Studies on Idaho's Geology and Minerals Released by the U.S. Bureau of Mines and the U.S. Geological Survey for 1984

Julie Gange

Technical Report 86-4
1986

Idaho Geological Survey
University of Idaho
Moscow, Idaho 83844

STUDIES ON IDAHO'S GEOLOGY AND MINERALS RELEASED BY THE U.S. BUREAU OF MINES AND THE U.S. GEOLOGICAL SURVEY FOR 1984

Compiled by

Julie Gange

Idaho Geological Survey
University of Idaho
Moscow, Idaho 83843

Technical Report 86-4
September 1986

STUDIES ON IDAHO'S GEOLOGY AND MINERALS RELEASED BY THE U.S. BUREAU OF MINES AND THE U.S. GEOLOGICAL SURVEY FOR 1984

Compiled by
Julie Gange[1]

INTRODUCTION

The federal agencies studying the geology and minerals of Idaho are the U.S. Bureau of Mines and the U.S. Geological Survey.

U.S. Bureau of Mines' publications, other than Open-File Reports and Mineral Industry Surveys can be obtained from:

Branch of Production and Distribution
Division of Publications
U.S. Bureau of Mines
4800 Forbes Avenue
Pittsburgh, PA 15213
Telephone: (412) 621-4500

U.S. Bureau of Mines' Open-File Reports can be obtained from:

National Technical Information Service
U.S. Department of Commerce
Springfield, VA 22161
Telephone: (202) 487-4650

The "PB" number following the entry must be provided when ordering from NTIS.

U.S. Bureau of Mines' Mineral Industry Surveys may be obtained from:

Branch of Editorial Services
Bureau of Mines
U.S. Department of the Interior
4900 LaSalle Road
Avondale, MD 20782

U.S. Geological Survey's publications, other than Open-File Reports, can be obtained from:

Public Inquiries Office
U.S. Geological Survey
678 U.S. Courthouse
West 920 Riverside Avenue
Spokane, WA 99201
Telephone: (509) 456-2524

---

[1]Idaho Geological Survey, University of Idaho, Moscow, ID 83843.

U.S. Geological Survey's Open-File Reports can be obtained from:

Open-File Services Section
Branch of Distribution
U.S. Geological Survey
Box 25425, Federal Center
Denver, CO 80225
Telephone: (303) 236-7476

SOURCES

Sources for this compilation were the monthly lists of new publications from the U.S. Bureau of Mines and the U.S. Geological Survey from January 1984 through July 1985.

U.S. BUREAU OF MINES

MINERAL INDUSTRY SURVEY

The mineral industry of Idaho in 1984 (annual, preliminary). 2 p.

MINERAL LAND ASSESSMENT REPORTS

MLA 2-84. Mineral investigation of the Gospel-Hump Wilderness, Idaho County, Idaho, by Leon E. Esparza, Jerry E. Olson, and Spencee L. Willett. 24 p., 1 fig.

MLA 4-84. Mineral investigation of the Jerry Peak, Jerry Peak West, and Boulder Creek Wilderness study area, (BLM Nos. ID-46-14, ID-46-14A, and ID-46-13), Custer County, Idaho, by Frederick L. Johnson and Terry R. Neumann. 11 p., 1 fig.

OPEN-FILE REPORTS (available from NTIS)

OFR 25-84. A summary of data from the Sunnyside single entry study--1971-80, by Elaine T. Bowers and Laurin N. Henton. 541 p., 538 figs.

OFR 151-84. Placement and evaluation of high-modulus backfill, by Koehler Stout, Leroy Friel, Edward Van Eeckhout, and Brian Woodward. 208 p., 94 figs.

OFR 152-84. Minerals availability directory of mineral deposits for 23 strategic mineral commodities, by Luis V. Coppa and Carl A. DiFrancesco. 216 p., 7 figs.

OFR 191-84. The effectiveness of organization and management training on safety and productivity in metal/non-metal

underground mining, by Fred E. Fiedler, Cecil H. Bell, Jr., Martin M. Chemers, and Dennis Patrick. 296 p., 25 figs.

REPORT OF INVESTIGATION

RI 8909. Field measurement of rock displacement and support pressure at 5,955-ft. level during sinking of deep circular shaft in northern Idaho, by M.J. Beus and M.P. Board. 11 p., 8 figs.

USBM STUDIES ON IDAHO PRIOR TO 1984

The following studies were not included in previous IGS Technical Report 85-3.

INFORMATION CIRCULAR

IC 8962. Lead and zinc availability--domestic: A minerals availability program appraisal, by Catherine C. Kilgore, Sylvia J. Arbelbide, and Audrey A. Soja. 1983. 30 p., 22 figs.

MINERAL INDUSTRY SURVEY

The mineral industry of Idaho in 1983 (annual, preliminary), 2 p.

OPEN-FILE REPORT

OFR 200-83. Floodplain landfill with mill tailings, by K.E. Robinson, and H.M. Eivemark. July 1983. 206 p., 99 figs.

PREPRINTS

Preprint from Minerals Yearbook, 1982: The mineral industry of Idaho, by F.V. Carrillo, E.H. Bennett, and M.M. Miller. 12 p., 1 fig.

Preprint from Minerals Yearbook, 1983: The mineral industry of Idaho, by W.L. Rice, E.H. Bennett, and M.M. Miller. 11 p., 1 fig.

U.S. GEOLOGICAL SURVEY

BULLETINS

B 1382-E. Gold in the Black Pine mining district, southeast Cassia County, Idaho, by B.T. Brady. p. E1-E15.

B 1608. Geology along the northwest border zone of the Idaho batholith, northern Idaho, by Anna Hietanen. 17 p.

MINERAL INVESTIGATIONS RESOURCE MAPS

MR-0072. Maps showing selected geology and phosphate resources of the Stewart Flat quadrangle, Caribou County, Idaho, by P.D. Derkey, Ken Paul, Pamela Palmer, Mahasti Fakourbayat, N.J. Wotruba, Idaho Bureau of Mines and Geology, and David Hovland, U.S. Bureau of Land Management.

MR-0073. Maps showing selected geology and phosphate resources of the Sage Valley quadrangle, Caribou County, Idaho, by P.D. Derkey, Bea Johnston, Pamela Palmer, Idaho Bureau of Mines and Geology, and R.D. Hovland, U.S. Bureau of Land Management.

MR-0078. Maps showing selected geology and phosphate resources of the Diamond Flat quadrangle, Caribou County, Idaho, by P.D. Derkey, Bea Johnston, Pamela Palmer, and Alexandra Zemanek, Idaho Bureau of Mines and Geology.

MR-0081. Map showing selected geology and phosphate resources of the Henry quadrangle, Caribou County, Idaho, by P.D. Derkey and Pamela Palmer, Idaho Bureau of Mines and Geology.

MR-0082. Maps showing selected geology and phosphate resources of the Fossil Canyon quadrangle, Bear Lake and Caribou Counties, Idaho, by P.D. Derkey and Pamela Palmer, Idaho Bureau of Mines and Geology, and S.T. Miller, U.S. Bureau of Land Management.

MISCELLANEOUS FIELD STUDIES MAPS

MF-1354-F. Maps showing mineral occurrence data for the Wallace 1 degree by 2 degree quadrangle, Montana and Idaho, by Sharon Chesson and Thomas Griffith, U.S. Geological Survey, and R.R. Wallace, U.S. Forest Service. Scale 1:250,000.

MF-1354-G. Geochronometric and lead isotope data on samples from the Wallace 1 degree by 2 degree quadrangle, Montana and Idaho, by R.F. Marvin, R.E. Zartman, J.D. Obradovich, and J.E. Harrison. Scale 1:250,000.

MF-1466-C. Mineral resource potential maps of the Jerry Peak, Jerry Peak West, and Boulder Creek Wilderness study areas, Custer County, Idaho, by D.H. McIntyre and F.L. Johnson. Scale 1:50,000.

MF-1466-D. Map showing geochemistry of stream sediments in the Jerry Peak Wilderness study area, Custer County, Idaho, by J.E. Callahan, D.H. McIntyre, E.F. Cooley, and T.M. Cookro. Scale 1:50,000.

MF-1557-D. Geophysical maps of the Blue Joint Wilderness study area, Ravalli County, Montana, and the Blue Joint Roadless Area, Lemhi County, Idaho, by M.D. Kleinkopf, Viki Bankey, and M.R. Brickey. Scale 1:50,000.

MF-1580. Mineral resource potential, geologic, and geochemical maps of part of the White Cloud-Boulder Roadless Areas, Custer County, Idaho, by F.S. Fisher, G.D. May, and D.H. McIntyre, U.S. Geological Survey and F.L. Johnson, U.S. Bureau of Mines. Scale 1:62,500.

MF-1601-A. Mineral resource potential map of the Italian Peak and Italian Peak Middle Roadless Areas, Beaverhead County, Montana, and Clark and Lemhi Counties, Idaho, by Betty Skipp, J.C. Antweiler, and D.M. Kulik, U.S. Geological Survey and R.H. Lambeth and R.T. Mayerle, U.S. Bureau of Mines. Scale 1:62,500.

MF-1601-B. Geologic map and cross sections of the Italian Peak and Italian Peak Middle Roadless Areas, Beaverhead County, Montana, and Clark and Lemhi Counties, Idaho, by Betty Skipp. Scale 1:62,500.

MISCELLANEOUS INVESTIGATIONS SERIES (MAP)

I-1540. Petroleum potential of wilderness lands, Idaho, by C.A. Sandberg and edited by B.M. Miller. (Accompanied by Circular 902-F; a part of Circular 902 A-P, Petroleum potential of wilderness lands in the western United States). Scale 1:1,000,000.

OPEN-FILE REPORTS

OF 84-0051. Geohydrologic framework of the Snake River Plain, Idaho and eastern Oregon, by R.L. Whitehead. 3 over-size sheets.

OF 84-0052. Flow characteristics of the Snake River and water budget for the Snake River Plain, Idaho and eastern Oregon, by L.C. Kjelstrom. 2 over-size sheets.

OF 84-0163. Analytical data and sample locality map for phosphate rocks from the East and West Palisades Roadless

Areas, Idaho and Wyoming, by J.M. Motooka, W.R. Willson, S.E. Church, and A.L. Gruzensky. 24 p.

OF 84-0166. Intensity survey of the Borah Peak, Idaho, earthquake of October 28, 1983, by Glen Reagor and F.W. Baldwin. 80 p.

OF 84-0230. Hydrologic conditions at the Idaho National Engineering Laboratory, Idaho; 1979-1981 update, by B.D. Lewis and R.G. Jensen. 65 p.

OF 84-0231. Ground-water site inventory data for selected wells on or near the Idaho National Engineering Laboratory, 1949 through 1982, by J.C. Bagby, L.J. White, J.T. Barraclough, and R.G. Jensen. 353 p.

OF 84-0239. Water-level data for selected wells on or near the Idaho National Engineering Laboratory, 1948 through 1982, by J.T. Barraclough, J.C. Bagby, L.J. White, and R.G. Jensen. 343 p.

OF 84-0279. Geology, geochemistry, and mineral resource potential of the Eighteenmile Wilderness study area (ID-43-3), Lemhi County, Idaho (GEM phase 2), by Betty Skipp, J.R. Hassemer, and D.E. Detra. 58 p., 4 over-size sheets, scale 1:62,500.

OF 84-0281. Preliminary geologic map of the Idaho National Engineering Laboratory and adjoining areas, Idaho, compiled by M.A. Kuntz, Betty Skipp, W.E. Scott, and W.R. Page, with contributions by K.L. Pierce, H.J. Prostka, G.F. Embree, and M.H. Hait, Jr. 26 p., 1 over-size sheet, scale 1:100,000.

OF 84-0284. Analytical results and sample locality maps of stream-sediment, panned-concentrate, rock, and water samples from the West and East Palisades Roadless Areas, Idaho and Wyoming, by R.T. Hopkins, J.C. Antweiler, W.L. Campbell, and J.P. Fox. 56 p., 1 over-size sheet, scale 1:50,000.

OF 84-0285. Analytical results and sample locality map of stream-sediment, panned-concentrate, rock, and water samples from the Italian Peak and Italian Peak Middle Roadless Areas, Idaho and Montana, by R.T. Hopkins, W.L. Campbell, J.C. Antweiler, and J.P. Fox. 41 p., 1 over-size sheet, scale 1:62,500.

OF 84-0297. Preliminary isoseismal map and intensity distribution for the Borah Peak, Idaho, earthquake of October 28, 1983, by C.W. Stover. 7 p.

OF 84-0365. Geochemical sampling around the granodiorite of Hall Mountain, northeastern Washington and northern Idaho, by F.K. Miller and J.G. Frisken. 14 p., 1 over-size sheet, scale 1:100,000.

OF 84-0377. Mines and prospects of the Dillon 1 degree by 2 degree quadrangle, Idaho and Montana, by J.S. Loen, and R.C. Pearson. 95 p., 2 over-size sheets, scale 1:250,000.

OF 84-0434. Water withdrawn for irrigation in 1980 on the Snake River Plain, Idaho and eastern Oregon, by B.B. Bigelow, S.A. Goodell, and G.D. Newton. 2 over-size sheets.

OF 84-0452. Irrigated acreage and other land uses on the Snake River Plain, Idaho and eastern Oregon, by G.F. Lindholm and S.A. Goodell. 1 over-size sheet.

OF 84-0461. Application of a parameter-estimation technique to modeling the regional aquifer underlying the eastern Snake River Plain, Idaho, by S.P. Garabedian. 119 p., 3 over-size sheets.

OF 84-0499. Analytical data for the Hells Canyon study area, Wallowa County, Oregon, and Idaho and Adams Counties, Idaho, by G.C. Simmons, S.J. Sutley, C.L. Forn, J.G. Viets, D.M. Hopkins, J.C. Negri, and C.M. Curtis. 158 p., 4 over-size sheets, scale 1:48,000.

OF 84-0517. Structural geology and petrology of a part of the Bitterroot lobe of the Idaho batholith, Idaho County, Idaho, and Missoula and Ravalli Counties, Montana, by R.R. Reid. 123 p.

OF 84-0587. Compilation of selected geophysical references for the Snake River Plain, Idaho and eastern Oregon, by R.L. Whitehead. 1 over-size sheet.

OF 84-0634. Analytical results of stream-sediment and nonmagnetic heavy-mineral-concentrate samples with sample locality map from portions of the Challis 1 degree by 2 degree quadrangle, Idaho, by S.K. McDanal, E.F. Cooley, and J.E. Callahan. 389 p., 1 over-size sheet, scale 1:250,000.

OF 84-0684. Geologic map of the northeast quarter of the Mountain City quadrangle, Elko County, Nevada, and Owyhee County, Idaho, by R.R. Coats and R.C. Greene. 10 p., 2 over-size sheets; including 1 sheet, scale 1:20,000.

OF 84-0685. Geologic map of the northwest quarter of the Mountain City quadrangle, Elko County, Nevada, and Owyhee County, Idaho, by R.R. Coats and R.C. Greene. 8 p., 2 over-size sheets, including 1 sheet, scale 1:20,000.

OF 84-0700. Distribution of samples of nonmagnetic heavy-mineral concentrates having anomalous concentrations of bismuth, molybdenum, tin, and tungsten from the Wallace 1 degree by 2 degree quadrangle, Montana and Idaho, by D.L. Leach and J.A. Domenico, 7 p., 1 over-size sheet, scale 1:250,000.

OF 84-0776. Preliminary geologic map of the Mount Baird quadrangle, Bonneville County, Idaho, and Teton and Lincoln Counties, Wyoming, by D.W. Moore, N.B. Woodward, and S.S. Oriel. 12 p., 1 over-size sheet, scale 1:24,000.

OF 84-0784. Geology of the Boiling Springs and Garden Valley 15-minute quadrangles, Boise and Valley Counties, Idaho, by P.L. Weis. 13 p., 1 over-size sheet, scale 1:125,000.

OF 84-0833. Analytical results and sample locality map for stream-sediment and panned-concentration samples from The Pinnacles addition to the River of No Return Wilderness, Valley County, Idaho, by B.M. Adrian, J.D. Sharkey, and G.A. Nowlan. 19 p., 1 over-size sheet, scale 1:48,000.

PROFESSIONAL PAPERS

P 1272. High-temperature, large-volume, lavalike ashflow tuffs without calderas in southwestern Idaho, by E.B. Ekren, D.H. McIntyre, U.S. Geological Survey, and E.H. Bennett, Idaho Bureau of Mines and Geology. 76 p., 2 plates in pocket.

P 1278. The thrust belt in southwest Montana and east-central Idaho, by E.T. Ruppel and D.A. Lopez. 41 p., 1 plate in pocket.

REPORTS AVAILABLE ONLY THROUGH NTIS

PB-85 103 109. Analytical results of stream-sediment and nonmagnetic heavy-mineral-concentrate samples from portions of the Challis 1 degree by 2 degree quadrangle, Idaho, by S.K. McDanal, E.F. Cooley, and J.E. Callahan. Tape.

WATER-RESOURCE INVESTIGATIONS

WRI 83-4117-A. Maps showing ground-water units, ground-water levels, springs, and depth to ground water, Basin and Range Province, Idaho, by J.E. Reed, M.S. Bedinger, W.H. Langer, D.A. Mulvihill, and J.L. Mason. 6 p., 1 over-size sheet, scale 1:500,000.

WRI 83-4117-B. Maps showing distribution of dissolved solids and dominant chemical type in ground water, Basin and Range Province, Idaho, by T.H. Thompson and Richard Chappell. 5 p., 1 over-size sheet, scale 1:500,000.

WRI 83-4117-C. Map showing outcrops of granitic rocks, ash-flow tuff, and laharic breccia, Basin and Range Province, Idaho, by K.A. Sargent and J.E. Jenness. 7 p., 1 over-size sheet, scale 1:500,000.

WRI 83-4117-D. Map showing outcrops of thick, dominantly argillaceous sedimentary and metasedimentary rocks, Basin and Range Province, Idaho, by W.D. Johnson, Jr. 7 p., 1 over-size sheet, scale 1:500,000.

WRI 84-4036. Water-table contours, directions of ground-water movement, and ground-water divide, October 1983, in Gem Valley, southeastern Idaho, by H.W. Young. 1 over-size sheet.

WRI 84-4065. Availability and chemistry of ground water on the Bruneau Plateau and adjacent eastern plain in Twin Falls County, south-central Idaho, by R.L. Moffatt and M.L. Jones. 43 p., 2 over-size sheets, scale 1:250,000.

WRI 84-4071. Description and some hydrogeologic implications of cored sedimentary material from the Radioactive Waste Management Complex, Idaho, by C.T. Rightmire. 33 p.

WRI 84-4137. Evaluation of hydrologic processes affecting soil movement in the Hagerman fauna area, Hagerman, Idaho, by H.W. Young. 17 p.

WRI 84-4140. Ground-water conditions in the Cottonwood-West Oakley Fan area, south-central Idaho, by T.K. Edwards and H.W. Young. 32 p.

WRI 84-4147. Erosion, channel change, and sediment transport in the Big Lost River, Idaho, by R.P. Williams and P.J. Krupin. 87 p.

WRI 84-4201. Hydrogeology of eastern Michaud Flats, Fort Hall Indian Reservation, Idaho, by N.D. Jacobson. 31 p.

WRI 84-4205. U.S. Geological Survey research in radioactive waste disposal; fiscal year 1982, by Robert Schneider and N.J. Trask. 116 p. Idaho National Engineering Laboratory, by J.T. Barraclough. p. 87-90.

WRI 84-4231. Potentiometric-surface contours, directions of ground-water movement, and perched-water zones, Oakley Fan, southeastern Idaho, March-April 1984, by H.W. Young. 1 over-size sheet.

WRI 84-4269. Water-table contours, directions of ground-water measurements of inflow to American Falls Reservoir, southeastern Idaho, April 1984, by H.W. Young. 1 over-size sheet.

USGS LISTINGS ON IDAHO PRIOR TO 1984

The following studies were not included in previous IGS Technical Report 85-3.

MISCELLANEOUS FIELD STUDY

MF-1434. Geologic map of Mt. Jordan and vicinity, Custer County, Idaho, by Fess Foster. 1982. Scale 1:24,000.

OPEN-FILE REPORTS

OF 83-0050. Quality of ground water in Idaho, by J.S. Yee. 77 p.

OF 83-0304. Distributions of total lead in samples of nonmagnetic heavy-mineral concentrate and of total and partially extractable lead in samples of stream sediment from the Wallace 1 degree by 2 degree quadrangle, Montana and Idaho, by D.L. Leach, D.M. Hopkins, J.A. Domenico, and H.E. Dawson. 8 p., 3 over-size sheets, scale 1:250,000.