Idaho Bur. Mines and Geology Pamph. 29, p. 1

EPHRAIM CONGLOMERATE (in Gannett Group): Upper Jurassic and Lower Cretaceous ---SE Idaho and W Wyoming
U.S.G.S. Lexicon 1966, p. 1272 Conglomerate and sandy siltstone
Thickness: 350-1,025 ft.
Unit above: Peterson Limestone
Unit below: Stump Sandstone
Type section: Ephraim Valley, sec. 36, T10S, R45E, Idaho, Crow Creek quadrangle
Orig. Ref.: Mansfield, G. R., and Roundy, P. V., 1916, U.S. Geol. Survey Prof. Paper 98-G, p. 76, 82
Other Selected Refs.: Rubey, W. W., 1958, U.S. Geol. Quad. Map GQ-109
Wanless, H. R., Belknap, R. L., Foster, Helen, 1955, Geol. Soc. America Mem. 63, p. 55-56

EUREKA QUARTZITE: Middle to Upper(?) Ordovician---N Nevada, W Utah, SE Idaho(?)
U.S.G.S. Lexicon 1966, p. 1296
Unit above: Hanson Creek Formation
Unit below: Pogonip Group
Type section: Kirk's Lone Mountain along west base of Lone Mountain 15 miles due northwest of Eureka, Nevada
Orig. Ref.: Hague, A., 1883, U.S. Geol. Survey 3rd Ann. Rept., p. 253, 262
Other Selected Refs.: Merriam, C. W., 1940, Geol. Soc. America Spec. Paper 25, p. 8, 10-11
Nolan, T. B., Merriam, C. W., and Williams, J. S., 1956, U.S. Geol. Survey Prof. Paper 276, p. 29-32
Humphrey, F. L., 1960, Nevada Bur. Mines Bull. 57, p. 10, 23-24
Compton, R. R., 1966, abst. Geol. Soc. America Cord. Sect. Ann. Mtg., p. 27-28

FISH HAVEN DOLOMITE: Upper Ordovician---S Idaho, NE and NW Utah
U.S.G.S. Lexicon 1966, p. 1354 Dolomite
Thickness: 41-700 ft.
Unit above: Laketown and (or) Jefferson Dolomite
Unit below: Kinnikinic Quartzite
Type section: Fish Haven Creek, Bear Lake Co., Idaho
Orig. Ref.: Richardson, G. B., 1913, Am. Jour. Sci., 4th, v. 36, p. 407, 409
Other Selected Refs.: Sloss, L. L., 1954, Geol. Soc. America Bull., v. 65, no. 4, p. 365-367

FORT HALL FORMATION (in Thaynes Group): Lower Triassic---SE Idaho
U.S.G.S. Lexicon 1966, p. 1393
Thickness: 1,000 ft.
Orig. Ref.: Mansfield, G. R., 1915, Wash. Acad. Sci. Jour., v. 5, p. 492
Mansfield, G. R., 1952, U.S. Geol. Survey Prof. Paper 238, p. 17. Ammon and Paradise Valley quandrangles

FRANSON MEMBER (of Park City Formation): Permian---E Utah, NW Colorado, E Idaho, etc.
U.S.G.S. Lexicon 1966, p. 1421 Light gray, grayish brown carbonate rock, cherty and sandy
Thickness: 235 ft.
Unit above: Woodside Formation
Unit below: Meade Peak tongue
Type section: North side Franson Canyon near mouth, Summit, Utah
Orig. Ref.: Cheney, T. M., in McKelvey, and others, 1956, Am. Assoc. Petroleum Geologists Bull., v. 40, no. 12, p. 2842-2843
Other Selected Refs.: Long discussion McKelvey and others, 1959, U.S. Geol. Survey Prof. Paper 313-A, p. 15-19, 31, 37

Frenchman Springs Basalt Member (of Yakima Basalt):
U.S.G.S. Lexicon 1966, not entered
Unit above: Rosa Basalt Member
Unit below: Vantage Sandstone Member
Orig. Ref.: (Not traced into Idaho yet)
Other Selected Refs.: Mackin, J. H., Wash. Div. of Mines and Geol., Rept, of Invest., no. 9

FRONTIER SANDSTONE MEMBER (of Mancos Group): Upper Cretaceous---W Wyoming, Colorado, Idaho, S Montana, Utah
U.S.G.S. Lexicon 1966, p. 1436 Sandstone, shale, coal, etc.
Thickness: Up to 3,905 ft.
Unit above: Tertiary Volcanics
Unit below: Aspen Formation
Type section: Southwest Wyoming near Frontier, 2 miles north of Kemmerer, Wyoming. Good exposure at Cumberland Gap, 15 miles south of Frontier
Orig. Ref.: Knight, W. C., 1902, Eng. Mining Jour., v. 73, p. 721, paper on Uinta Co., Wyoming
Other Selected Refs.: Kiilsgaard, T. H., 1951, Idaho Bur. Mines and Geology Pamph. 92, p. 14-17. Formation occupies most of Horseshoe Creek basin restricted to Upper Cretaceous.
Many other references to formation in areas outside Idaho.

GANNETT GROUP (Ephraim Conglomerate, Peterson Limestone, Bechler Formation and Draney Limestone): Lower Cretaceous---SE Idaho, SW Wyoming
U.S.G.S. Lexicon 1966, p. 1462
Unit above: Bear River Formation - Wayan Formation
Unit below: Stump Sandstone
Type section: Gannett Hills, in Bannock Co., Idaho and Lincoln Co., Wyoming, in east part of Wayan quadrangle.
Orig. Ref.: Mansfield, G. R. and Roundy, P. V., 1916, U.S. Geol. Survey Prof. Paper 98-G, p. 76, 82-83
Other Selected Refs.: Gardner, L. S., 1944, U.S. Geol. Survey, Bull. 944-A, p. 7.
Other references.

GARDEN CITY FORMATION: Lower and Middle Ordovician---N Utah and SE Idaho
U.S.G.S. Lexicon 1966, p. 1467 Thick to thin beds of gray limestone
Thickness: 1,000 ft.
Unit above: Swan Peak Dolomite
Unit below: St. Charles Formation
Type section Garden City Canyon, Rich Co., Utah
Orig. Ref.: Richardson, G. B., 1913, Am. Jour. Sci. 4th, v. 36, p. 407
Other Selected Refs.: Richardson, G. B., 1941, U.S. Geol. Survey Bull.,923, p. 12-14, 16.
Other references to locations outside Idaho.

GARDEN CREEK PHYLLITE: Middle Cambrian---S-Central Idaho
U.S.G.S. Lexicon 1966, p. 1467 Dark gray to nearly black phyllite, silvery sericite
Unit above: Bayhorse Dolomite
Unit below: Not exposed
Type section: Garden Creek on which Challis is located
Orig. Ref.: Ross, C. P., 1932, Idaho correlation chart compiled by M. G. Wilmarth
Other Selected Refs.: Ross, C. P., 1937, U.S. Geol. Survey Bull. 877, p. 11-12

Garfield Member (of Muldoon Formation): Upper Mississippian---Central and E Idaho
U.S.G.S. Lexicon 1966, p. 1472
Unit above: Iron Mine Member
Unit below: Copper Creek Member
Type section: Muldoon trough, aligned N30°W
Orig. Ref.: Thomasson, 1959, Dissert. Abst., v. 20, no. 3, p. 999

Gateway (equiv. Libby Fm.): Precambrian (Belt)---S British Columbia, N Idaho(?)

Geertson Formation: Upper Oligocene or Lower Miocene---Central Idaho
U.S.G.S. Lexicon 1966, p. 1487 Light colored shaly beds, some bentonite, sandstones, and pebble conglomerate
Thickness: 800 ft. ±
Unit above: Kirtley Formation (old Carmen)
Unit below: Kriley and Kenny Formations and Challis Volcanics
Type section: Geertson Cr., Lemhi Valley, Lemhi Co., Idaho
Orig. Ref.: Anderson, A. L., 1957, Idaho Bur. Mines and Geology Pamph. 12, p. 13-14, 17-18
Other Selected Refs.: Anderson, A. L., 1959, Idaho Bur. Mines and Geology Pamph. 118, p. 26-27

Gentile Valley Group: Upper Tertiary-Pleistocene---SW Idaho
U.S.G.S. Lexicon 1966, p. 1494
Type section: Portneuf Canyon in Gentile Valley, Idaho, east side of Cache Valley
Orig. Ref.: Peale, A. C., 1879, U.S. Geol. and Geog. Surv. Terr. 11th Ann. Rept., p. 612-642

GERMER TUFFACEOUS MEMBER (of Challis Volcanics): Upper Oligocene - Lower Miocene---S-Central Idaho
U.S.G.S. Lexicon 1966, p. 1498
Type section: Germer Basin, south side Salmon River nearly opposite mouth of Bayhorse Creek, Custer Co.
Orig. Ref.: Ross, 1932, Idaho correlation chart compiled by M. G. Wilmarth
Other Selected Refs.: Anderson, A. L., 1949, Idaho Bur. Mines and Geology Pamph. 83, p. 9. Germer Member interbedded with and overlies flows of basalt latite-andesite member. In Yankee Fork district is partly stratigraphically equivalent to flows and in older part of flows.

GIRAFFE CREEK MEMBER (of Twin Creek Formation): Middle(?) Jurassic---SE Idaho, NW Wyoming, N Utah
U.S.G.S. Lexicon 1966, not entered Gray silty to sandy ripple marked thin bedded limestone and sandstone
Thickness: 295 ft. at Willow Creek near Idaho Falls
Unit above: Pruess Sandstone
Unit below: Leeds Creek Member
Type section: Southeast Idaho
Orig. Ref.: Imlay, R. W., 1967, U.S. Geol. Survey Prof. Paper 540, 50 p.

Glenns Ferry Formation (of Idaho Group): Upper Pliocene and Lower Pleistocene ---S Idaho
U.S.G.S. Lexicon 1966, not entered
Unit above: Tuana Gravel
Unit below: Chalk Hills Formation
Type section: Southwest Snake River Plain
Orig. Ref.: Malde, H. E., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199

GOLD CREEK QUARTZITE: Middle Cambrian---Pend Oreille district N Idaho
U.S.G.S. Lexicon 1966, p. 1536 Red to brown quartzite
Thickness: 400 ft. +
Unit above: Rennie Shale
Unit below: Belt Supergroup
Type section: Exposed on North and South Gold Creeks
Orig. Ref.: Sampson, E., 1928, Idaho Bur. Mines and Geology Pamph. 31, p. 9
Other Selected Refs.: Resser, 1938, Smithsonian Misc. Colln., v. 97, no. 3, p. 2

GRANDEUR MEMBER (of Park City Formation): Permian---Utah, Idaho, Montana and Wyoming
U.S.G.S. Lexicon 1966, p. 1563 Carbonate rock with chert and carbonitic sandstone and siltstone
Unit above: Mead Peak Shale, Member of Phosphoria Formation
Unit below: Wells Formation
Type section: 1 mile west of Grandeur Peak, sec. 36, T1S, R1E on north side and near mouth of Mill Creek, Salt Lake Co., Utah
Orig. Ref.: Cheney, T. M. and others in McKelvey and others, 1959, U.S. Geol. Survey Prof. Paper 313-A, p. 3, 12-17, 36-37

GRAND VIEW DOLOMITE: Upper Devonian---South Central Idaho
U.S.G.S. Lexicon 1966, p. 1570 Dolomite Borah Peak quadrangle
Thickness: 2,115 ft.
Unit above: Three Forks Limestone
Unit below: Jefferson Dolomite
Type section: Grand View Canyon, near center T12N, R20E, south of Challis, Custer Co., Idaho
Orig. Ref.: Ross, C. P., 1932, Idaho correlation chart compiled by M. G. Wilmarth
Other Selected Refs.: Ross, C. P., 1947, Geol. Soc. America, v. 58, no. 12, p. 1109-1110

GRANITE CREEK GRANODIORITE: Cretaceous---N Idaho
U.S.G.S. Lexicon 1966, p. 1572 (part of Kaniksu batholith)
Type section: Granite Creek west side Pend Oreille Lake, Idaho
Orig. Ref.: Gillson, J. L., 1927, Jour. Geology, v. 35, no. 1

Grave Creek Flow (of "Upper" Columbia River Basalt): Miocene---N-Central Idaho
U.S.G.S. Lexicon 1966, not entered Dense basalt flow
Unit below: Basal flow of "Upper" Columbia River Basalt
Type section: Near mouth of Grave Creek approximately 1,500 feet below the level of Camas Prairie
Orig. Ref.: Bond, J. G., 1963, Geology of the Clearwater embayment: Idaho Bur. Mines and Geology Pamph. 128, 83 p.

GROS VENTRE FORMATION (of Gros Ventre Group): Middle and Late Cambrian---Idaho
U.S.G.S. Lexicon 1966, p. 1621
Unit above: Gallatin Formation
Unit below: Flathead Formation
Type section: Northwest Wyoming Gros Ventre Range, Wyoming
Orig. Ref.: Blackwelder, E., 1918, Washington Acad. Sci. Jour., v. 8, p. 417
Other Selected Refs.: Wanless, H. R., and Foster, Helen, 1955, Geol. Soc. America Mem. 63, p. 11-13
Staatz, M. H. and Albee, 1966, U.S. Geol. Survey Bull. 1205

GYPSUM SPRING MEMBER (of Twin Creek Formation): Middle(?) Jurassic---SE Idaho, NW Wyoming, N Utah
U.S.G.S. Lexicon 1966, not entered Red siltstone and limestone
Thickness: 400 ft.
Unit above: Sliderock Member
Unit below: Nugget Sandstone
Type section: Blackfoot Mountains in Idaho
Orig. Ref.: Imlay, R. W., 1950, Wyoming Geologic Assoc. Guidebook, 5th Ann. Field Conf., southwest Wyoming, p. 39
Other Selected Refs.: Rubey, W. W., 1958, U.S. Geol. Survey Quad. Map GQ-109

Hagerman Lake Beds (Abandoned, part of Idaho Group): Upper Pliocene---S Idaho
U.S.G.S. Lexicon 1966, p. 1643
Thickness: About 600 ft.
Unit below: Banbury Volcanics
Type section: Hagerman Valley prominent bluffs along Snake River
Orig. Ref.: Stearns, H. T., 1932, Correlation chart of Idaho compiled by M. G. Wilmarth; 1936, Jour. Geology, v. 44, no. 4, p. 434-439
Other Selected Refs.: Stearns, H. T., Crandall, Lynn, and Steward, W. G., 1938, U.S. Geol. Survey Water-Supply Paper 774, p. 31, 52-56
Ross, C. P. and Forrester, J. D., 1958, Idaho Bur. Mines and Geology Bull. 15, p. 17. Hagerman Lake Beds synonymous with Idaho Group.

Hailey Conglomerate Member (of Wood River Formation): Pennsylvanian---Central and E Idaho
U.S.G.S. Lexicon 1966, p. 1645 Graywackes to orthoquartzites
Thickness: 1,900 ft.
Unit above: Sandy limestones
Unit below: Milligen Formation
Type section: Muldoon trough; aligned N30°W, Bellevue area
Orig. Ref.: Thomasson, M. R., 1959, Dissert. Abst., v. 20, no. 3, p. 999
Other Selected Refs.: Bissell, H. J., 1960, Am. Assoc. Petroleum Geologists Bull., v. 44, no. 8, p. 1427

Harrison Series (abandoned): Precambrian---S Idaho and NW Utah
U.S.G.S. Lexicon 1966, p. 1688
Type section: Flanks of Mount Harrison, Cassia County, Idaho
Orig. Ref.: Anderson, A. L., 1931, Idaho Bur. Mines and Geology Bull. 14, p. 24
Other Selected Refs.: Parts of "Harrison Series" now believed to be metamorphosed Paleozoic rocks.
Peterson, V. E., 1942, Econ. Geol., v. 37, no. 6, p. 470, 471, believes Harrison under Cambrian(?).
Armstrong, R. L., 1966, Pre-Tertiary stratigraphy of Albion Range, Southern Idaho, Abst. Rocky Mtn. Sect. Geol. Soc. America Ann. Mtg. Program, p. 16-17 (Las Vegas, Nevada).

Hart Creek Fanglomerate (of Snake River Group): Pleistocene---SE Idaho
Oreana quadrangle
U.S.G.S. Lexicon 1966, not entered Gravel, sand, and silt, poorly sorted
Unit above: Snake River Basalt
Unit below: Snake River Basalt
Type section: Cliffs on northwest side of Hart Creek sec. 34, T4S, R1W
Orig. Ref.: Anderson, N. R., 1965, Upper Cenozoic stratigraphy of the Idaho 15' quadrangle (Unpublished Ph.D. dissert.) 211 p.

Heglar Canyon Member (of Wells Formation): Pennsylvanian---S Idaho
U.S.G.S. Lexicon 1966, p. 1720
Unit above: Sublett Member
Unit below: Calder Creek Member
Type section: Sublett Mountains area, Hegler Canyon
Orig. Ref.: Bissell, H. J., 1960, Am. Assoc. Petroleum Geologists Bull., v. 44, no. 8, p. 1427

HIGHAM GRIT: Triassic---SE Idaho, NE Utah, and W Wyoming
U.S.G.S. Lexicon 1966, p. 1755
Unit above: Deadman Limestone
Unit below: Timothy Sandstone
Type section: Higham Peak, Paradise quadrangle, Idaho, sec. 23, T3S, R37E
Orig. Ref.: Mansfield, G. R., 1915, Wash. Acad. Sci. Jour., v. 5, p. 492
Other Selected Refs.: Mansfield, G. R., 1952, U.S. Geol. Survey, Paper 238, p. 17, 34

HODGES SHALE MEMBER (of Bloomington Formation): Middle Cambrian---NE Utah and SE Idaho
U.S.G.S. Lexicon 1966, p. 1774
Unit above: Calls Fort Shale Member
Unit below: Blacksmith Formation
Type section: Hodges Canyon, Rich County, Utah
Orig. Ref.: Richardson, G. B., 1913, Am. Jour. Sci., 4th, v. 36, p. 406-407
Other Selected Refs.: Maxey, G. B., 1958, Geol. Soc. America Bull., v. 69, no. 6, p. 650-653, 672-673. Formation 540 ft. thick near Richman, Utah

HOMER LIMESTONE MEMBER (of Wayan Formation): Lower(?) Cretaceous---SE Idaho
U.S.G.S. Lexicon 1966, p. 1792
Type section: Homer Creek, Cranes Flat quadrangle
Orig. Ref.: Mansfield, G. R., 1921, Geol. Soc. America Bull., v. 32, p. 249-266

HOODOO QUARTZITE (Belt Supergroup?): Precambrian---S-Central Idaho
U.S.G.S. Lexicon 1966, p. 1798 Quartzite
Thickness: 3,560 ft.
Unit below: Yellowjacket Formation
Type section: Hoodoo Creek NW Casto quadrangle near Middle Fork Salmon River
Orig. Ref.: Ross, C. P., 1932, Idaho correlation chart compiled by M. G. Wilmarth; 1934, U.S. Geol. Survey Bull. 854
Other Selected Refs.: Ross, C. P. and Forrester, J. D., 1958, Idaho Bur. Mines and Geology Bull. 15, p. 7

Hurwal Formation: Upper Triassic---W-Central Idaho and NE Oregon
U.S.G.S. Lexicon 1966, p. 1847 Argillaceous sediments locally with pyroclastics
Thickness: 1,500 ft.
Unit above: Limestone?
Unit below: Martin Bridge Formation
Type section: Hurwal Divide center of Wallowa quadrangle Wallowa Co., Oregon
Orig. Ref.: Smith, W. D. and Allen, J. E., 1941, Oregon Dept. Geology and Mineral Industries Bull. 12, p. 6, 13-14
Other Selected Refs.: Savage, C. N., 1965, Idaho Bur. Mines and Geology Min. Resources Rept. 10, 26 p. Discusses Hurwal and Martin Bridge.

HYNDMAN FORMATION: Precambrian(?)---Central Idaho
U.S.G.S. Lexicon 1966, p. 1850 Quartzite, green hornfels and schist
Type section: Hyndman Peak in cirques, Hailey quadrangle Idaho
Orig. Ref.: Westgate, L. G., and Ross, C. P., 1930, U.S. Geol. Survey Bull. 814, p. 10-17
Other Selected Refs.: Ross, C. P., and Forrester, J. D., 1958, Idaho Bur. Mines and Geology Bull. 15, p. 3. Rocks in Pioneer Mountains include Hyndman Formation.

Idaho Group: Pliocene-Pleistocene---W and S Idaho
U.S.G.S. Lexicon 1966, p. 1852
Unit above: Snake River Basalt
Unit below: Payette Formation
Type section: Snake River Valley south Idaho
Orig. Ref.: Cope, 1884, Philadelphia Acad. Nat. Sci. Proc. 1883, v. 35, p. 135
Other Selected Refs.: Wheeler, H. E. and Cook, E. F., 1954, Jour. Geology, v. 62, p. 528
Kirkham, V. R. D., 1931, Jour. Geology, v. 39, no. 3
Malde, H. E., and Powers, H. A., 1962, Upper Cenozoic stratigraphy of western Snake River Plain, Idaho: Geol. Soc. America Bull., v. 73, p. 1197-1220

Idavada Volcanics: Lower Pliocene---S Idaho
U.S.G.S. Lexicon 1966, not entered
Unit above: Poison Creek Formation
Type section: Southwest Snake River Plains
Orig. Ref.: Malde, H. E., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199

Indian Fork Member (of Wells Formation): Permian (Wolfcampian)---S Idaho
U.S.G.S. Lexicon 1966, p. 1863
Unit above: Unnamed cherty orthoquartzite member
Unit below: Sublett Member
Type section: Sublett Mountain area
Orig. Ref.: Bissell, H. J., 1960, Am. Assoc. Petroleum Geologists Bull., v. 44, no. 8, p. 1427 (chart)

Irene Conglomerate: Precambrian(?)---NW Idaho
U.S.G.S. Lexicon 1966, p. 1881
Type section: Irene Mountains British Columbia, Canada
Orig. Ref.: Daly, R. A., 1912, Canada Geol. Survey, Dept. of Mines Memoir 38

Irene Volcanic Formation: Precambrian(?)---Idaho(?)
U.S.G.S. Lexicon 1966, p. 1881
Type section: West slope Irene Mtns. British Columbia
Orig. Ref.: Daly, R. A., 1912, Canada Geol. Survey Dept. of Mines Memoir 38

Iron Mine Member (of Muldoon Formation): Upper Mississippian (Chesterian) ---Central and E Idaho
U.S.G.S. Lexicon 1966, p. 1883 Clastics
Thickness: 3,600 ft.
Unit above: Wildhorse Member
Unit below: Garfield Member
Type section: In Muldoon trough, aligned N30°E
Orig. Ref.: Thomasson, 1959, Dissert. Abst., v. 20, no. 3, p. 999

Jackass Butte Formation: Pliocene-Pleistocene---SE Idaho Oreana quadrangle
U.S.G.S. Lexicon 1966, not entered Basalt, and upper clay, silt, fine sand
Unit above: Otter Basalt
Unit below: Oreana Formation
Type section: Jackass Butte
Orig. Ref.: Anderson, N. R., 1965, Upper Cenozoic stratigraphy of the Oreana, Idaho 15' quadrangle: (Unpub. Ph.D. dissert., Univ. of Utah), 211 p.

JEFFERSON GROUP OR FORMATION: Upper Devonian---Montana, S-Central and E-Central Idaho
U.S.G.S. Lexicon 1966, p. 1916 Limestone and Dolomite
Thickness: Approx. 1,000 ft.
Unit above: Grand View Dolomite
Unit below: Laketown Dolomite
Type section: Exposures in hills both sides Missouri River just below Junction of Three Forks of Missouri River Borah Peak quadrangle, Idaho
Orig. Ref.: Peale, A. C., 1893, U.S. Geol. Survey Bull. 110
Other Selected Refs.: Ross, C. P., 1947, Geol. Soc. America Bull., v. 58, no. 12, p. 1107-1108

Johns Creek Flow (of "Upper" Columbia River Basalt): Miocene---N-Central Idaho
U.S.G.S. Lexicon 1966, not entered Basalt
Type section: Exposed about 900 ft. below Camas Prairie level at confluence of Johns and Rock Creek one mile northwest of Tolo Lake
Orig. Ref.: Bond, J. G., 1963, Geology of the Clearwater embayment: Idaho Bur. Mines and Geology Pamph. 128, 83 p.

Kamiah Volcanics: Tertiary---N Idaho
U.S.G.S. Lexicon 1966, p. 1962 Andesites and latite flows (equiv. of Challis?)
Unit above: Columbia River Basalt
Type section: Kamiah Buttes, 12 miles south of Kamiah, Lewis Co., Idaho
Orig. Ref.: Anderson, A. L., 1930, Idaho Bur. Mines and Geology Pamph. 34
Other Selected Refs.: Ross, C. P., and Forrester, J. D., 1958, Idaho Bur. Mines and Geology Bull. 15, p. 13

Kenney Formation: Upper Oligocene, or Lower Miocene---E-Central Idaho
U.S.G.S. Lexicon 1966, p. 1991 Shales, sandstone, conglomerate locally tuff and bentonite
Thickness: 500 ft.
Unit above: Kirtley Formation
Unit below: Challis Volcanics
Type section: Kenney Creek confined to Lemhi Valley, Lemhi Co., Idaho
Orig. Ref.: Anderson, A. L., Idaho Bur. Mines and Geology Pamph. 12, p. 13-14, 16-17

KINNIKINIC QUARTZITE: Middle Ordovician--S-Central Idaho and SW Montana
U.S.G.S. Lexicon 1966, p. 2024 Quartzite
Thickness: Approx. 2,000 ft.
Unit above: Saturday Mountain Formation
Unit below: Ella Dolomite*
Type section: Along Kinnikinic Creek near Clayton, Idaho and Borah Peak quadrangle Idaho
Orig. Ref.: Ross, C. P., 1932, Idaho correlation chart compiled by M. G. Wilmarth
Other Selected Refs.: Ross, C. P., 1947, Geol. Soc. America Bull., v. 58, no. 12, p. 1102-1104 (*See Addendum)

Kirkham Hollow Volcanics (In Salt Lake Group?): Pliocene-Pleistocene
U.S.G.S. Lexicon 1966, not entered
Unit above: Basalt tuff and sandstone
Unit below: Conglomerate (Wasatch?)
Orig. Ref.: Staatz, M. H., and Albee, H. F., 1966, U.S. Geol. Survey Bull. 1205, 122 p.

Kirtley Formation (Substitute of Carmen Formation): Miocene---Central E Idaho
U.S.G.S. Lexicon 1966, p. 2031 Basal conglomerate chiefly shales and sandstones thin bedded and fine grained
Unit below: Geertson Formation
Type section: Kirtley Creek near center of Salmon quadrangle Idaho widespread in lower Carmen Creek of Salmon Basin
Orig. Ref.: Anderson, A. L., 1959, Idaho Bur. Mines and Geology Pamph. 118, p. 15, 21, 27-28

Kitchener Quartzite (of Belt Supergroup): Precambrian---N Idaho, NW Montana
U.S.G.S. Lexicon 1966, p. 2033
Type section: Canadian Pacific RR Station, Kootenay, British Columbia, Canada
Orig. Ref.: Daly, R. A., 1905, Canadian Geol. Survey Summ. Rept., 1904, p. 96-100

Kriley Formation: Eocene?
U.S.G.S. Lexicon 1966, p. 2058 Sandy shales, sandstone and congomerate (latter thick)
Thickness: 600 ft.
Unit above: Geertson Formation-Challis Volcanics
Unit below: Lemhi Quartzite
Type section: Kriley Creek North Fork quadrangle, Idaho
Orig. Ref.: Anderson, A. L., 1959, Idaho Bur. Mines and Geology Pamph. 118

LAKE BONNEVILLE GROUP: Wisconsinian---N Utah and SE Idaho
U.S.G.S. Lexicon 1966, p. 2079
Unit above: Post-Provo Sediments
Unit below: Pre-Lake Bonneville
Type section: Northern Utah Valley
Orig. Ref.: Gilbert, G. K., 1875, U.S. Geol. and Geog. Survey Territory west of 100th Meridian, v. 30, p. 89
Other Selected Refs.: Hunt, C. B., Varnes, H. D., and Thomas, H. E., 1953, U.S. Geol. Survey Prof. Paper 257-A, p. 1 and 17-29
Divided into: Provo Fm., Bonneville Fm., and Alpine Fm.

Lake Creek Member (of Wood River Formation): Pennsylvanian (Virgilian)---Central and E Idaho
U.S.G.S. Lexicon 1966, p. 2081
Unit above: Wilson Creek Member
Unit below: Slate Creek Member
Type section: Deposited in Muldoon trough, aligned N30°W Bellevue Area, Idaho
Orig. Ref.: Thomasson, 1959, Dissert. Abst., v. 20, no. 3, p. 999

LAKEVIEW LIMESTONE: Middle Cambrian---N Idaho
U.S.G.S. Lexicon 1966, p. 2088 Pure limestone to dolomite, some shaly beds with fossils
Unit below: Rennie shale
Type section: Near Lakeview, southeast end Pend Oreille Lake
Orig. Ref.: Sampson, E., 1928, Idaho Bur. Mines and Geology Pamph. 31, p. 9
Other Selected Refs.: Resser, C. E., 1938, Smithsonian Misc. Colln., v. 97, no. 3, p. 3-4

LANES TONGUE (of Upper Thaynes): Triassic---E Idaho and W Wyoming
U.S.G.S. Lexicon 1966, p. 2100
Type section: Sheep Creek section, Grays Range, Idaho
Orig. Ref.: Kummel, Bernard, 1954, U.S. Geol. Survey Prof. Paper 254-H, p. 173, 175

LATAH FORMATION (GROUP?): Middle and Upper Miocene---E Washington, NW Idaho
U.S.G.S. Lexicon 1966, p. 2115
Unit above: Interbedded with Columbia River Basalts
Type section: Slope of west bank Latah Creek just south of Spokane, Washington
Orig. Ref.: Pardee, J. T., and Bryan, Kirk, 1926, U.S. Geol. Survey Prof. Paper 140, p. 4-12
Other Selected Refs.: Hosterman, J. W., 1960, U.S. Geol. Survey Bull. 1091, p. 7-8

Latour Formation (of Latah Group?): Middle, Upper Miocene---N Idaho
U.S.G.S. Lexicon 1966, p. 2116
Type section: Deposited in ancient Lake Latour, Coeur d'Alene Washington
Orig. Ref.: Hershey, 1912, Geol. Soc. America Bull., v. 23, p. 529-536

Lawyer Creek Interbed (of "Upper" Columbia River Basalt): Miocene---N-Central Idaho
U.S.G.S. Lexicon 1966, not entered Fluvial deposits with some lacustrine layers, locally conglomerate and clay
Unit above: Lolo Creek Flow
Type section: Exposed along the rims of Lawyers Creek
Orig. Ref.: Bond, J. G., 1963, Geology of the Clearwater embayment: Idaho Bur. Mines and Geology Pamph. 128, 83 p.

LEATHAM FORMATION: Lower Mississippian---NE Utah and SE Idaho
U.S.G.S. Lexicon 1966, p. 2127 Shales, sandy shales, and nodular limestone
Unit above: Madison Formation
Unit below: Jefferson Formation
Type section: North wall Leatham Hollow, 3/4 mile west of Left Fork of Blacksmith Fork NW Cor. sec. 34, T11N, R2E, Utah
Orig. Ref.: Holland, F. D. Jr., 1952, Am. Assoc. Petroleum Geologists, v. 36, no. 9, p. 1719-1720

LEEDS CREEK MEMBER (of Twin Creek Formation): Middle(?) Jurassic---SE Idaho, NW Wyoming, N Utah
U.S.G.S. Lexicon 1966, not entered Light gray shaly splintery limestone
Thickness: 1,145 ft. Willow Creek, near Idaho Falls
Unit above: Giraffe Creek Member
Type section: Southeast Idaho
Orig. Ref.: Imlay, R. W., 1967, U.S. Geol. Survey Prof. Paper 540, p. 45

Lemhi Formation (Replaces Brazer): Mississippian-Permian---Central E Idaho
U.S.G.S. Lexicon 1966, p. 2144 Calcarenites, limestones, conglomerates, algal and coral bioherms
Thickness: 6,950 ft.
Type section: South Lemhi Range
Orig. Ref.: Thomasson, M. R., 1959, Dissert. Abst., v. 20, no. 3, p. 999
Anderson, A. L., 1961, Idaho Bur. Mines and Geology Pamph. 124

LEMHI QUARTZITE: Precambrian (Beltian?)---S-Central Idaho
U.S.G.S. Lexicon 1966, p. 2144 Greenish-blue, white and purple quartzite
Thickness: 3,000-8,000 ft.
Unit above: Swauger Quartzite
Type section: Lemhi Range, exposed in Borah Peak quadrangle area
Orig. Ref.: Ross, C. P., 1947, Geol. Soc. America Bull., v. 58, no. 12, p. 1096-1097
Other Selected Refs.: Anderson, A. L., 1959, Idaho Bur. Mines and Geology Pamph. 118, p. 16-18

LEOLA VOLCANICS: Precambrian---NE Washington, NW Idaho
U.S.G.S. Lexicon 1966, p. 2152 Greenstone and greenstone schist
Thickness: Approx. 5,000 ft.
Unit above: Monk Formation
Unit below: Shedroof Conglomerate
Type section: Leola Peak, Pend Oreille Co., Washington
Orig. Ref.: Park, C. J., Jr., and Canon R. S., Jr., 1943, U.S. Geol. Survey Prof. Paper 202, p. 6, 9-11

Lolo Creek Flow (late "Yakima Type" of "Upper" Columbia River Basalt): Miocene ---N-Central Idaho
U.S.G.S. Lexicon 1966, not entered Uniformly grained locally porphyritic basalt
Type section: Lolo Creek, best exposed 2 miles south of Cavendish at intersection of Bedrock Creek and the Ahsahka highway
Orig. Ref.: Bond, J. G., 1963, Geology of the Clearwater embayment: Idaho Bur. Mines and Geology Pamph. 128, 83 p.

Lolo Series (Abandoned-Beltian): Precambrian---Central W Montana and Idaho
U.S.G.S. Lexicon 1966, p. 2219
Type section: Near Lolo Pass north Bitterroot Mtns.
Orig. Ref.: Lindgren, W., 1904, U.S. Geol. Survey Prof. Paper 27, p. 16, 34

Long Spring Formation: Upper Pliocene or Pleistocene---SE Idaho
U.S.G.S. Lexicon 1966, p. 2227 Poor to well sorted conglomerates, boulders and pebbles, hard limestone conglomerate
Thickness: 200 ft +
Unit below: Teewinot Formation
Type section: Grand Valley, 3 miles north-northwest of Alpine, Idaho, secs. 21, 22, 27 and 28, T2S, R46E, Bonneville Co.
Orig. Ref.: Merritt, Z. S., 1956, Wyoming Geol. Assoc. Guidebook 11th Ann. Field Conf., p. 119

Lower Mesa Formation (See Caldwell and Nampa Formations): Pleistocene---SE Oregon and SW Idaho
U.S.G.S. Lexicon 1966, p. 2260 Gravels
Unit above: Upper Mesa Formation
Unit below: Idaho Formation
Type section: SW Idaho counties
Orig. Ref.: Kirkham, V. R. D., 1931, Jour. Geology, v. 39, no. 3, p. 202, p. 211-212

Lucile "Series": Upper Triassic---Central W Idaho and NE Oregon
U.S.G.S. Lexicon 1966, p. 2270 Graphitic schist and shale, limestone, tuff, schists and volcanic flows
Thickness: 500-2,000 ft.
Unit below: Seven Devils Volcanics
Type section: Lucile, Idaho canyon walls of Salmon River from Riggins to Lucile, and canyon of Little Salmon River south of Riggins
Orig. Ref.: Wagner, W. R., 1945, Idaho Bur. Mines and Geology Pamph. 75, p. 5
Other Selected Refs.: Hamilton, Warren, 1963, Metamorphism in the Riggins region Western Idaho: U.S. Geol. Survey Prof. Paper 436

Mabton Bed (of Yakima Formation): Miocene---Central Washington, W Idaho?
U.S.G.S. Lexicon 1966, not entered
Unit above: Umatilla Basalt Member
Unit below: Priest Rapids Basalt Member
Orig. Ref.: Schminke, H. N., 1967, Geol. Soc. America Bull. 78, p. 321

MADISON GROUP (Formation or Limestone): Lower and Upper Mississippian---Montana, Colorado, Idaho, Wyoming and Utah
U.S.G.S. Lexicon 1966, p. 2317 Limestone and dolomitic limestone
Unit above: Brazer Formation (Group?)
Unit below: Three Forks Fm.
Type section: Exposed along Gallatin River at Logan, Montana
Orig. Ref.: Peale, A. C., 1893, U.S. Geol. Survey Bull. 110
Other Selected Refs.: Many References in Lexicon (1966 U.S.G.S.)
Sloss, L. L., and Hamblin, R. H., 1942, Am. Assoc. Petroleum Geologists Bull., v. 26, no. 3, p. 305-335

Madson Basalt (of Snake River Group): Upper Pleistocene---S Idaho
U.S.G.S. Lexicon 1966, not entered
Unit above: Sugar Bowl Gravel
Unit below: Black Mesa Gravel
Type section: Southwest Snake River Plain
Orig. Ref.: Malde, H. E., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199

Maggie Creek Flow (of "Upper" Columbia River Basalt): Miocene---N-Central Idaho
U.S.G.S. Lexicon 1966, not entered Basalt
Type section: Canyon exposures along the Middle Fork of Clearwater River about 500 ft. below plateau surface cliff exposures along Maggie Creek
Orig. Ref.: Bond, J. G., 1963, Geology of the Clearwater embayment: Idaho Bur. Mines and Geology Pamph. 128, 83 p.

MALAD MEMBER (of Thousand Springs Basalt): Upper Pleistocene---S Idaho
U.S.G.S. Lexicon 1966, p. 2335 Lava flow
Thickness: Over 400 ft.
Type section: Malad Canyon, Gooding Co.
Orig. Ref.: Stearns, H. T., 1932, correlation chart of Idaho compiled by M. G. Wilmarth
Other Selected Refs.: Malde, H. E., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1197-1220

Malad Valley Group: Pliocene?---SE Idaho and NE Utah
U.S.G.S. Lexicon 1966, p. 2335
Type section: Malad River Valley
Orig. Ref.: Peale, A. C., 1879, U.S. Geol. and Geog. Survey Terr. 11th Ann. Rept., p. 641

Marshall Diorite (Equivalent to Purcell sills and dikes?): Precambrian(?)---NE Washington and NW Idaho
U.S.G.S. Lexicon 1966, p. 2394 Intrusive diorite medium gray to almost black
Thickness: 3-1,200 ft. Intrudes Bead Lake and Skookum Formations
Type section: Marshall Creek, Pend Oreille Co., Washington
Orig. Ref.: Schroeder, M. C., 1952, Washington Div. Mines and Geol. Bull. 40, p. 7, 21-23

Marsh Valley Group: Pliocene(?)---SE Idaho
U.S.G.S. Lexicon 1966, p. 2397
Type section: Exposed on Marsh Creek above Red Rock Gap, Bannock Co.
Orig. Ref.: Peale, A. C., 1879, U.S. Geol. and Geog. Survey Terr. 11th Ann. Rept., p. 612, 641-642

MARTIN BRIDGE FORMATION: Upper Triassic---NE Oregon, W Idaho
U.S.G.S. Lexicon 1966, not entered Limestone, limy siltstone and shaly beds
Unit above: Hurwal Formation
Unit below: "Lower Sedimentary Series" - Clover Creek
Type section: Bridge on Eagle Creek, Wallowa Mountains
Orig. Ref.: Chaney, R. W., 1932, 16th Internat. Geol. Cong. Guidebook 21, p. 4
Other Selected Refs.: Savage, C. N., 1965, Idaho Bur. Mines and Geology Min. Resources Rept. 10, 26 p.
Smith, W. D., and Allen, J. E., 1941, Oregon Dept. Geology and Mineral Industries Bull. 12, p. 6, 8, 10-11, 13

MASSACRE VOLCANICS: Lower Pliocene---S Idaho
U.S.G.S. Lexicon 1966, p. 2415
Unit above: Rockland Valley Basalt
Unit below: Eagle Rock Tuff
Type section: Dikes form Massacre Rocks (Knobs of diabase in sec. 6, T9S, R30E, Power Co.)
Orig. Ref.: Stearns, H. T., 1932, Correlation chart of Idaho compiled by M. G. Wilmarth; 1936 Jour. Geology, v. 44, no. 4, p. 434-439
Other Selected Refs.: Stearns, H. T., Crandall, Lynn, and Steward, U. G., 1938, U.S. Geol. Survey Water Supply Paper 774, p. 32, 46-47

McKINNEY BASALT: Recent---S Idaho
U.S.G.S. Lexicon 1966, p. 2305
Thickness: Approx. 500 ft.
Unit below: Hagerman Lake Beds - Malad Basalt
Type section: McKinney Butte, Gooding Co., Idaho
Orig. Ref.: Stearns, H. T., 1932, Correlation chart of Idaho, compiled by M. G. Wilmarth: Jour. Geol., v. 44, no. 4, p. 434-439
Other Selected Refs.: Stearns, H. T., Crandall, Lynn, and Steward, W. G., 1939, U.S. Geol. Survey Water-Supply Paper 774, p. 30, 76-78

MEADE PEAK MEMBER (of Phosphoria Formation): Permian---E Idaho, S Montana E Utah, W Wyoming
U.S.G.S. Lexicon 1966, p. 2439 Phosphatic shale
Thickness: 125 to 225 ft.
Unit above: Intercalated with Franson Member
Unit below: Grandeur Member of Park City Formation
Type section: Meade Peak, 2½ miles south of Phosphoria Gulch, Bear Lake County, Idaho
Orig. Ref.: McKelvey, V. E. in McKelvey and others, 1956, Am. Assoc. Petroleum Geologists Bull., v. 40, no. 12, p. 2832, 2836, 2845-2847
Other Selected Refs.: McKelvey, V. E., and others, 1959, U.S. Geol. Survey Prof. Paper 313-A, p. 12-17, 36-37

Medicine Lodge Beds or Volcanics (Equivalent to Salt Lake Formation): Miocene(?)
---E-Central Idaho and SW Montana
U.S.G.S. Lexicon 1966, p. 2445 Shales, clays, sandstone, conglomerate, fanglomerate and rhyolites, fresh water limestone at top
Thickness: 5,000 ft. ±
Type section: Intermontane basin between Beaverhead and Tendoy Ranges, Clark County, Idaho
Orig. Ref.: Scholten, R., Keenmon, K. A., Kupsch, W. O., 1955, Geol. Soc. America Bull., v. 66, no. 4, p. 369-370

Melon Gravel (of Snake River Group): Upper Pleistocene---S Idaho
U.S.G.S. Lexicon 1966, not entered
Unit above: Recent Flows
Unit below: Bancroft Springs Basalt
Type section: Southwest Snake River Plain
Orig. Ref.: Malde, H. E., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199

MENAN TUFF: Pleistocene---SE Idaho
U.S.G.S. Lexicon 1966, p. 2457 Tuff, volcanic sand, basalt and loess
Type section: Menan Buttes west Madison Co. Snake River Plain
Orig. Ref.: Stearns, H. T., Crandall, Lynn, Steward, W. G., 1938, U.S. Geol. Survey Water-Supply Paper 774, p. 28
Other Selected Refs.: Bayless, J. C., 1950, Michigan Acad. Sci., Arts and Letters, Papers, v. 34, p. 218

MILLIGEN FORMATION: Devonian(?) and Mississippian---S-Central Idaho and SW Montana
U.S.G.S. Lexicon 1966, p. 2507 Dark-gray to black, limy and carbonaceous shale
Thickness: 5,500-7,500 ft.
Unit above: Brazer Limestone
Unit below: Three Forks Limestone
Type section: Milligen Creek, Ketchum, Idaho
Orig. Ref.: Westgate, L. G., and Ross, C. P., 1930, U.S. Geol. Survey Bull. 814, p. 10, 24-29
Other Selected Refs.: Several references 1966 Lexicon (U.S.G.S.)
Kiilsgaard, T. H., 1950, Idaho Bur. Mines and Geology Pamph. 90, p. 40-41
Ross, C. P., 1947, Geol. Soc. America Bull., v. 58, no. 12, p. 1112-1113. In Borah Peak quadrangle.
Thomasson, M. R., 1959, Dissert. Abst., v. 20, no. 3, p. 999

MINIDOKA BASALT: Pleistocene---S Idaho
U.S.G.S. Lexicon 1966, p. 2519 Basalt
Thickness: 30 ft.
Unit below: Burley Lake Beds
Type section: Minidoka Dam. Probably from cone near Minidoka
Orig. Ref.: Stearns, 1932, Correlation chart of Idaho compiled by M. G. Wilmarth; 1936, Jour. Geology, v. 44, no. 4, p. 434-439
Other Selected Refs.: Stearns, H. T., Crandall, Lynn, and Steward, W. G., 1938, U.S. Geol. Survey Water-Supply Paper 774, p. 29

Mink Creek Conglomerate (in Salt Lake Group): Pliocene---SE Idaho and Central N Utah
U.S.G.S. Lexicon 1966, p. 2519 Subrounded to angular cobbles, pebbles, and boulders. Light gray sand calcareous tuff and marl
Thickness: Approx. 3,435 ft.
Unit below: Cache Valley Formation
Type section: 1 mile west of Mink Creek, Cache Valley, Franklin Co., Idaho
Orig. Ref.: Adamson, R. D., Hardy, C. T., Williams, J. S., 1955, Utah Geol. Soc. Guidebook 10, p. 2, 7-8

MISSOULA GROUP (of Belt Supergroup): Precambrian---NW Montana and N Idaho
U.S.G.S. Lexicon 1966, p. 2530 (equivalent Striped Peak and Libby Formations in Idaho)
Unit above: Paleozoic rocks
Unit below: Wallace
Type section: Slopes east and west of Rattlesnake Creek, NE of Missoula, Montana
Orig. Ref.: Clapp, C. H., and Deiss, C. F., 1931, Geol. Soc. America Bull., v. 42, p. 677
Other Selected Refs.: Many references in Lexicon 1966 (U.S.G.S.)
Andrews, D. A., Lambert, G. S., and Stose, G. W., 1944, U.S. Geol. Survey Oil and Gas Inv. Prelim. Map 25, sheet 1
Nelson, W. H., and Dobell, J. P., 1959, U.S. Geol. Survey Misc. Geol. Inv. Map I-296
Campbell, A. B., 1960, U.S. Geol. Survey Bull. 1083-I, p. 560-569
In Superior Mont. region: about 16,000 ft. thick
Bouchard Fm., Sloway Fm. Lupine Quartzite, Spruce Fm.

Montini Formation: Pleistocene---SE Idaho Oreana quadrangle
U.S.G.S. Lexicon 1966, not entered Basalt and pyroclastics
Unit above: Hart Creek Fanglomerate and Snake River Basalt
Unit below: Basalt
Type section: W 1/2 T3S, R1E
Orig. Ref.: Anderson, N. R., 1965, Upper Cenozoic stratigraphy of the Oreana, Idaho 15' quadrangle (Unpub. Ph.D. dissert. Univ. of Utah), 211 p.

"Mooyie" Formation (Moyie): Precambrian---N Idaho, British Columbia, Canada
U.S.G.S. Lexicon 1966, p. 2584
Type section: Moyie River NE Idaho and British Columbia, Canada
Orig. Ref.: Daly, R. A., 1905, Canada Geol. Survey Summ. Rept. 1905, p. 96-100

Mount Bennett Rhyolite: Oligocene(?)---SW Idaho
U.S.G.S. Lexicon 1966, p. 2624
Type section: Mt. Bennett north of central Snake River Plain
Orig. Ref.: Russell, I. C., 1902, U.S. Geol. Survey Bull. 199, p. 42
Other Selected Refs.: Smith, C. L., 1966, Geology of eastern Mount Bennett Hills, Camas, Gooding, and Lincoln Counties, Idaho: (Unpub. Ph.D. dissert., Library, University of Idaho)

Muldoon Formation: Lower Mississippian to Pennsylvanian(?)---Central and E Idaho
U.S.G.S. Lexicon 1966, p. 2653 Black limestones, mudstones and graywackes
Thickness: Up to 10,000 ft.
Unit above: Wood River Formation
Unit below: Milligen Formation
Type section: Muldoon trough aligned N30°W
Orig. Ref.: Thomasson, M. R., 1959, Dissert. Abst., v. 20, no. 3, p. 999

Nampa Beds (abandoned): Miocene - Pleistocene
U.S.G.S. Lexicon 1966, p. 2675
Orig. Ref.: Emmons, S. F., 1890, Boston Soc. Nat. History Proc., v. 24, p. 432-433

Nampa Sediments: Upper Pleistocene
U.S.G.S. Lexicon 1966, p. 2675 Clay, silt, sand and gravel
Thickness: Up to 50 ft.
Unit above: Caldwell Sediments
Unit below: Snake River Group
Type section: Boise Valley below 2,800 ft. elevation, Ada and Canyon Counties, Idaho
Orig. Ref.: Savage, C. N., 1958, Idaho Bur. Mines and Geology County Report No. 3, p. 20

Naomi Peak Limestone Member (of Langston Fm.): Middle Cambrian---SE Idaho and N Utah
U.S.G.S. Lexicon 1966, p. 2680 Light neutral gray finely crystalline sandy limestone
Thickness: 32-40 ft.
Unit above: Spence Shale
Unit below: Pioche(?) Shale
Type section: North side of North Fork of High Creek, 6½ miles northeast of Richmond, Utah

NEELEY FORMATION: Middle Pliocene---S Idaho
U.S.G.S. Lexicon 1966, p. 2700
Thickness: Approx. 100 ft.
Unit above: Eagle Rock Tuff
Unit below: Pillar Falls Mud Flow
Type section: Bluffs of Snake River near Neeley, Idaho Power County 5 miles southwest of American Falls
Orig. Ref.: Stearns, H. T., 1932, Correlation chart of Idaho compiled by W. G. Wilmarth; 1936, Jour. Geology, v. 44, no. 4, p. 434-439
Other Selected Refs.: Stearns, H. T., Crandall, Lynn, Steward, W. G., 1938, U.S. Geol. Survey Water-Supply Paper 774, p. 32, 43

Newport Group (Belt Supergroup): Precambrian---NE Wash. and W Idaho
U.S.G.S. Lexicon 1966, p. 2728 Argillites, quartzite, carbonate rocks
Thickness: Approx. 29,000 ft.
Type section: Exposures near Newport, Washington
Orig. Ref.: Schroeder, M. C., 1952, Washington Div. Mines and Geology Bull. 40, p. 7, 9, 19
Newport Group consists of Skookum Formation, No Name Argillite, Bead Lake Formation

NOUNAN LIMESTONE (Blacksmith Fk. redescribed): Middle Cambrian---SE Idaho and NE Utah
U.S.G.S. Lexicon 1966, p. 2778 Light gray to dark gray dolomite and white limestone
Thickness: 900 ft.
Unit above: St. Charles Formation
Unit below: Bloomington Limestone
Type section: East slope Soda Peak, west of Nounan, Nounan Canyon, Idaho
Orig. Ref.: Walcott, C. D., 1908, Smithsonian Misc. Colln., v. 53, no. 1804, p. 6
Other Selected Refs.: Deiss, Charles, 1938, Geol. Soc. America Bull., v. 49, no. 7, p. 1109-1110, 1122-1123

NUGGET SANDSTONE (Chugwater and/or Lower Sundance Sand): Lower Jurassic---SW Wyoming, SE Idaho, NE Utah
U.S.G.S. Lexicon 1966, p. 2781 Red to gray massive to coarsely bedded sandstone
Thickness: 1,000 to 1,500 ft.
Unit above: Twin Creek Formation
Unit below: Wood Shale - Thaynes Formation
Type section: Nugget Station on Oregon Short Line, Lincoln Co., Wyoming
Orig. Ref.: Veatch, A. C., 1907, U.S. Geol. Survey Prof. Paper 56, p. 56
Other Selected Refs.: Many references in Lexicon 1966 (U.S.G.S.)
Mansfield, G. R., 1952, U.S. Geol. Survey Prof. Paper 238, p. 35-36
Pipiringos, G. N., 1957, Wyoming Geol. Survey Bull. 47, p. 8-10, 13, 17-19

OQUIRRH FORMATION: Lower Pennsylvanian to Lower Permian
U.S.G.S. Lexicon 1966, p. 2840
Type section: Oquirrh Range, Utah
Orig. Ref.: Gilluly, J., 1932, U.S. Geol. Survey Prof. Paper 173
Other Selected Refs.: Many references in Lexicon 1966, (U.S.G.S.)

Oreana Formation (of Idaho Group?): Pliocene---SE Idaho Oreana quadrangle
U.S.G.S. Lexicon 1966, not entered Gravel, sand and silt
Light yellow to buff silt, gray sand and red to purple gravel
Unit above: Jackass Butte Formation
Unit below: Brown Creek Formation
Type section: Town of Oreana
Orig. Ref.: Anderson, N. R., 1965, Upper Cenozoic stratigraphy of the Oreana Idaho 15' quadrangle (Unpub. Ph.D. dissert., Univ. of Utah, 211 p.)

Orofino Creek Interbeds (of "Upper" Columbia River Basalt): Miocene-N-Central Idaho
U.S.G.S. Lexicon 1966, not entered Clay and ash units, separated by a lava flow
Unit above: "Upper" Columbia River Basalt
Unit below: "Lower" Columbia River Basalt
Type section: Road cuts 500 ft. above Canyon at Orofino
Orig. Ref.: Bond, J. G., 1963, Geology of the Clearwater embayment: Idaho Bur. Mines and Geology, Pamph. 128, 83 p.

Orofino "Series": Precambrian (Belt?)---N Idaho
U.S.G.S. Lexicon 1966, p. 2855 Banded micaceous and hornblendic quartzite, schist and gneiss with marble beds
Type section: Clearwater Canyon near Orofino along lower course of North Fork of Clearwater River
Orig. Ref.: Anderson, A. L., 1930, Idaho Bur. Mines and Geology Pamph. 34
Other Selected Refs.: Ross, C. P. and Forrester, J. D., 1958, Idaho Bur. Mines and Geology Bull. 15, p. 5
Hietanen, Anna, 1967, U.S. Geol. Survey Spec. Paper no. 86

Otter Basalt: Pleistocene---SE Idaho Oreana quadrangle
U.S.G.S. Lexicon 1966, not entered Basalt
Unit above: Montini Formation
Unit below: Jackass Butte Formation
Type section: Southeast side Sinker Creek Butte near Otter Massacre Site
Orig. Ref.: Anderson, N. R., 1965, Upper Cenozoic stratigraphy of the Oreana, Idaho 15' quadrangle: (Unpub. Ph.D. dissert., Univ. of Utah, 211 p.)

Ovid Formation (or Limestone): Upper Cambrian---SE Idaho and Central N Utah
U.S.G.S. Lexicon 1966, p. 2879
Type section: North side Two Mile Canyon, 2 miles southeast of Malad, Oneida Co., Idaho (Fossil locality in Oneida Co.)
Orig. Ref.: Walcott, C. D., 1925, Smithsonian Misc. Colln., v. 74, no. 3, p. 96, 104-105
Other Selected Refs.: Ulrich, E. O. and Cooper, G. A., 1938, Geol. Soc. America Spec. Paper 13, p. 25

Owyhee Rhyolite: Tertiary-Quaternary---SW Idaho
U.S.G.S. Lexicon 1966, p. 2882 Rhyolite and quartz latite
Unit below: Payette Formation
Type section: Well exposed in Owyhee Co.
Orig. Ref.: Kirkham, V. R. D., 1931, Jour. Geology, v. 39, no. 6, p. 579
Other Selected Refs.: Savage, C. N., 1958, Idaho Bur. Mines and Geology County Rept. 3, p. 21, 24-25, 35, 49

PACKSADDLE MTN. GRANODIORITE: Cretaceous---N Idaho
U.S.G.S. Lexicon 1966, p. 2890
Type section: Packsaddle Mtn. east of Pend Oreille Lake north Idaho
Orig. Ref.: Gillson, J. L., 1927, Jour. Geology, v. 35, no. 1

PALOUSE FORMATION: Pleistocene---SE Washington, NW Idaho, and Oregon
U.S.G.S. Lexicon 1966, p. 2907 Loess
Thickness: 0-200 ft. +
Type section: Palouse Hills, southeast Washington
Orig. Ref.: Treasher, R. C., 1925, Science, new ser., v. 61, p. 469
Other Selected Refs.: Lowry, W. D., and Baldwin, E. M., 1952, Geol. Soc. America Bull., v. 63, p. 469
Waldron, H. H., and Gard, L. M., Jr., 1954, U.S. Geol. Survey Geol. Quad. Map GQ-48

PARK CITY FORMATION (Franson, Meade Peak, Grandeur Members): Permian---NE Utah, NW Colorado, E Idaho, SW Montana, Wyoming
U.S.G.S. Lexicon 1966, p. 2926
Unit above: Thaynes Formation
Unit below: Wells Formation
Type section: Park City Dist., Utah
Orig. Ref.: Boutwell, J. M., 1907, Jour. Geology, v. 15, p. 439-458
Other Selected Refs.: McKelvey, V. E., and others, 1956, Am. Assoc. Petroleum Geologists Bull., v. 40, no. 12, p. 2840-2844
Hose, R. K., and Repenning, C. A., 1959, Am. Assoc. Petroleum Geologists Bull., v. 43, no. 9, p. 2178, on basis of work in Confusion Range

PAYETTE FORMATION: Miocene---SW Idaho, NE Nevada, SE Oregon, NW Utah
U.S.G.S. Lexicon 1966, p. 2950 Sandstone, siltstone, tuff shales and clay
Thickness: 1,200-18,633 ft.
Unit above: Idaho Formation
Unit below: Variable
Type section: Vicinity Marsh Post Office, Boise Co., Idaho exposures along Payette River in west Idaho
Orig. Ref.: Lindgren, Waldemar, 1898, U.S. Geol. Survey 18th Ann. Rept., p. 632-634
Other Selected Refs.: Many references Lexicon 1966 (U.S.G.S.)
Corcoran, H. E., 1954, The Ore Bin, v. 16, no. 12, p. 79-84
Ross, C. P., and Forrester, 1958, Idaho Bur. Mines and Geology Bull. 15, p. 16-17
Latah and Payette along with parts of Salt Lake Formation equivalent in time(?)

PETERSON LIMESTONE (of Gannett Group): Lower Cretaceous---SE Idaho and W Wyoming
U.S.G.S. Lexicon 1966, p. 2997 Freshwater limestone
Thickness: Approx. 200 ft.
Unit above: Belcher Conglomerate
Unit below: Ephraim Conglomerate
Type section: Peterson's Ranch along Tygee Creek, Freedom quadrangle Bannock Co., Idaho
Orig. Ref.: Mansfield, G. R., and Roundy, P. V., 1916, U.S. Geol. Survey Prof. Paper 98-G, p. 76-82
Other Selected Refs.: Mansfield, G. R., 1952, U.S. Geol. Survey Prof. Paper 238, p. 17, 42-43

PHI KAPPA FORMATION (may be equiv. Ramshorn, Kinnikinic and Saturday Mtn. Formations): Lower Ordovician(?)---Central Idaho
U.S.G.S. Lexicon 1966, p. 3001 Argillaceous quartzite and argillite
Type section: Exposures along Phi Kappa Creek, Hailey quadrangle, Idaho
Orig. Ref.: Westgate, L. G., and Ross, C. P., 1930, U.S. Geol. Survey Bull. 814, p. 10-18

PHOSPHORIA FORMATION (Meade Peak Shale, Rex chert, cherty shale): Permian---E Idaho, W Montana, NE Utah, W Wyoming
U.S.G.S. Lexicon 1966, p. 3003 Chert, carbonaceous shale and phosphorite (in SE Idaho)
Type section: Phosphoria Gulch where it joins Georgetown Canyon, 2½ miles NW of Meade Peak, Idaho
Orig. Ref.: Richards, R. W., and Mansfield, G. R., Jour. Geology, v. 20, p. 683-689
Other Selected Refs.: Many references Lexicon 1966 (U.S.G.S.) McKelvey, V. E., and others, 1956, Am. Assoc. Petroleum Geologists Bull., v. 40, no. 12, p. 2844-2852; 1959, U.S. Geol. Survey Prof. Paper 313-A, p. 20-31

Picture Gorge Basalt Formation (of Columbia River Group "Lower Basalt"):
U.S.G.S. Lexicon 1966, not entered
Orig. Ref.: (Not used in Idaho yet)
Other Selected Refs.: Mackin, J. H., Wash. Div. of Mines and Geol. Rept. of Investigation no. 9

PIEGAN GROUP: Precambrian (Belt Supergroup)---W Montana and N Idaho
U.S.G.S. Lexicon 1966, p. 3010
Unit above: Missoula Group
Unit below: Ravalli Group
Orig. Ref.: Fenton, C. L., and Fenton, M. A., 1937, Geol. Soc. America Bull., v. 48, no. 12, p. 1890-1892
Other Selected Refs.: Ross, C. P., 1959, U.S. Geol. Survey Prof. Paper 296, p. 33-43
Others indicate Piegan Group includes older term "Newland" (Wallace equiv.) and Greyson?

Pillar Falls Mud Flow (Abandoned): Upper Miocene---S Idaho
U.S.G.S. Lexicon 1966, p. 3010 Replaced by Shoshone Falls Andesite
Unit below: Shoshone Falls Andesite
Type Section: Pillar Falls on Snake River, in Jerome and Twin Falls Counties
Orig. Ref.: Stearns, H. T., 1932, Correlation chart of Idaho compiled by M. G. Wilmarth; 1936, Jour. Geology, v. 44, no. 4, p. 434-439
Other Selected Refs.: Stearns, H. T., 1955, Geol. Soc. America Bull., v. 66, no. 4, p. 463

Pine Creek Interbeds (of the "Upper" Columbia River Basalt): Miocene---N-Central Idaho
U.S.G.S. Lexicon 1966, not entered Two marginal interbeds fine laminated silt stones (lower beds); cross bedded sandstone (upper beds)
Type section: Pine Creek esplanade good exposures on Kendrick-Deary highway one-half mile to west of Pine Creek
Orig. Ref.: Bond, J. G., 1963, Geology of the Clearwater embayment: Idaho Bur. Mines and Geology Pamph. 128, 83 p.

Pittsburg Formation: Carboniferous---Central W Idaho and NE Oregon
U.S.G.S. Lexicon 1966, p. 3051 Conglomerates and sandstones, some argillaceous beds and tuff
Type section: Pittsburg Landing on Snake River, Idaho Co., Idaho
Orig. Ref.: Wagner, W. R., 1945, Idaho Bur. Mines and Geology Pamph. 74, p. 4-5

Pocatello Formation: Precambrian(?)---SE Idaho
U.S.G.S. Lexicon 1966, p. 3071 Metamorphosed sediments, tillites? and sandstones
Unit above: Blackrock Limestone
Unit below: Bannock Volcanics
Type section: Pocatello quarry
Orig. Ref.: Ludlum, J. C., 1942, Jour. Geology, v. 50, no. 1, p. 89-92

POGONIP GROUP: Lower and Middle Ordovician---E and S Nevada, W Utah, S Idaho(?)
U.S.G.S. Lexicon 1966, p. 3075
Unit above: Eureka Quartzite
Unit below: Dundeberg Shale
Type section: Pogonip Ridge in White Pine or Hamilton district 30 miles southeast of Eureka, Nevada
Orig. Ref.: King, C., 1876, U.S. Geol. Expl. 40th Par. Atlas, Map IV; 1878, U.S. Geol. Exp. 40th Par., v. 1, p. 187-195, 248
Other Selected Refs.: Many references Lexicon (U.S.G.S. 1966)
Hintze, F. L., 1951, Utah Geol. and Mineralog. Survey Bull. 39, p. 11-96
Compton, R. R., Abst. Geol. Soc. America, Cordilleran Sect. Ann. Mtg., p. 27-28

Poison Creek Formation (of Snake River Group): Lower Pliocene---S Idaho
U.S.G.S. Lexicon 1966, not entered
Unit above: Banbury Basalt
Unit below: Idavada Volcanics
Type section: Southwest Snake River Plain, Poison Creek Grade
Orig. Ref.: Buwalda, 1923, Idaho Bur. Mines and Geol. Pamph. 5, p. 3
Malde, H. E., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199

Pomona Basalt Member (of Yakima or Ellensburg?): Miocene-Pliocene---Central E Washington, NW Idaho(?)
U.S.G.S. Lexicon 1966, not entered
Unit above: Rattlesnake Ridge Member
Unit below: Selah Member
Orig. Ref.: Schminke, N. N., 1967, Geol. Soc. America Bull., v. 78, p. 321

PORTNEUF LIMESTONE MEMBER (of Thaynes Group): Lower Triassic---SE Idaho
U.S.G.S. Lexicon 1966, p. 3108 Limestone, red sandstones and shales
Thickness: 200-1,000 ft.
Unit above: Timothy Formation
Type section: Portneuf River, in Fort Hall Indian Reservation
Orig. Ref.: Mansfield, G. R., 1915, Washington Acad. Sci. Jour., v. 5, p. 492
Other Selected Refs.: Mansfield, G. R., 1952, U.S. Geol. Survey Prof. Paper 238, p. 17, 31-33
Kummel, Bernhard, 1954, U.S. Geol. Survey Prof. Paper 254-H, p. 173

PREUSS SANDSTONE: Upper Jurassic---SE Idaho, N-Central Utah, W Wyoming
U.S.G.S. Lexicon 1966, p. 3133 Red bed and sandstones
Thickness: 669-1,196 ft.
Unit above: Stump Sandstone
Unit below: Twin Creek Limestone
Type section: Preuss Creek Montpelier quadrangle 12 miles northeast of Montpelier, Idaho
Orig. Ref.: Mansfield, G. R., and Roundy, P. V., 1916, U.S. Geol. Survey Prof. Paper 98, p. 76, 81
Other Selected Refs.: Thomas, H. D., and Krueger, M. L., 1946, Am. Assoc. Petroleum Geologists Bull., v. 30, no. 8, p. 1276-1278, 1280

Priest Rapids Basalt Member (of Yakima Formation): NW Idaho?
U.S.G.S. Lexicon 1966, not entered
Unit above: Rosa Member
Unit below: Saddle Mountains Member
Orig. Ref.: Mackin, J. H., Wash. Div. of Mines and Geology Rept. of Invest., no. 19, p. 23-24
Other Selected Refs.: Bingham, J. W., and Grolier, M. J., U.S. Geol. Survey Bull. 1224-6, p. 9
Schminke, H. N., 1967, Geol. Soc. America Bull., v. 78, p. 321

Priest River Group: Precambrian---NW Idaho, NE Washington, S British Columbia
U.S.G.S. Lexicon 1966, p. 3138 Phyllite, schists, limestones, dolomites, quartzites and volcanics
Unit above: Shedroof Conglomerates
Type section: East of headwaters of Priest River, Idaho
Orig. Ref.: Daly, R. A., 1912, Canada Geol. Survey Dept. Mines Mem. 38
Other Selected Refs.: Park, C. F. Jr., and Cannon, R. S. Jr., 1943, U.S. Geol. Survey Prof. Paper 202, p. 6

PRICHARD FORMATION (of Belt Supergroup): Precambrian---N Idaho, NW Montana
U.S.G.S. Lexicon 1966, p. 3135 Dark gray argillite and light-brownish-gray impure quartzites
Thickness: Unknown---1,800 ft. exposed
Unit above: Burke Formation
Type section: Drainage basin of Prichard Creek, Coeur d'Alene district, Idaho
Orig. Ref.: Ransome, F. L., 1905, U.S. Geol. Survey Bull. 260, p. 277-285
Other Selected Refs.: Hosterman, J. W., 1956, U.S. Geol. Survey Bull. 1027-P, p. 728

Purcell Formation (of Belt Supergroup): Precambrian---N Idaho and NW Montana, S British Columbia
U.S.G.S. Lexicon 1966, p. 3159 Abundant clastics quartzites, and carbonate rock
Unit above: Gateway Formation
Unit below: Siyeh Formation
Type section: In Purcell Range British Columbia, Canada
Orig. Ref.: Fenton, C. L. and Fenton, M. A., 1937, Geol. Soc. America Bull., v. 48, no. 12, p. 1877
(Purcell essentially equivalent to Striped Peak Formation of the Missoula Group; contains sills and lava flows of mafic rock)

Quincy Diatomite Bed (in Yakima Formation): Miocene---Central E Washington and Idaho(?)
U.S.G.S. Lexicon 1966, not entered
Unit above: Priest Rapids Member
Unit below: Rosa Basalt Member
Type section: Quincy Basin, Washington
Orig. Ref.: Mackin, J. H., 1961, Wash. Div. of Mines and Geol. Survey

RAFT FORMATION: Upper Pleistocene---S Idaho
U.S.G.S. Lexicon 1966, p. 3187 Lake beds
Thickness: Approx. 200 ft.
Unit above: Alluvium on west side of Snake River and Cedar Basalt
Unit below: Rockland Valley Basalt, Massacre volcanics
Type section: Exposures along Raft River near mouth, Cassia County
Orig. Ref.: Stearns, H. T., 1932, Correlation chart of Idaho compiled by M. G. Wilmarth; 1936, Jour. Geology, v. 44, no. 4, p. 334-439
Other Selected Refs.: Stearns, H. T., Crandall, Lynn, and Steward, W. G., 1938, U.S. Geol. Survey Water-Supply Paper 774, p. 31, 48-50
Stearns, H. T., and Isotoff, Andrei, 1956, Geol. Soc. America Bull., v. 67, no. 1, p. 27

RAMSHORN SLATE: Lower Ordovician---S-Central Idaho
U.S.G.S. Lexicon 1966, p. 3195
Thickness: 2,000 ft.
Unit above: Kinnikinic Quartzite
Unit below: Bayhorse Dolomite
Type section: Mine near head of Bayhorse Creek, Custer Co., Idaho
Orig. Ref.: Ross, C. P., 1932, Idaho correlation chart compiled by M. G. Wilmarth; 1934, Geol. Soc. America Bull., v. 45, p. 945
Other Selected Refs.: Ross, C. P., 1937, U.S. Geol. Survey Bull. 877, p. 11, 14-17

Rattle Snake Ridge Member (of Yakima or Ellensburg Formations): Miocene-Pliocene---E-Central Washington, NW Idaho(?)
U.S.G.S. Lexicon 1966, not entered
Unit above: Elephant Mtn. Basalt Member
Unit below: Pomona Basalt Member

RAVALLI GROUP (of Belt Supergroup): Precambrian---NE Idaho, NW Montana
U.S.G.S. Lexicon 1966, not entered
Unit above: Wallace Formation
Unit below: Prichard Formation
Type section: Hills along Jocko River, near Ravalli, Montana
Orig. Ref.: Walcott, C. D., 1906, Geol. Soc. America Bull., v. 17, p. 7, 9
Other Selected Refs.: Many references Lexicon 1966 (U.S.G.S.)
Fenton, C. L., and Fenton, M. A., 1937, Geol. Soc. America Bull., v. 48, no. 12, p. 1880-1881
Ross, C. P., 1949, (abst.) Washington Acad. Sci. Jour., v. 39, no. 3, p. 111-112
Ravalli Group consists of St. Regis Fm., Revett Fm., Burke Fm.

RENNIE SHALE: Middle Cambrian---N Idaho
U.S.G.S. Lexicon 1966, p. 3243 Shale, argillaceous and micaceous
Thickness: 50-75 ft.
Unit above: Lakeview Limestone
Unit below: Gold Creek Quartzite
Type section: Stream along west side Rennie Ridge, spur on south side of Packsaddle Mtn., Pend Oreille Lake area, Idaho
Orig. Ref.: Sampson, E., 1928, Idaho Bur. Mines and Geology Pamph. 31, p. 9
Other Selected Refs.: Resser, C. E., 1938, Smithsonian Misc. Colln., v. 97, no. 3, p. 2-3

RETORT PHOSPHATIC SHALE MEMBER (of Phosphoria Formation): Permian---SW Montana, E Idaho, NE Utah, W Wyoming
U.S.G.S. Lexicon 1966, p. 3249
Unit above: Tosi Chert Member
Unit below: Rex Chert Member
Type section: Small Horn Canyon northwest of Retort Mountain, 10 miles south of Dillon, Montana
Orig. Ref.: Swanson, R. W., 1956 in McKelvey and others, Am. Assoc. Petroleum Geologists Bull., v. 40, no. 12, p. 2832, 2836, 2850-2851
Other Selected Refs.: McKelvey and others, 1959, U.S. Geol. Survey Prof. Paper 313-A, p. 29-30

REVETT FORMATION (of the Ravalli Group): Precambrian---Idaho
U.S.G.S. Lexicon 1966, p. 3251 Argillite, siltite and quartzite
Thickness: 1,200 to 2,400 ft.
Unit above: St. Regis Formation
Unit below: Burke Formation
Type section: Coeur d'Alene district, Murray area, Idaho
Orig. Ref.: Ransome, F. L., 1905, U.S. Geol. Survey Prof. Paper 62
Other Selected Refs.: Hosterman, J. W., 1956, U.S. Geol. Survey Bull. 1027-P, p. 729
Harrison, J. E., and Campbell, A. B., Geol. Soc. America Bull., v. 74, no. 12, p. 1413-1428

REX CHERT MEMBER (of Phosphoria Formation): Permian---E Idaho, NE Utah, SW Montana, SW Wyoming
U.S.G.S. Lexicon 1966, p. 3253
Unit above: Retort Shale Member
Unit below: Meade Peak Shale Member
Type section: Phosphoria Gulch 2½ miles northwest of Meade Peak, Bear Lake Co., Idaho, Rex Peak in Crawford Mtns., Utah
Orig. Ref.: Richards, R. W., and Mansfield, G. R., 1912, Jour. Geology, v. 20, p. 683-689
Other Selected Refs.: McKelvey, V. E., and others, 1956, Am. Assoc. Petroleum Geologists Bull., v. 40, no. 12, p. 2847-2849; 1959, U.S. Geol. Survey Prof. Paper 313-A, p. 25-28

Reynolds Basin Group: Upper Miocene or Lower Pliocene---SW Idaho
U.S.G.S. Lexicon 1966, not entered 12 named and nondesignated units of basalt, tuffs, and latites
Type section: Reynolds Creek watershed
Orig. Ref.: McIntyre, D. H., 1966, Cenozoic geology of the Reynolds Creek watershed, Owyhee County, Idaho (Unpub. Ph.D. dissert., Washington State Univ.), 248 p.

RICH MEMBER (of Twin Creek Formation): Middle(?) Jurassic---SE Idaho, NW Wyoming, N Utah
U.S.G.S. Lexicon 1966, not entered Gray shaly limestone
Thickness: 380 ft. Willow Creek near Idaho Falls
Unit above: Boundary Ridge Member
Unit below: Sliderock Member
Type section: Southeast Idaho, Willow Creek, Lower Slide Lake Teton Co., Wyoming
Orig. Ref.: Imlay, R. W., 1967, U.S. Geol. Survey Prof. Paper 540, p. 30

Rock Creek Flow (of "Lower" Columbia River Basalt): Miocene---N-Central Idaho
U.S.G.S. Lexicon 1966, not entered Porphyritic lava flow
Thickness: 350-480 ft.
Unit above: "Upper" Columbia River Basalt
Type section: Mouth of Grande Ronde
Orig. Ref.: Bond, J. G., 1963, Geology of the Clearwater embayment: Idaho Bur. Mines and Geology Pamph. 128, 83 p.

ROCKLAND VALLEY BASALT: Middle Pliocene---S Idaho
U.S.G.S. Lexicon 1966, p. 3314 Blue black basalt and clay bed
Thickness: Approx. 250 ft.
Unit above: Raft Lake Beds
Unit below: Massacre Volcanics
Type section: North side of Rockland Valley, Power Co., Idaho
Orig. Ref.: Stearns, H. T., 1932, Correlation chart of Idaho compiled by M. G. Wilmarth; 1936, Jour. Geology, v. 44, no. 4, p. 434-439
Other Selected Refs.: Stearns, H. T., Crandall, Lynn, Steward, W. G., 1938, U.S. Geol. Survey Water-Supply Paper 774, p. 31, 47-48

ROSA BASALT MEMBER (of Yakima Formation): Miocene---E-Central Washington and W Idaho(?)
U.S.G.S. Lexicon 1966, not entered
Unit above: Priest Rapids Basalt Member
Unit below: Squaw Creek Diatomite
Orig. Ref.: Mackin, J. H., Wash. Div. of Mines and Geology Rept. of Invest., no. 19, p. 21-22
Other Selected Refs.: Bingham, J. W., and Grolier, M. J., U.S. Geol. Survey Bull. 1224-G, p. 8
Schminke, H. N., 1967, Geol. Soc. America Bull., v. 78, p. 321

Roslyn Formation: Eocene---E-Central Washington, NW Idaho(?)
U.S.G.S. Lexicon 1966, not entered
Unit above: Yakima Basalt Formation
Unit below: Teanaway Basalt (Dike swarm)
Orig. Ref.: Southwick, D. L., 1966, Northwest Sci., v. 40, p. 1-16

ROSS FORK LIMESTONE (in Thaynes Group): Lower Triassic---SE Idaho
U.S.G.S. Lexicon 1966, p. 3342 Grayish yellow limestone, shale and sandstone
Type section: Ross Fork Creek, in Fort Hall Indian Reservation, upper waters
Orig. Ref.: Mansfield, G. R., 1915, Washington Acad. Sci. Jour., v. 5, p. 492
Other Selected Refs.: Mansfield, G. R., 1952, U.S. Geol. Survey Prof. Paper 238, p. 17, 31-32

Rykert Granite (equivalent to Kaniksu batholith?): Cretaceous---N Idaho, N Washington, British Columbia
U.S.G.S. Lexicon 1966, p. 3366
Orig. Ref.: Daly, R. A., 1912, Canada Dept. of Mines Mus. Mem. 38, p. 284

Selah Member (of Ellensburg Formation or Yakima Basalt?): Miocene-Pliocene ---E-Central Washington and W Idaho(?)
U.S.G.S. Lexicon 1966, not entered
Unit above: Pomona Basalt Member
Unit below: Umatilla Basalt Member
Orig. Ref.: Schminke, H. N., 1967, Geol. Soc. America Bull., v. 78, p. 321

ST. CHARLES LIMESTONE: Upper Cambrian---SE Idaho and NE Utah
U.S.G.S. Lexicon 1966, p. 3383
Thickness: Approx. 771 ft.
Unit above: Garden City Limestone
Unit below: Nounan Dolomite
Type section: West of St. Charles, Bear Lake Co., Idaho
Orig. Ref.: Walcott, C. D., 1908, Smithsonian Misc. Colln., v. 53, no. 1804, p. 6
Other Selected Refs.: Deiss, Charles, 1938, Geol. Soc. America Bull., v. 49, no. 7, p. 1108-1109, 1117, 1123-1124
Richardson, G. B., 1941, U.S. Geol. Survey Bull. 923, p. 13-14
Williams, J. S., 1948, Geol. Soc. America Bull., v. 59, no. 11, p. 1134-1135
Coulter, H. W., 1956, Idaho Bur. Mines and Geology Pamph. 107, p. 17-19

St. Joe Valley Basalt: Pleistocene-Recent(?)
U.S.G.S. Lexicon 1966, not entered
Unit above: Palouse Formation(?)
Unit below: Upper Columbia River Basalt
Orig. Ref.: Dort, Wakefield, Jr., Northwest Science, v. 41, no. 4, p. 141-151

ST. REGIS FORMATION (in Ravalli Group): Precambrian---NE Idaho, NW Montana
U.S.G.S. Lexicon 1966, p. 3401 Green and purple indurated shales and flaggy sandstones
Thickness: 1,200 to 5,000 ft.
Unit above: Wallace Formation
Unit below: Revett Formation
Type section: Vicinity of St. Regis Pass southeast Coeur d'Alene district, Idaho
Orig. Ref.: Ransome, F. L., 1905, U.S. Geol. Survey Bull. 260, p. 277-285
Other Selected Refs.: Ransome, F. L., and Calkins, F. C., 1908, U.S. Geol. Survey Prof. Paper 62, p. 37-39
Wallace, R. E., and Hosterman, J. W., 1956, U.S. Geol. Survey Bull. 1027-M, p. 582-584

Salmon Creek Volcanics: Miocene(?)---SE Idaho
U.S.G.S. Lexicon 1966, not entered Porphyritic basalt, andesite
Unit above: Reynolds Basin Group
Unit below: Granitic basement rocks
Type section: Northwest portion of Reynolds Creek watershed
Orig. Ref.: McIntyre, D. H., 1966, Cenozoic geology of the Reynolds Creek watershed, Owyhee County, Idaho (Unpub. Ph.D. dissert., Washington State Univ.), 248 p.

SALT LAKE FORMATION (Salt Lake Group): Miocene-Pleistocene(?)---N Utah, SE Idaho, N Nevada
U.S.G.S. Lexicon 1966, p. 3416 Light colored tuffs, tuffaceous sandstones and conglomerates, some pumice
Thickness: 0-800 ft.
Unit below: Paleozoic rocks
Type section: Weber and Salt Lake Valleys, Utah
Orig. Ref.: Hayden, F. V., 1869, U.S. Geol. and Geog. Survey Terr. Rept. on Colorado and New Mexico, 3rd Ann. Rept., p. 92
Other Selected Refs.: Many references in Lexicon 1966 (U.S.G.S.)
Eardley, A. J., 1944, Geol. Soc. America Bull., v. 55, no. 7, p. 845-846
Williams, J. S., 1948, Geol. Soc. America Bull., v. 59, no. 11, p. 1130, 1147
Mansfield, G. R., 1952, U.S. Geol. Survey Prof. Paper 238, p. 44-46
Mapel, W. J., and Hail, W. J., Jr., 1956, Utah Geol. Soc. Guidebook 11, p. 2, 4, 9-16

Sandpoint Conglomerate: Late Carboniferous(?)---N Idaho
U.S.G.S. Lexicon 1966, p. 3438
Type section: In Purcell Trench north of Sandpoint, Idaho Bonner Co.
Orig. Ref.: Anderson, A. L., 1930, Idaho Bur. Mines and Geology Bull. 12

Sand Springs Basalt (of Snake River Group): Upper Pleistocene---S Idaho
U.S.G.S. Lexicon 1966, p. 3438 Basalt
Unit above: Bancroft Springs Basalt
Unit below: Crowsnest Gravel
Type section: Southeast Snake River Plain
Orig. Ref.: Stearns, H. T., 1932, Idaho correlation chart, Wilmarth, M. G.
Along Snake River upstream from Sand Springs Creek
Malde, H. E., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199
Other Selected Refs.: Stearns, H. T., 1936, Jour. Geology, v. 44, no. 4, p. 334-435

SATURDAY MOUNTAIN FORMATION: Upper Ordovician---S-Central Idaho
U.S.G.S. Lexicon 1966, p. 3479
Thickness: 500-700 ft.
Unit above: Laketown Dolomite
Unit below: Kinnikinic Quartzite
Type section: Saturday Mtn. Ridge west of lower Squaw Creek, near middle of west Boundary Bayhorse quadrangle
Orig. Ref.: Ross, C. P., 1937, U.S. Geol. Survey Bull. 877, p. 18-22
Other Selected Refs.: Ross, C. P., 1947, Geol. Soc. America, v. 58, no. 12, p. 1104-1105
Ross, R. J., Jr., 1959, U.S. Geol. Survey Prof. Paper 294-L, p. 441-459

SEVEN DEVILS VOLCANICS (Group?): Permian and Upper Triassic
U.S.G.S. Lexicon 1966, p. 3530 Clastics and volcanic rocks
Thickness: 10,000 ft. +
Unit above: Martin Bridge Limestone
Type section: At and around a large area of Seven Devils Mountains
Orig. Ref.: Lindgren, Waldemar, 1900, U.S. Geol. Survey 20th Ann. Rept., p. 193-198
Other Selected Refs.: Cook, E. F., 1954, Idaho Bur. Mines and Geology Pamph. 97, p. 3
Hamilton, Warren, 1963, U.S. Geol. Survey Prof. Paper 436

SHEDROOF CONGLOMERATE: Precambrian---NE Washington, NW Idaho
U.S.G.S. Lexicon 1966, p. 3559 Coarse gray-brown conglomerate
Thickness: 3,000-11,000 ft.
Unit above: Leola Volcanics
Unit below: Priest River Group(?)
Type section: Shedroof Mtn., Pend Oreille Co., Washington
Orig. Ref.: Park, C. F., Jr., and Cannon, R. S., Jr., 1943, U.S. Geol. Survey Prof. Paper 202, p. 6, 7-9

Shoshone Falls Andesite (Abandoned): Upper Miocene---S Idaho
U.S.G.S. Lexicon 1966, p. 3589
Thickness: Approx. 200 ft.
Unit above: Pillar Mud Flow
Type section: Forms Shoshone Falls and Pillar Falls, in Twin Falls and Jerome Counties
Orig. Ref.: Stearns, 1932, Correlation chart of Idaho compiled by M. G. Wilmarth; 1936, Jour. Geology, v. 44, no. 4, p. 434-439
Other Selected Refs.: Stearns, H. T., 1955, Geol. Soc. America Bull., v. 66, no. 4, p. 463. Suggests formation only a top block lava flow

Silver City Granite: Cretaceous(?)---SW Idaho
U.S.G.S. Lexicon 1966, p. 3603
Type section: Silver City, Owyhee Co.
Orig. Ref.: Piper, A. M. and Laney, F. B., 1926, Idaho Bur. Mines and Geology Bull. 11, p. 5

Sinker Creek Basalt Member (of Brown Creek Formation): Pliocene---SE Idaho
Oreana quadrangle
U.S.G.S. Lexicon 1966, not entered Basalt and tuff
Unit above: Brown Creek Upper Member
Unit below: Brown Creek Lower Member
Type section: Sinker Creek Valley and in canyon of Fossil Creek
Orig. Ref.: Anderson, N. R., 1965, Upper Cenozoic stratigraphy of the Oreana Idaho 15' quadrangle: (Unpub. Ph.D. dissert., Univ. of Utah), 211 p.

Siyeh (equivalent Upper Wallace and Striped Peak): Precambrian (Belt)
---British Columbia and N Idaho(?)
U.S.G.S. Lexicon 1966, not entered

Slate Creek Member (of Wood River Formation): Pennsylvanian---Central and E Idaho
U.S.G.S. Lexicon 1966, p. 3628
Unit above: Lake Creek Member
Unit below: Hailey Conglomerate
Type section: Deposited in Muldoon trough aligned N30° W
Orig. Ref.: Thomasson, M. R., 1959, Dissert. Abst., v. 20, no. 3, p. 999

SLIDEROCK MEMBER (of Twin Creek Formation): Middle(?) Jurassic---SE Idaho, NW Wyoming, N Utah
U.S.G.S. Lexicon 1966, not entered Gray-black limestone, some oolites, sandy
Unit above: Rich Member
Unit below: Gypsum Spring Member
Type section: Southeast Idaho and Lower Slide Lake Teton Co., Wyoming
Orig. Ref.: Imlay, R. W., 1967, U.S. Geol. Survey Prof. Paper 540, p. 22

Snake River Group: Pleistocene to Recent---S Idaho
U.S.G.S. Lexicon 1966, not entered
Unit below: Idaho Group
Type section: Snake River Plain
Orig. Ref.: Lindgren, W., 1900, U.S. Geol. Survey 20th Ann. Rept., pt. 3
Malde, H. E., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199

SPENCE SHALE MEMBER (of Langston Formation): Middle Cambrian---SE Idaho, NE Utah
U.S.G.S. Lexicon 1966, p. 3681
Type section: Spence Gulch up into Danish Flat from Mill Canyon, 5 miles west-southwest of Liberty, Idaho
Orig. Ref.: Walcott, C. D., 1908, Smithsonian Misc. Colln., v. 53, no. 1804, p. 5, 6, 8
Other Selected Refs.: Williams, J. S. and Maxey, G. B., 1941, Am. Jour. Sci., v. 239, no. 4, p. 276, 280-281
Coulter, H. W., 1956, Idaho Bur. Mines and Geology Pamph. 107, p. 11-12

Squaw Creek Diatomite (of Yakima Basalt): Tertiary---E Washington and W Idaho(?)
U.S.G.S. Lexicon 1966, not entered
Unit above: Rosa Member
Unit below: Frenchman Springs Basalt Member
Orig. Ref.: Schmincke, H. H., Geol. Society of America Bull., v. 78, p. 321

STRIPED PEAK FORMATION (in Missoula Group): Precambrian (Belt)---NE Idaho, NW Montana
U.S.G.S. Lexicon 1966, p. 3753 Sandstones, siliceous, flaggy and shaly, green and purple
Thickness: 1,000 ft.
Unit above: Libby Formation
Unit below: Wallace Formation
Type section: Near Striped Peak, Idaho
Orig. Ref.: Ransome, F. L., 1905, U.S. Geol. Survey Bull. 260, p. 277-285
Other Selected Refs.: Ransome, F. L., and Calkins, F. C., 1908, U.S. Geol. Survey Prof. Paper 92, p. 44
Hosterman, J. W., 1956, U.S. Geol. Survey Bull. 1027-P, p. 730

STUMP SANDSTONE: Upper Jurassic---SE Idaho, W Wyoming
U.S.G.S. Lexicon 1966, p. 3756
Thickness: 140 ft ±
Unit above: Ephraim Conglomerate
Unit below: Preuss Sandstone
Type section: Stump Peak, east head north fork Stump Creek Freedom Co., Idaho
Orig. Ref.: Mansfield, G. R., and Roundy, P. B., 1916, U.S. Geol. Survey Prof. Paper 98, p. 76, 81
Other Selected Refs.: Gardner, L. S., 1944, U.S. Geol. Survey Bull. 944-A, p. 7
Thomas, H. D., and Krueger, M. L., 1946, Am. Assoc. Petroleum Geologists Bull., v. 30, no. 8, p. 1269, 1276, 12780
Foster, H. L., 1947, Am. Assoc. Petroleum Geologists Bull., v. 31, no. 9, p. 1538, 1566-1567

Sublett Member (of Wells Formation): Pennsylvanian---S-Central Idaho
U.S.G.S. Lexicon 1966, p. 3759
Unit above: Indian Fork Member
Unit below: Heglar Canyon Member
Type section: Sublett Mountain area
Orig. Ref.: Bissell, H. J., 1960, Am. Assoc. Petroleum Geologists Bull., v. 44, no. 8, p. 1427

Sugar Bowl Gravel (of Snake River Group): Upper Pleistocene
U.S.G.S. Lexicon 1966, not entered
Unit above: Thousand Springs Basalt
Unit below: Madson Basalt
Type section: Southwest Snake River Plain
Orig. Ref.: Malde, H. W., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199

SWAN PEAK FORMATION: Middle Ordovician---NE Utah, SE Idaho
U.S.G.S. Lexicon 1966, p. 3786 Quartzite and shale
Thickness: 315-711 ft.
Unit above: Fish Haven Dolomite
Unit below: Garden City Formation
Type section: Swan Peak, Rich Co., Utah
Orig. Ref.: Richardson, G. B., 1913, Am. Jour. Sci., 4th, v. 36, p. 407, 409
Other Selected Refs.: Williams, J. S., 1948, Geol. Soc. America Bull., v. 59, no. 11, p. 1136-1137
Webb, G. W., 1956, Utah Geol. and Mineralog. Survey Bull. 57, p. 11-12, 35, 37-38, 42-43
Coehenour, R. E., 1959, Utah Geol. and Mineralog. Survey Bull. 63, p. 12, 75-78

SWAUGER QUARTZITE (Belt Supergroup?): Precambrian---S-Central Idaho
U.S.G.S. Lexicon 1966, p. 3789 Pure quartzite purple, brown, lavendar pink, white
Thickness: 10,000 ft.
Unit above: Kinnikinic Quartzite
Unit below: Lemhi Quartzite
Type section: South and east parts of Lemhi Range, Borah Peak quadrangle
Orig. Ref.: Ross, C. P., 1947, Geol. Soc. America Bull., v. 58, p. 1096-1099
Other Selected Refs.: Anderson, A. L., 1959, Idaho Bur. Mines and Geology Pamph. 118, p. 18-21

Sweetwater Creek Interbed (of "Upper" Columbia River Basalt): Miocene---N-Central Idaho
U.S.G.S. Lexicon 1966, not entered Siltstone and sandstone
Type section: Esplanades about 200 ft. below Plateau surface Sweetwater Creek and tributaries. Restricted to Lewiston downwarp. Exposed along Thane Road between Lewiston and Lewiston Orchards
Orig. Ref.: Bond, J. G., 1963, Geology of the Clearwater embayment: Idaho Bur. Mines and Geology Pamph. 128, 83 p.

Teanaway Basalt: Lower to Middle Eocene---Central Washington, W Idaho(?)
U.S.G.S. Lexicon 1966, p. 3835
Unit above: Yakima Formation
Type section: Teanaway River, west flank of Wenatchee Mtns.
Orig. Ref.: Smith, G. O., and Willis, B., 1901, Am. Inst. Min. Engineers Trans., v. 30, p. 359
Other Selected Refs.: Weaver, C. E., 1937, Washington State University Pubs. in Geology, v. 4, p. 26, 38-39
Foster, R. J., 1960, Geol. Soc. America Bull., v. 71, no. 2, p. 101, 107-108

Tenmile Gravel: Lower Pleistocene---SW Idaho
U.S.G.S. Lexicon 1966, p. 3851 Torrential deposits of rounded to subangular silt, sand, gravel, cobbles
Thickness: 500 ft.
Unit above: Snake River Group
Unit below: Idaho Formation
Type section: Boise Valley, Ada and Canyon Counties
Orig. Ref.: Savage, C. N., 1958, Idaho Bur. Mines and Geology County Rept. 3, p. 20

Thaynes Group: Lower Triassic---NE Utah, SE Idaho, SW Montana, SW Wyoming
U.S.G.S. Lexicon 1966, p. 3864
Unit above: Ankareh
Unit below: Dinwoody
Type section: Thaynes Canyon, Park City district, Utah
Orig. Ref.: Boutwell, J. M., 1907, Jour. Geology, v. 15, p. 439-458
Other Selected Refs.: Kummel, Bernard, 1954, U.S. Geol. Survey Prof. Paper 254-H, p. 171-179
Hose, R. K., and Repenning, C. A., 1959, Am. Assoc. Petroleum Geologists Bull., v. 43, no. 9, p. 2185-2189, 2194

THOMPSON PEAK FORMATION: Precambrian(?) (Beltian?)
U.S.G.S. Lexicon 1966, not entered Metamorphic
Type section: Thompson Peak Sawtooth Mountains
Orig. Ref.: Reid, R. R., 1963, Idaho Bur. Mines and Geology Pamph. 129, p. 12

Thousand Springs Basalt (of Snake River Group): Upper Pleistocene---S Idaho
U.S.G.S. Lexicon 1966, not entered Basalt
Thickness: 100 ft. +
Unit above: Crowsnest Gravels
Unit below: Sugar Bowl Gravels
Type section: Southwest Snake River Plain Thousand Springs, southwest of Wendell, Gooding, County
Orig. Ref.: Stearns, S. T., 1936, Correlation chart of Idaho
Other Selected Refs.: Malde, H. E., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199

THREE FORKS FORMATION: Upper Devonian - Lower Missisippian---Montana, Idaho, North Dakota, South Dakota, Wyoming
U.S.G.S. Lexicon 1966, p. 3876
Unit above: Milligen Formation
Unit below: Grand View Dolomite
Type section: North side of Gallatin River at Logan, Montana at junction Three Forks of Missouri River
Orig. Ref.: Berry, G. W., 1943, Geol. Soc. America Bull., v. 54, no. 1, p. 14, 17
Other Selected Refs.: Ross, C. P., 1947, Geol. Soc. America Bull., v. 58, no. 12, p. 1095, 1110-1111
Sloss, L. L., and Laird, W. M., 1947, Am. Assoc. Petroleum Geologists Bull., v. 31, no. 8, p. 1421
Sandberg, C. A., and Hammond, C. R., 1958, Am. Assoc. Petroleum Geologists Bull., v. 42, no. 10, p. 2321-2326

TIMOTHY SANDSTONE MEMBER (of Thaynes Formation): Triassic---SE Idaho, Central N Utah, Central W Wyoming
U.S.G.S. Lexicon 1966, p. 3891 Red shales and siltstones
Thickness: 159-278 ft.
Unit above: Higham Grit
Unit below: Portneuf Limestone
Type section: Timothy Creek, in Lanes Creek and Freedom quadrangles
Orig. Ref.: Mansfield, G. R., 1920, Am. Jour. Sci., 4th, v. 50, p. 62; 1920, U.S. Geol. Survey Bull. 713, p. 29, 50
Other Selected Refs.: Mansfield, G. R., 1952, U.S. Geol. Survey Prof. Paper 238, p. 17, 33-34
Kummel, Bernhard, 1954, U.S. Geol. Survey Prof. Paper 254-H, p. 173
Wanless, H. R., Belknap, R. L., and Foster, H., 1955, Geol. Soc. America Mem. 63, p. 45-46

TOSI CHERT MEMBER (of Phosphoria): Permian---W Wyoming, E Idaho, SW Montana, E Utah
U.S.G.S. Lexicon 1966, p. 3931
Unit above: Dinwoody Formation
Type section: Tosi Creek in SE¼ sec. 17, T39N, R110W Sublette Co., Wyoming
Orig. Ref.: Sheldon, R. P., in McKelvey, V. E. and others, 1956, Am. Assoc. Petroleum Geologists Bull., v. 40, no. 12, p. 2830, 2832, 2836, 2851-2852

TRAIL CREEK FORMATION: Silurian---Central Idaho
U.S.G.S. Lexicon 1966, p. 3939
Type section: West side Trail Creek, in its upper part, Hailey quadrangle Idaho
Orig. Ref.: Westgate, L. G., and Ross, C. P., 1930, U.S. Geol Survey Bull. 814, p. 10, 23
Other Selected Refs.: Ross, C. P., and Forrester, J. D., 1958, Idaho Bur. Mines and Geology Bull. 15, p. 8

Tuana Gravel (of Idaho Group): Lower Pleistocene---S Idaho
U.S.G.S. Lexicon 1966, not entered
Unit above: Bruneau Formation
Unit below: Glenns Ferry Formation
Type section: Southwest Snake River Plain
Orig. Ref.: Malde, H. E., and Powers, H. A., 1962, Geol. Soc. America Bull., v. 73, p. 1199

Twin Bridges Limestone: Eocene(?) - Miocene---Central S Idaho, NE Nevada
U.S.G.S. Lexicon 1966, p. 3994
Type section: ? Appears on stratigraphic chart only
Orig. Ref.: Van Houten, F. B., 1956, Am. Assoc. Petroleum Geologists Bull., v. 40, no. 12, p. 2816

TWIN CREEK FORMATION: Middle and Upper Jurassic---SW Wyoming, SE Idaho, NE Utah
U.S.G.S. Lexicon 1966, p. 3995 Limy shale
Unit above: Preuss Formation
Unit below: Nugget Sandstone
Type section: Twin Creek between Sage and Fossil, Lincoln, Co., Wyoming
Orig. Ref.: Veatch, A. C., 1907, U.S. Geol. Survey Prof. Paper 56, p. 50, 56
Other Selected Refs.: Imlay, R. W., 1945, Am. Assoc. Petroleum Geologists Bull., v. 29, no. 7, p. 1020-1022
Imlay, R.W., 1950, Wyoming Geol. Assoc. Guidebook 5th Ann. Field Conf., p. 37-45
Imlay, R. W., 1953, Intermountains Assoc. Petroleum Geologists (Guidebook) 4th Ann. Field Conf., p. 54-62
Cressman, E. R., 1957, U.S. Geol. Survey Mineral Inv. Field Studies Map MF-118

TYGEE SANDSTONE (in Gannet Group): Cretaceous---SE Idaho, SW Wyoming
U.S.G.S. Lexicon 1966, p. 4001 Red shale, gray and brown sandstone
Thickness: 285-1,025 ft.
Unit above: Bear River Formation
Unit below: Draney Limestone
Type section: Tygee Creek, Idaho
Orig. Ref.: Mansfield, G. R., and Roundy, P. V., 1916, U.S. Geol. Survey Prof. Paper 98-G, p. 76, 83
Other Selected Refs.: Kirkham, V. R. D., 1920, Idaho Bur. Mines and Geology Bull. 8, p. 26-28
Vine, J. D., 1959, U.S. Geol. Survey Bull. 1055-I, p. 259, 261-262

Umatilla Basalt Member:
U.S.G.S. Lexicon 1966, not entered
Unit above: Selah Member (of Ellensburg Fm.)
Unit below: Priest Rapids Basalt Member
Orig. Ref.: Schminke, H. N., 1967, Geol. Soc. America Bull. 78, p. 321

UTE LIMESTONE: Middle Cambrian---NE Utah and SE Idaho
U.S.G.S. Lexicon 1966, p. 4035
Unit above: Blacksmith Limestone
Unit below: Langston Limestone
Type section: Slopes of Ute Peak Cache County, Utah
Orig. Ref.: King, C., 1876, Am. Jour. Sci., 3rd, v. 11, p. 477
Other Selected Refs.: Diess, Charles, 1938, Geol. Soc. America Bull., v. 49, no. 7, p. 1113-1114, 1116-1117, 1120-1121
Williams, J. S., and Maxey, G. B., Geol. Soc. America Bull., v. 59, no. 11, p. 1133
Maxey, G. B., 1958, Geol. Soc. America Bull., v. 69, no. 6, p. 653-654, 670-673

Vantage Sandstone Member (of Yakima Formation): Miocene---Central and E Washington, W Idaho(?)
U.S.G.S. Lexicon 1966, not entered Quartz - feldspar - mica sand (or) tuffaceous sand and hornblende andesite
Unit above: Frenchmans Springs Basalt Member
Unit below: Museum Basalt Member
Orig. Ref.: Calkins, F. C., 1905, U.S. Geol. Survey Water- Supply Paper 118, p. 37
Other Selected Refs.: Schmincke, H. U., 1967, Geol. Soc. America Bull., v. 78, p. 321
Mackin, J. H., 1961, Wash. Div. of Mines and Geology Rept. of Invest., no. 19, p. 12
Bingham, J. W., and Grolier, M. J., 1966, U.S. Geol. Survey Bull. 1224-G

WALCOTT TUFF: Middle Pliocene---S Idaho
U.S.G.S. Lexicon 1966, p. 4107 Tuff and ash (welded)
Thickness: 50-70 ft.
Type section: Lake Walcott east bank, Power Co.
Orig. Ref.: Stearns, H. T., and Isotoff, Andrei, 1956, Geol. Soc. America Bull., v. 67, no. 1, p. 23

WALLACE FORMATION (in Piegan Group): Precambrian (Belt Supergroup)--- NE Idaho, W Montana
U.S.G.S. Lexicon 1966, p. 4112 Thin green, bluish, calcareous shales, argillites, limy sandstone and argillite
Thickness: 4,000-6,500 ft.
Unit above: Striped Peak Formation
Unit below: St. Regis Formation
Type section: Town of Wallace, Coeur d'Alene district
Orig. Ref.: Ransome, F. L., 1905, U.S. Geol. Survey Bull. 260, p. 275-285
Other Selected Refs.: Ransome, F. L., and Calkins, F. C., 1908, U.S. Geol. Survey Prof. Paper 62, p. 39-44
Wallace, R. E., and Hosterman, J. W., 1956, U.S. Geol. Survey Bull. 1027-M, p. 584-585
Campbell, A. B., 1960, U.S. Geol. Survey Bull. 1082-I, p. 557-560 (underlies Spruce Fm. overlies St. Regis Fm.)

Ward Gap Basalt Member (of Ellensburg Formation):
U.S.G.S. Lexicon 1966, not entered
Unit above: Upper Ellensburg Formation
Unit below: Elephant Mt. Basalt Member
Orig. Ref.: Schminke, H. N., 1967, Geol. Soc. America Bull., v. 78, p. 321

WATER CANYON FORMATION: Lower Devonian---N Utah, SE Idaho
U.S.G.S. Lexicon 1966, p. 4147 Lower compact thin bedded silty and sandy dolomites, upper member coarser sandstone breccias, and shales
Thickness: 550 ft.
Unit above: Hyrum Member Jefferson Formation
Unit below: Laketown Dolomite
Type section: Tributary of Green Canyon, Logan quadrangle, Utah sec. 4, T12N, R3E
Orig. Ref.: Williams, J. S., 1948, Geol. Soc. America Bull., v. 59, no. 11, p. 1138-1139
Other Selected Refs.: Coulter, H. W., 1956, Idaho Bur. Mines and Geology Pamph. 107, p. 30-32

WATTON CANYON MEMBER: Middle(?) Jurassic---SE Idaho, NW Wyoming, N Utah
U.S.G.S. Lexicon 1966, not entered Gray dense even bedded limestone
Thickness: 400 ft.
Unit above: Leeds Creek Member
Unit below: Boundary Ridge Member
Type section: Southeast Idaho
Orig. Ref.: Imlay, R. W., 1967, U.S. Geol. Survey Prof. Paper 540, p. 41
Other Selected Refs.: Imlay, R. W., 1956, Wyoming Geol. Assoc. Guidebook 11th Ann. Field Conf., p. 70-71

WAYAN FORMATION: Upper Cretaceous---SE Idaho
U.S.G.S. Lexicon 1966, p. 4154 Terrigeneous red and purple shale, gray cross laminated sandstone
Thickness: 3,000-4,000 ft. in Fall Creek area, Idaho
Unit below: Bear River
Type section: Wayan, Bannock Co., northwest part Wayan quadrangle, Idaho
Orig. Ref.: Mansfield, G. R., and Roundy, P. B., 1916, U.S. Geol. Survey Prof. Paper 98-G, p. 83
Other Selected Refs.: Stokes, W. L., 1953, Intermontane Assoc.; Petroleum Geologists 4th Ann. Field Conf., p. 17-18; Vine, J. D., 1959, U.S. Geol. Survey Bull. 1055-I, p. 359, 263-264

WELLS FORMATION: Pennsylvanian and Permian---E Idaho, NE Utah, SW Wyoming
U.S.G.S. Lexicon 1966, p. 4171 Sandstone, red beds and carbonate rocks
Thickness: 2,800 ft.
Unit above: Grandeur Member of Park City Formation
Unit below: Milligen Limestone
Type section: Wells Canyon, T10S, R45E Bannock Co., Idaho
Orig. Ref.: Richards, R. W., and Mansfield, G. R., 1912, Jour. Geology, v. 20, p. 683-684, 689-693
Other Selected Refs.: Many references Lexicon (U.S.G.S. 1966)
McKelvey, V. E., and others, 1956, Am. Assoc. Petroleum Geologists Bull., v. 40, no. 12, p. 2842
Cressman, E. R., 1957, U.S. Geol. Survey Mineral Inv. Field Studies Map MF-118
McKelvey, V. E., 1959, U.S. Geol. Survey Prof. Paper 313-A, p. 15, 36
Bissell, H. J., 1960, Am. Assoc. Petroleum Geologists Bull., v. 44, no. 8, p. 1427, In Sublett Mtns. Wells includes: Indian Fork Member, Sublett Member, Hegler Canyon Member, Calder Creek Member

Wenas Basalt: Miocene-Pliocene---Central E Washington and NW Idaho(?)
U.S.G.S. Lexicon 1966, not entered
Unit above: Ellensburg Formation
Unit below: Selah Formation
Type section: Horse Heaven Hills
Orig. Ref.: Laval, W. N., 1966, Northwest Sci., v. 40, no. 1, p. 38-39

WENDELL GRADE BASALT: Recent
U.S.G.S. Lexicon 1966, p, 4174
Thickness: Approx. 25 ft.
Unit above: Recent flows
Unit below: Minidoka Basalt
Type section: Wendell grade, Gooding Co., northwest of Wendell
Orig. Ref.: Stearns, H. T., 1932, Correlation chart of Idaho, compiled by M. G. Wilmarth; 1936, Jour. of Geology, v. 44, no. 4, p. 432
Other Selected Refs.: Stearns, H. T., Crandall, Lynn, and Steward, W. G., 1938, U.S. Geol. Survey Water-Supply Paper 774, p. 29, 84

Whiskey Creek Interbeds (of "Upper" Columbia River Basalt): Miocene---N-Central Idaho
U.S.G.S. Lexicon 1966, not entered Sandy and silty beds, possibly lacustrine separated by basalt flow
Type section: Exposures along Orofino - Grangemont Highway on northwest slope of Whiskey Creek Canyon
Orig. Ref.: Bond, J. G., 1963, Geology of the Clearwater embayment: Idaho Bur. Mines and Geology Pamph. 128, 83 p.

WHITE KNOB (substituted for Brazer Fm.): Mississippian---S-Central Idaho
U.S.G.S. Lexicon 1966, not entered Limestone and chert and thicker bedded limestone, sandy and argillaceous beds bluish gray to black
Thickness: Up to 10,000 ft. ?
Type section: Lemhi Range vicinity of Gilmore to southeast tip of Range
Orig. Ref.: Ross, C. P., 1962, Idaho Bur. Mines and Geology, p. 48-53
Other Selected Refs.: Ross, C. P., 1961, U.S. Geol. Survey Bull. 1081-F, p. 189-257. Suggests replacing name Brazer by "White Knob" in most localities

Wildhorse Member (of Muldoon Formation): Upper Mississippian or Pennsylvanian ---Central and E Idaho
U.S.G.S. Lexicon 1966, p. 4236
Unit above: Woodriver Formation
Unit below: Iron Mine Member
Type section: Muldoon trough, aligned N30°W
Orig. Ref.: Thomasson, M. R., 1959, Dissert. Abst., v. 20, no. 3, p. 999

Wilson Creek Member (of Woodriver Formation): Permian---Central and E Idaho
U.S.G.S. Lexicon 1966, p. 4524
Unit below: Lake Creek Member
Type section: Deposited in Muldoon trough, aligned N30°W
Orig. Ref.: Thomasson, M. R., 1959, Dissert., Abst., v. 30, no. 3, p. 999

Windermere Group (includes Leola Volcanics and Shedroof Cong.): Precambrian(?) ---S British Columbia and N Idaho(?)
U.S.G.S. Lexicon 1966, not entered
Unit below: Libby Formation

WOLVERINE CANYON LIMESTONE MEMBER (of Preuss Sandstone): Upper Jurassic--- SE Idaho
U.S.G.S. Lexicon 1966, p. 4285 Yellowish gray thin-bedded sandy thin- to medium-bedded limestone
Unit above: Pruess Sandstone
Unit below: Pruess Sandstone
Type section: North slope Wolverine Canyon west-central sec. 27, T1S, R39, Bingham Co., Idaho
Orig. Ref.: Imlay, R. W., 1952, Am. Assoc. Petroleum Geologists Bull., v. 36, no. 9, p. 1741-1743

WOOD SHALE TONGUE (of Ankareh Formation): Upper Triassic---SE Idaho, Central N Utah, Central W Wyoming
U.S.G.S. Lexicon 1966, p. 4286 Bright red sand shale or shaly sandstone purplish and greenish locally
Type section: Wood Creek in T3S, R38E, 2 miles west of Paradise Valley quadrangle, Idaho
Orig. Ref.: Mansfield, G. R., 1915, Washington Acad. Sci. Jour., v. 5, p. 492; 1916, Washington Acad. Sci. Jour., v. 6, p. 41
Other Selected Refs.: Williams, 1945, Am. Jour. Sci., v. 243, no. 9, p. 473, 476-477
Kummel, 1954, U.S. Geol. Survey Prof. Paper 254-H, p. 180, 181

WOOD RIVER FORMATION: Pennsylvanian and Permian---S-Central Idaho
U.S.G.S. Lexicon 1966, p. 4296 Conglomerates, limestones, calcareous sandstones and arenaceous limestones
Thickness: 12,000 ft.
Unit above: Phosphoria Formation
Unit below: Milligen Formation
Type section: Near Hailey, Blaine County
Orig. Ref.: Lindgren, Waldamar, 1900, U.S. Geol. Survey 20th Ann. Rept., p. 89-90, 193-195
Other Selected Refs.: Bostwick, D. A., 1955, Jour. Paleontology, v. 29, no. 6, p. 941-951
Thomasson, M. R., 1959, Dissert., Abst., v. 20, no. 3, p. 999
Bissell, H. J., 1960, Am. Assoc. Petroleum Geologists Bull., v. 44, no. 8, p. 1427
Ross. C. P., 1960, U. S. Geol. Survey Prof. Paper 400-B, p. B232

WORM CREEK QUARTZITE MEMBER (of St. Charles Limestone):
U.S.G.S. Lexicon 1966, p. 4305 Massive gray quartzite
Thickness: 170 ft.
Type section: Worm Creek, Bear Lake Co., Idaho
Orig. Ref.: Richardson, G. B., 1913, Am. Jour. Sci. 4th, v. 36, p. 407
Other Selected Refs.: Coulter, W. H., 1956, Idaho Bur. Mines and Geology Pamph. 107, p. 18

Yakima Basalt Formation (of Columbia River Group, "Upper" Basalt): Upper Miocene---E Washington and W Idaho
U.S.G.S. Lexicon 1966, p. 4313
Unit above: Ellensburg Formation
Unit below: Picture Gorge Formation
Type section: Yakima, Washington
Orig. Ref.: Smith, G. O., U.S. Geol. Survey Water-Supply Paper no. 55
Other Selected Refs.: Mackin, J. H., 1961, Washington Div. of Mines and Geol., Rept. of Invest. no. 19

YANKEE FORK RHYOLITE MEMBER (of Challis Volcanics): Upper Oligocene or Lower Miocene
U.S.G.S. Lexicon 1966, p. 4316
Type section: Head of Yankee Fork Creek, southeast corner of Casto quadrangle
Orig. Ref.: Ross, C. P., 1932, Idaho correlation chart compiled by M. G. Wilmarth
Other Selected Refs.: Ross, C. P., and Forrester, J. D., 1958, Idaho Bur. Mines and Geology Bull. 15, p. 13: In Bayhorse Region Challis Volcanics have been divided into: Latite, Germer Tuffaceous Basalt, Yankee Fork Rhyolite, Travertine

YELLOWJACKET FORMATION: Precambrian (Belt?)---S-Central Idaho
U.S.G.S. Lexicon 1966, p. 4324
Thickness: Approx. 9,000 ft.
Unit above: Hoodoo Quartzite
Type section: Town of Yellowjacket, Casto quadrangle
Orig. Ref.: Ross, C. P., 1934, U.S. Geol. Survey Bull. 854
Other Selected Refs.: Ross, C. P., and Forrester, J. D., 1958, Idaho Bur. Mines and Geology Bull. 15, p. 7

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ADDENDUM

Burnt Willow Creek Basalt (of Idavada Group): Pliocene---Eastern Mt. Bennett Hills, South-Central Idaho
U.S.G.S. Lexicon 1966, not entered Several flows of olivine basalt, vesicular, porphyritic
Thickness: 0-210 ft.
Unit above: Moonstone Rhyolite
Unit below: City of Rocks Tuff
Type section: Crops out along rim of Burnt Willow Creek
Orig. Ref.: Smith, C. L., 1966, Unpub. Ph.D. thesis, Univ. of Idaho.

Cash Creek Quartzite (Equivalent to Flathead Quartzite?): Early or Middle Cambrian
U.S.G.S. Lexicon 1966, not entered Medium to thick quartzite, white to gray, orange and light pink, some pebbles
Thickness: 1,105 ft.
Unit above: Clayton Mine Quartzite
Unit below: Unnamed carbonate and a lower quartzite
Type section: Cliffs along west side of Squaw Creek, south of mouth of Cash Creek
Orig. Ref.: Hobbs, S. W., Hays, W. H., and Ross, R. J., Jr., 1968, U.S. Geol. Survey Bull. 1254J, p. 18-19

Cassia Dolomite: Silurian? Paleozoic---Albion Range, SE Idaho
U.S.G.S. Lexicon 1966, not entered Light gray sugary dolomite
Thickness: 200 ft.
Unit above: View Formation
Unit below: Dayley Creek Quartzite
Type Section: Ridge north of Mt. Harrison, NW¼ sec. 3, T.12S., R.24E.
Orig. Ref.: Armstrong, L. A., 1968, Geol. Soc. America Bull., v. 79, p. 1295-1314

City of Rocks Tuff (Formerly Mt. Bennett Rhyolite) (of Idavada Group): Pliocene---Eastern Mt. Bennett Hills, South-Central Idaho
U.S.G.S. Lexicon 1966, not entered Single ignimbrite purple to blue gray dacitic crystal welded tuff
Thickness: 0-250 ft.
Unit above: Burnt Willow Creek Basalt
Unit below: McHan Basalt
Type section: Exposed at City of Rocks
Orig. Ref.: Smith, C. L., 1966, Unpub. Ph.D. thesis, Univ. of Idaho

Clayton Mine Quartzite: Early Ordovician(?) or older
U.S.G.S. Lexicon 1966, not entered Thick massive to thin-bedded coarse- to medium-grained feldspathic quartzite
Thickness: Approx. 2,000 ft.
Unit above: Ella Dolomite
Unit below: Cash Creek Quartzite
Type section: High cliffs and ridge west of Clayton mine on Kinnikinic Creek. Widely distributed in general Bayhorse region.
Orig. Ref.: Hobbs, S. W., Hays, W. H., and Ross, R. J., Jr., 1968, U.S. Geol. Survey Bull. 1254-J, p. 15-18

Conner Creek Formation: Middle Cambrian? Paleozoic---Albion Range, SE Idaho
U.S.G.S. Lexicon 1966, not entered Mica schists, quartzites, and carbonate rocks (variable)
Thickness: 4,000 ± ft.
Unit above: Harrison Summit Quartzite
Unit below: Elba Quartzite
Type section: Conner Creek east of Mt. Harrison and near Lake Cleveland
Orig. Ref.: Armstrong, L. A., 1968, Geol. Soc. America Bull., v. 79, p. 1295-1314

Daley Creek Quartzite: Middle and Lower Ordovician? Paleozoic---Albion Range, SE Idaho
U.S.G.S. Lexicon 1966, not entered Gray and tan quartzites, thin beds schist and limestone, small conglomerate beds
Thickness: 7,000 ± ft.
Unit above: Cassia Dolomite
Unit below: Land Creek Formation
Type section: High Ridge several miles long north of Mt. Harrison NE¼ sec. 32 to SW¼ sec. 3 in T.12S., R24E.
Orig. Ref.: Armstrong, L. A., 1968, Geol. Soc. America Bull., v. 79 p. 1295-1314

Deer Creek Beds (formerly Latah Fm.): Miocene?---SW Idaho near Riggins
U.S.G.S. Lexicon 1966, not entered Sandstone with quartzite and quartz grains
Thickness: 200 ft.
Unit below: Top of Upper Columbia River Basalt
Type section: Top of a graben in Deer Creek Valley, Idaho. Sec. 17, T.27N., R.1E.
Orig. Ref.: Coffin, P. E., 1967, Unpub. M.S. thesis, Univ. of Idaho

Elba Quartzite: Paleozoic---Albion Range, SE Idaho
U.S.G.S. Lexicon 1966, not entered Medium bedded, white quartzite, conglomerate locally
Thickness: 500-1,000 ft.
Unit above: Conner Creek Formation
Unit below: Green Creek Complex
Type section: Hills north and west of Elba
Orig. Ref.: Armstrong, L. A., 1968, Geol. Soc. America Bull., v. 79, p. 1295-1314

Ella Dolomite: Middle Ordovician
U.S.G.S. Lexicon 1966, not entered Sandy dolomite medium to thick bedded, fine grained to coarsely crystalline
Thickness: 700 ± ft.
Unit above: Kinnikinic Quartzite
Unit below: Clayton Mine Quartzite
Type section: U.S. Highway 93 along Kinnikinic Creek near the Ella mine; also high on cliffs north wall of canyon near Clayton
Orig. Ref.: Hobbs, S. W., Hays, W. H., and Ross, R. J., Jr., 1968, U.S. Geol. Survey Bull. 1254-J, p. 12-15

Fir Grove Tuff (of Idavada Group): Pliocene---Eastern Mt. Bennett Hills, South-Central Idaho
U.S.G.S. Lexicon 1966, not entered Two ignimbrites or flow units of latite vitric composition
Thickness: 0-650 ft.
Unit above: McHan Basalt
Unit below: Hash Spring Formation
Type section: Exposed in northwest quarter Mt. Bennett Hills Fir Grove Ranch near western edge of outcrops
Orig. Ref.: Smith, C. L., 1966, Unpub. Ph.D. thesis, Univ. of Idaho

Green Creek Complex (Metasediments, old Harrison Formation): Precambrian---Albion Range, SE Idaho
U.S.G.S. Lexicon 1966, not entered Gneiss-schist-amphibolite
Unit above: Elba Quartzite
Type section: Green Creek on northeast side of Cache Peak, N½ sec. 12, T.14S., R.24E.
Orig. Ref.: Armstrong, L. A., 1968, Geol. Soc. America Bull., v. 79, p. 1295-1314

Gwin Spring Formation (of Idavada Group): Pliocene---Eastern Mt. Bennett Hills, South-Central Idaho
U.S.G.S. Lexicon 1966, not entered Two ignimbrites latitic vitric-crystal tuffs
Thickness: 0-400 ft.
Unit above: Hash Spring Formation
Unit below: Welded Tuff
Type section: Exposed 1.5 miles northeast of Gwin Spring in Thorn Creek Canyon
Orig. Ref.: Smith, C. L., 1966, Unpub. Ph.D. thesis, Univ. of Idaho

Harrison Summit Quartzite: Paleozoic---Albion Range, SE Idaho
U.S.G.S. Lexicon 1966, not entered Rusty to gray weathering quartzites with quartz pebble conglomerate and mica schist
Thickness: 1,800 ft.
Unit above: Land Creek Formation
Unit below: Conner Creek Formation
Type section: Highest parts of Mt. Harrison
Orig. Ref.: Armstrong, L. A., 1968, Geol. Soc. America Bull., v. 79, p. 1295-1314

Hash Spring Fm. (of Idavada Group): Pliocene---Eastern Mt. Bennett Hills, South-Central Idaho
U.S.G.S. Lexicon 1966, not entered Interbedded arkosic gravels and water-lain ash and breccia
Unit above: Fir Grove Tuff
Unit below: Gwin Spring Fm.
Type section: Exposed at road cut on Highway 49 about ½ mile southwest of Hash Spring
Orig. Ref.: Smith, C. L., 1966, Unpub. Ph.D. thesis, Univ. of Idaho

Hog Creek Member (of Lower Poison Creek Fm.): Miocene?---SW Idaho
U.S.G.S. Lexicon 1966, not entered Light gray to yellowish gray shale interbedded basalt and pyroclastics
Unit above: Scott Creek Member
Unit below: Upper Columbia River Basalt
Type section: Exposed between Warm Spring Creek and Dead Indian Ridge
Orig. Ref.: Shar, S. M. I., 1966, Unpub. Ph.D. thesis, Univ. of Idaho

Land Creek Formation: Ordovician? Paleozoic---Albion Range, SE Idaho
U.S.G.S. Lexicon 1966, not entered Massive quartzite beds, schist, and carbonate rocks (including limestone)
Thickness: 1,500 ± ft.
Unit above: Dayley Creek Quartzite
Unit below: Harrison Summit Quartzite
Type section: Between saddle 1.8 mile north of Mt. Harrison and basin of Land Creek
Orig. Ref.: Armstrong, L. A., 1968, Geol. Soc. America Bull., v. 79, p. 1295-1313

Little Creek Formation: Pleistocene
U.S.G.S. Lexicon 1966, not entered Medium to dark-gray dense to fine-grained vesicular basalt and rhyolitic tuff
Type section: Snake River canyon below American Falls and south of American Falls
Orig. Ref.: Carr and Trimble, 1963, U.S. Geol. Survey Bull. 1121-G

Magic Volcanics: Pliocene---Bellevue area, South-Central Idaho
U.S.G.S. Lexicon 1966, not entered
Orig. Ref.: Schmidt, D., 1960, Unpub. Ph.D. thesis, Univ. of Wash.

McHan Basalt (of Idavada Group): Pliocene---Eastern Mt. Bennett Hills, South-Central Idaho
U.S.G.S. Lexicon 1966, not entered Several flows porphoritic olivene basalt
Thickness: 0-280 ft.
Unit above: City of Rocks Tuff
Unit below: Fir Grove Tuff
Type section: Widely exposed in vicinity of McHan Reservoir
Orig. Ref.: Smith, C. L., 1966, Unpub. Ph.D. thesis, Univ. of Idaho

Moonstone Rhyolite (of Magic Volcanics and/or Idavada Group): Pliocene---Bellevue area, South-Central Idaho
U.S.G.S. Lexicon 1966, not entered Several rhyolite units, 30-40 percent phenocrysts
Unit above: Square Mtn. Basalt
Unit below: Picabo tuff
Type section: Crops out east of Mt. Bennett Hills, named for Moonstone Mtn.
Orig. Ref.: Schmidt, D., 1960, Unpub. Ph.D. thesis, Univ. of Wash.
Smith, C. L., 1966, Unpub. Ph.D. thesis, Univ. of Idaho

Picabo Tuff (of Magic Volcanics): Pliocene---Bellevue area, South-Central Idaho
U.S.G.S. Lexicon 1966, not entered
Unit above: Moonstone Rhyolite
Orig. Ref.: Schmidt, D., 1960, Unpub. Ph.D. thesis, Univ. of Wash.

Poison Creek Tuff (of Magic Volcanics): Pliocene---Bellevue area, South-Central Idaho
U.S.G.S. Lexicon 1966, not entered
Unit below: Square Mtn. Basalt
Orig. Ref.: Schmidt, D., 1960, Unpub. Ph.D. thesis, Univ. of Wash.

Pole Corral Gravel (of Idavada Group): Pliocene---Eastern Mt. Bennett Hills, South-Central Idaho
U.S.G.S. Lexicon 1966, not entered Arkosic gravel (alluvial fans)
Unit above: Welded
Unit below: Challis Volcanics
Type section: Outcroppings along range front of Mt. Bennett Hills about 3 miles between Highway 49 and Pole Corral
Orig. Ref.: Smith, C. L., 1966, Ph.D. thesis, Univ. of Idaho

St. Joe Basalt: Late Pliocene - Early Pleistocene---St. Maries area, N Idaho
U.S.G.S. Lexicon 1966, not entered Vesicular, columnar and blocky jointed basalt. Occurs at elevations up to 3,350 ft.
Unit above: Palouse Formation
Unit below: Upper Columbia River Basalt
Type section: In vicinity of St. Maries. Exposures between St. Maries and Herrick along the St. Joe River valley
Orig. Ref.: Dort, Wakefield, Jr., 1967, Northwest Science, v. 41, no. 4, p. 141-151

Scott Creek Member (of Upper Poison Creek Fm.): Pliocene?---SW Idaho
U.S.G.S. Lexicon 1966, not entered Sandstone
Thickness: Over 1,700 ft.
Unit above: Idaho Formation
Unit below: Hog Creek Formation
Type section: Near mouth of Scott Creek
Orig. Ref.: Shar, S. M. I., 1966, Unpub. Ph.D. thesis, Univ. of Idaho

Square Mtn. Basalt (of Magic and/or Idavada Group): Pliocene---Mt. Bennett Hills area, South-Central Idaho
U.S.G.S. Lexicon 1966, not entered Bluish-black porphyritic quartz basalt
Thickness: 0-460 ft.
Unit above: Poison Creek tuff
Unit below: Moonstone Rhyolite
Type section: East Mt. Bennett Hills
Orig. Ref.: Schmidt, D., 1960, Unpub. Ph.D. thesis, Univ. of Wash.
Smith, C. L., 1966, Unpub. Ph.D. thesis, Univ. of Idaho

View Formation: Devonian-Mississippian? Paleozoic---Albion Range, SE Idaho
U.S.G.S. Lexicon 1966, not entered Dark colored, graphitic limy schist, dolomitic quartz schist and quartzite, conglomeratic lenses,
Thickness: 1,200 + ft.
Unit above: Oquirrh(?) Formation
Unit below: Cassia Dolomite
Type section: SW¼ sec. 34, T.11S., R.24E.
Orig. Ref.: Armstrong, L. A., 1968, Geol. Soc. America Bull., v. 79, p. 1295-1314