

QUARTERLY REVIEW

Vol. 3, No. 2

Geologic Investigation in the State of Utah

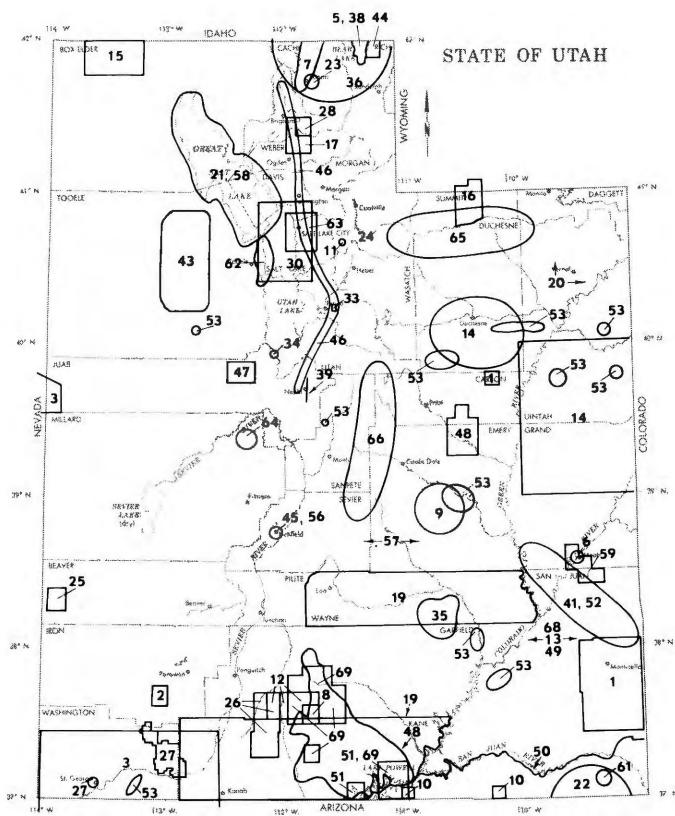
May 1969

Summer Field Work in Utah

The following is an alphabetized list of geologists who will work in Utah during the 1969 field season. While the reference number in the left column corresponds with the location number for a particular project on the accompanying map, some projects obviously could not be pinpointed in this way.

- 1 Anzalone, S.A.
Uranium Div.
American Smelting
and Refining Co.
- 2 Averitt, P. and
Threet, R. L.
USGS
- 3 Best, M. G.
BYU
- 4 Beus, S. S.
Northern Univ.
- 5 Biesinger, J. C.
Utah State Univ.
- 6 Birdwell, G. A.
USGS
- 7 Bjorklund, L. J.
USGS
- 8 Bowers, W. E.
USGS
- 9 Bowles, C. G.
USGS
- 10 Breed, W. J.
Museum of North
Arizona
- 11 Bromfield, C. S.
USGS
- 12 Bushman, J. R.
BYU
- 13 Cadigan, R. A.
USGS
- 14 Cashion, W. B.
USGS
- 15 Compton, R. R.
Stanford Univ.—
USGS
- 16 Crockett, D. H.
U.S. Forest Service
- 17 Crittenden, M. D., Jr.
USGS
- 18 Davis, C. L.
Utah State Univ.

- General uranium exploration.
- Areal geologic mapping; Cedar City 7½-minute quadrangle, Iron County, Utah.
- Kern Mountain geology, western Juab County; basalt petrology, St. George area.
- Devonian stratigraphy; northwestern Arizona, SW corner of Utah.
- Geochemical aspects of Bear Lake sediments, Utah-Idaho.
- Streamflow ground-water observation well map work, collection of water quality data, Moab.
- Ground-water resources of Cache Valley, Utah-Idaho.
- Geology and coal resources of the Canaan Peak quadrangle, Garfield and Kane Counties.
- Uranium-bearing pipes.
- Paleobotany of the Cutler Formation, Monument Valley.
- Park City mining district.
- Zonation of Cretaceous of southern Utah with spores and pollen; area east of Bryce Canyon.
- Regional variation in heavy metals of Colorado Plateau stratified rocks.
1. Utah oil shale. Stratigraphic study of the Green River Formation.
2. Grand Junction quadrangle, Utah-Colorado.
- Structural geology of Raft River Range, Yost and Park Valley quadrangles, Box Elder County, Utah.
- North flank Uinta Mountains — east and west fork, Smith's Fork.
- Younger Precambrian rocks of north Wasatch, Huntsville, north Ogden, and Mantua quadrangles.
- Structural geology of southeastern margin of Bear River Range, Bear Lake County, Idaho.



- 19 Doelling, H. H.
UG&MS
- 20 Dyni, J. R.
USGS
- 21 Eardley, A. J.
Univ. of Utah
- 22 Foster, R. W.
New Mexico Bureau
of Mines and
Mineral Resources
- 23 Francis G. G.
Utah State Univ.
- 24 Goode, H. D.
Univ. of Utah
1. Completion of Paria I NE, Straight Cliffs 2 NW and 2 NE coal quadrangles.
2. Mapping of Paria 1 SE, Straight Cliffs 2 SW and 2 SE coal quadrangles. Mineral inventory of Wayne and Kane Counties.
- Petrology of the Eocene Green River Formation and associated rocks in Utah, Colorado and Wyoming.
- Coring the Lower Peistocene and upper Pliocene sediments of the Great Salt Lake.
- Subsurface stratigraphy; study of cuttings from pertinent oil tests. San Juan Basin — may extend into southeast Utah.
- Environmental analysis of Swan Peak Formation, northern Utah and southern Idaho.
1. Wasatch-Uinta field camp—mapping and reconnaissance studies in Uintas and Wasatch near Park City.
2. Appraisal of water resources Kane and Garfield Counties — continuing studies under University research program.

(Continued from page 1)

- 25 Grant, S. K.
Univ. of Missouri
at Rolla
- Stratigraphy of the Needles Range Formation; Beaver and surrounding counties (M.S. thesis).
- 26 Hadley, R. F.
USGS
- Basic processes of erosion.
- 27 Hamblin, W. K.
BYU
- Stratigraphy and volcanic history of St. George basin; volcanic history of Zion National Park, Washington County.
- 28 Hardy, C. T.
Utah State Univ.
- Structural geology of James Peak quadrangle, Utah.
- 29 Hardy, C. T.
Utah State Univ.
- Structural geology of Malad and Bannock Ranges, Utah-Idaho.
- 30 Hely, A. G.
USGS
- Water resources of Salt Lake County. Detailed consideration of the valley fill in the Jordan Valley.
- 31 Heyl, A. V., Jr.
USGS
- Utah heavy metals studies.
- 32 Hilpert, L. S.
USGS
- Compilation of mineral resource map of Utah.
- 33 Hintze, L. F.
BYU
- Wasatch Mountains east of Provo.
- 34 Howd, F. H.
Kennecott Copper Corp.—Tintic Div.
- Dispersion of trace elements around Iron Blossom ore body.
- 35 Hunt, C. B.
John Hopkins Univ.
- Physiography of part of the Henry Mountain region, Utah.
- 36 Jibson, W. N.
USGS
- Streamflow ground-water observation well map work, collection of water quality data, Logan.
- 37 Kaliser, B. N.
UG&MS
- Scope stability and landslides in or near urban areas in Utah.
- 38 Kaliser, B. N.
UG&MS
- Bear Lake environmental geology.
- 39 Kaliser, B. N.
UG&MS
- Fault dating, Wasatch Front.
- 40 Lakin, H. W.
USGS
- Geochemistry of silver and gold in Utah, Arizona, Colorado, and Nevada.
- 41 Linn, K. O.
and Evans, R.
Texas Gulf Sulphur Co.
- Folding in the potash beds, Paradox Basin; to be presented at Third Salt Symposium.
- 42 Mackenzie, G., Jr.
USGS
- Upper Paleozoic cephalopods.
- 43 Maurer, R. E.
Oswego State College
- Geology of the Cedar Mountains, Tooele County, Utah (Ph.D. thesis).
- 44 McClurg, L. W.
Utah State Univ.
- Erosion and sedimentation of North Eden Creek, Utah-Idaho.
- 45 McConkie, W.
USGS
- Streamflow ground-water observation well map work, collection of water quality data, Richfield.
- 46 Morisawa, M.
USGS
- Strip maps of Wasatch fault zone, Nephi to Logan. Photo interpretation, reconnaissance, and detailed field checking.
- 47 Morris, H. T.
USGS
- Geology and ore deposits of the Cherry Creek and Maple Peak quadrangles, Utah. Southern parts of Sheeprock and West Tintic Mountains.
- 48 Osterwald, F. W.
USGS
- Coal mine bumps. Mapping of the Woodside quadrangle; investigations of any major bumps at Sunnyside; reconnaissance of Kaiparowits Plateau coal field.
- 49 Olson, A. B.
USGS
- Photogeologic mapping, Colorado Plateau.
- 50 O'Sullivan, R. B.
USGS
- Navajo Reservation.
- 51 Peterson, F.
USGS
- Coal in the Kaiparowits.
- 52 Raup, O. B.
USGS
- Paradox Basin salt studies. Petrographic, geochemical, and X-ray studies of well core and mine samples and surface samples from Cane Creek and Pine Ridge areas.
- 53 Ritzma, H. R.
and Gwynn, J. W.
UG&MS
- Studies of oil-impregnated sandstone. Mapping and sampling: central Uinta Basin; southern Uinta Basin; north end San Rafael Swell; Dirty Devil River area; White Canyon area, and miscellaneous localities. Oil shale: collection of high-grade samples in selected Uinta Basin localities. Petroleum: collection of crude oil samples from all fields in State. Basal Cambrian carbonates in Utah.
- 54 Robison, R. A.
Univ. of Utah
- Williston Basin oil and gas investigations.
- 55 Sandberg, C. A.
USGS
- Streamflow ground-water observation well map work, collection of water quality data, Richfield.
- 56 Sandberg, G. W.
USGS
- Paleomagnetism of Oligocene ignimbrites, Utah high plateaus.
- 57 Shuey, R. T.
Univ. of Utah
- Late summer: Great Salt Lake, seismic reflection and magnetometer survey. Mid-summer: micro-earthquake monitoring in selected sites in Utah, in cooperation with Lamont-Doherty Geological Observatory.
- 58 Smith, R. B.
Univ. of Utah
- Hydrologic investigation of the Spanish Valley (Moab) area, Grand and San Juan Counties.
- 59 Sumison, C. T.
USGS
- Water-resources studies in national parks, monuments, and historic sites.
- 60 Sumison, C. T.
USGS
- Mule Ear area.
- 61 Stuart -
Alexander, D. E.
USGS
- Geology of the Oquirrh Mountains and Bingham mining district.
- 62 Tooker, E. W.
USGS
- Geology of Salt Lake City and vicinity, Utah.
- 63 VanHorn, R.
USGS
- Surficial geology of Oak City area.
- 64 Varnes, D. J.
USGS
- Stratigraphy of the Uinta Mountain Group.
- 65 Wallace, C. A.
USGS
- Stratigraphy and petrology of Flagstaff Formation, Wasatch Plateau.
- 66 Weiss, M. P.
Northern Illinois Univ.
- Surficial geology of part of southern Cache and Box Elder Counties, Utah.
- 67 Williams, J. S.
Utah State Univ.
- Geologic map, Colorado Plateau.
- 68 Wyant, D. G.
USGS
- Coal resources, Kaiparowits Plateau, SE corner areas being mapped.
- 69 Zeller, H. D.
USGS

1968 Utah Geology in Print

This issue of the *Quarterly Review* is devoted primarily to a compilation of the 1968 publications dealing with the geology and mineral industry of Utah. The Utah Geological Survey gratefully acknowledges the assistance of the University of Utah Engineering Library staff, under the direction of

Miss Edith Rich, and Mrs. Bernice Y. Smith, technical editor, Utah Geological Survey, in the compilation of the data contained herein.

It has been our goal to make this listing as complete as possible. If the reader is aware of other pertinent publications that do not appear in the list

below, please call them to our attention.

The 1968 publications are listed first by author alphabetically, and then by subject classifications.

An additional listing of publications is on open file in the Utah Geological Survey Office, 103 Utah Geological Survey Building, University of Utah, Salt Lake City, Utah.

AUTHOR INDEX

ABOU-ZIED, M. S.

Geology and mineralogy of the Milford Flat quadrangle and the old Moscow Mine, Star District, Beaver County, Utah: Univ. of Utah, Ph.D. thesis, 1968.

ARMSTRONG, R. L.

1. Sevier orogenic belt in Nevada and Utah: Geol. Soc. America Bull., v. 79, n. 4, p. 429-458, 1968. Also listed in A.S.T.I., March 1969.
2. The Cordilleran miogeosyncline in Nevada and Utah: Utah Geol. and Mineralog. Survey Bull. 78, 58 p., 1968.

ARNOW, T.

(and Mattick, R. E.) Thickness of valley fill in the Jordan Valley east of the Great Salt Lake, Utah, in Geological Survey research 1968, Chap. B: U.S. Geol. Survey Prof. Paper 600-B, p. B79-B82, 1968. Also listed in (abs.) Geophysical Abstracts, Nov. 1968.

BAKER, C. H., Jr.

(and others) Ground-water conditions in Utah, spring of 1967: Utah Div. Water Resources Coop. Inv. Rept. 5, 89 p., 1967.

BALDY, M. B.

Molluscan faunas of the lower Flagstaff Formation, Fairview Canyon, Sanpete County, Utah: Sterkiana, n. 29, p. 1-8, 1968. Also listed in (abs.) Abstracts of North American Geology, Sept. 1968, p. 1280.

BAROSH, P. J.

Lower Permian stratigraphy of east-central Nevada and adjacent Utah (abs.): Dissert. Abs., Sec. B, Sci. and Eng., v. 28, n. 12, pt. 1, p. 5076B, 1968.

BERG, J. W. See Cook, K. L.

BEST, M. G.

(and others) Mica peridotite, wyomingite, and associated potassic igneous rocks in northeastern Utah: Am. Mineralogist, v. 53, p. 1041-8, 1968. Also listed in A.S.T.I., Dec. 1968

BEUS, S. S.

Paleozoic stratigraphy of Samaria Mountains, Idaho-Utah: Am. Assoc. Petroleum Geologists Bull., v. 52, n. 5, p. 782-808, 1968. Also listed in (abs.) Abstracts of North American Geology, Feb. 1969.

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BLACK, C. C.

The Uintah rodent *Mytonomys*: Jour. Paleontology, v. 42, n. 3, p. 853-856, 1968.

BOTBOL, J. M.

Characteristic analysis of base metal mining districts in the continental United States: Univ. of Utah, Ph.D. thesis, 1968.

BREED, W. J. See Blagbrough, J. W.

BROBST, D. A. See Culbertson, W. C. -1

BROWN, B. R. See Picard, M. D. -1

BUDE, A. J. See Raup, O. B.

CASE, J. E. See Hedge, C. E.

CASHION, W. B. See Donnel, J. R.

CATACOSINOS, P. A.

Upper Cretaceous-lower Tertiary relations west of Raven Ridge, Uintah County, Utah: Am. Assoc. Petroleum Geologists Bull. 52, n. 2, p. 343-8, 1968. Also listed in A.S.T.I., June 1968.

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Salt anticlines of the Paradox Basin, in-Paleotectonic maps of the Permian System: U.S. Geol. Survey Misc. Geol. Inv. Map I-450, p. 44-47, 1967.

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(and Berg, J. W., Jr., and Lum, D.) Seismic and gravity profile across the northern Wasatch trench, Utah, in Seismic refraction prospecting (A. W. Musgrave, Editor): Tulsa, Okla., Explor. Geophysicists, p. 539-549, 1967. Also listed in (abs.) Geophysical Abstracts, Aug. 1968.

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Viscosity and finite strength of the mantle as determined from water and ice loads, in Non-elastic processes in the mantle—Internat. Upper Mantle Comm. Symposium, Newcastle-upon-Tyne, 1966, Proc.: Royal Astron. Soc. Geophys., Jour. v. 14, nos. 1-4, p. 261-279, 1967.

CULBERTSON, W. C. See Donnel, J. R.

DASCH, E. J. See Erickson, M. P.

DAVIDSON, D. M., Jr.

(and Kerr, P. F.) Uranium-bearing veins in Plateau strata, Kane Creek, Utah: Geol. Soc. America Bull., v. 79, n. 11, p. 1503-1525, 1968. Also listed in (abs.) Abstracts of North American Geology, March 1969.

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Middle Eocene rodents (Mammalia) from northeastern Utah: Carnegie Mus. Annals, v. 29, p. 327-370, 1968.

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1. A new *Protaspis* from the Devonian of Utah, with notes on the classification of Pteraspidae: Linnean Soc. London Jour., Zoology, v. 47, n. 311, p. 31-37, 1967.
2. Early Devonian lungfishes from Wyoming, Utah, and Idaho: Fieldiana — Geology, v. 17, n. 4, p. 353-413, 1968. Also listed in (abs.) Abstracts of North American Geology, Jan. 1969.

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DYER, H. B. See Hawley, C. C.

EARDLEY, A. J.

Major structures of the Rocky Mountains of Colorado and Utah, in A coast to coast tectonic study of the United States: UMR Jour., n. 1, ser. 1, p. 79-99, 1968. Also listed in (abs.) Geophysical Abstracts, Jan. 1969.

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ELSTON, D. P. See Shoemaker, E. M.

ERICKSON, M. P.

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2. See Mower, R. W.

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FRIEDMAN, I. See Lovering, T. S.

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- GILLILAND, W. N. See Gunderson, W. C.
- GROVES, H. L., Jr. See Raup, O. B.
- GUNDERSON, W. C.
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2. Environment of western Colorado and southern Utah Intervals A-B, in Paleotectonic maps of the Permian System: U.S. Geol. Survey Misc. Geol. Inv. Map I-450, p. 54-56, 1967.
- HASKELL, R. E. See Edwards, J. M.
- HAWLEY, C. C.
(and Robeck, R. C., and Dyer, H. B.) Geology altered rocks and ore deposits of the San Rafael Swell, Emery County, Utah: U.S. Geol. Survey Bull. 1239, 115 p., 1968. Also listed in (abs.) *Mineralogical Abstracts*, Nov. 1968.
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(and Howe, W. W.) Organic metal complexes in the Uinta Basin (with Spanish abs.), in Drilling and production: World Petroleum Cong., 7th Mexico, 1967, Proc., v. 3, p. 703-705, 1967.
- HOWE, W. W. See Houghton, A. S.
- JENSEN, B. C. See Clyde C. G.
- JENSEN, R. G.
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- JONES, C. L.
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- KERR, P. F. See Davidson, M., Jr.
- KALISER, B. N.
It could happen . . . again: *Utah Geol. and Mineralog. Survey Quarterly Review*, v. 1, n. 13, p. 1, 3, 1967.
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San Francisco Chemical Co. — Crawford Mountain-Leefe area, Utah and Wyoming, in Anatomy of the western phosphate field: Intermountain Assoc. Geologists, 15th Ann. Field Conf., p. 203-209, 1967.
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- LANPHERE, M. A. See Moore, W. J. -1
- LOLEIT, A. J. See Picard, M. D. -1
- LOVERING, T. S.
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- MATTOX, R. B.
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2. See Stacey, J. S.
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1. See Hedge, C. E.
2. See Moore, W. J. -1
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Structures and paleocurrents, Triassic, Gartra Member: McCormick, D. C.

Utah County

Pyrophyllite-bearing clay, Clinton deposits: Henderson, G. V.

Utah, SE

Salt anticline region halite: Jones, C. L.

SEDIMENTATION**Utah**

Fluvial, 1905-65: Mundorff, V. C.
Paleocurrents, Basal Sauk transgressive clastics: Seeland, D. A.

SILURIAN**Paleontology**

Western Utah sponges: Rigby, J. K. -1

STRATIGRAPHY**Cambrian**

Northern Utah: Rigo, R. J.
Western Utah, Silver Mountains: Robison, R. A.

Devonian

Great Basin conodont diachronism: Clark, D. L. -2
Great Basin conodont zonation: Clark, D. L. -1

Eocene

Uinta basin, Green River Formation: Picard, M. D. -2

Paleozoic

Samaria Mountain, Box Elder County: Beus, S. S.

Pennsylvanian

Spectral-density analysis: Mann, J. C.

Permian

Phosphoria, Park City and Shedhorn Formations, Utah: Yochelson, E. L.

Western Utah: Barosh, P. J.

Precambrian

Beaver Mountain, Millard County: Woodward, L. A. -2

Northeast Great Basin: Woodward, L. A. -1

Regional

Paradox basin: Peterson, J. A.

Tertiary

Central and south central continental sediments: Schneider, M. C.

Southwestern Utah, Quichapa Formation: Williams, P. L.

Upper Cretaceous-Lower Tertiary

Uintah County, Raven Ridge: Catacosinos, P. A.

Utah, C

Lower Pennsylvanian, Lake Mountains: Tidwell, W. D. -1, 2

Sanpete-Sevier Valley anticline: Gunderson, W. C.

STRUCTURAL GEOLOGY**Carbon County**

Gravitational gliding near Soldier Summit: Moussa, M. T.

Lake Bonneville

Test of mantle viscosity and strength by transient earth loads: Crittenden, M. D., Jr.

Paradox Basin

Permian salt anticlines: Cater, F. W.; Shoemaker, E. M.

Upheaval Dome: Mattox, R. B. -1

Utah, C

Sanpete-Sevier Valley anticline: Gunderson, W. C.

Utah, N

Permian, middle Rocky Mountains and northeast Great Basin: Sheldon, R. P.

Utah, NC

Profile across Wasatch trench: Cook, K. L.

Utah, NE

Rocky Mountain structures: Eardley, A. J.

Utah, S

General study, Permian: Hallgarth, W. E.

Utah, SW

Sevier orogenic belt: Armstrong, R. L. -1

Utah, W

Cordilleran miogeosyncline: Armstrong, R. L. -2

Washington County

Hurricane Cliffs: Watson, R. A.

SUMMIT COUNTY**Engineering Geology**

Landslide, Park City: Kaliser, B. N.

Geochemistry

Trend analysis, trace chemical data (discussion): Garrett, R. G.

TERTIARY**Igneous Petrology**

Southwest Utah: Williams, P. L.

Paleontology

Sanpete County, Eocene molluscs, Flagstaff Formation: Baldy, M. B.

Stratigraphy

Central and south central Utah continental sediments: Schneider, M. C.

Southwestern Utah: Williams, P. L.

Uintah County, Raven Ridge: Catacosinos, P. A.

TOOELE COUNTY**Hydrology**

Skull Valley, reconnaissance: Hood, J. W.

TRIASSIC**Sedimentary Petrology**

Uinta Mountain area, Gartra Member: McCormick, C. D.

UINTA BASIN**Economic Geology**

Economics of gas development: Folsom, L. W.

Geochemistry

Organic metal complexes: Houghton, A. S.

Ground-Water Geology

Green River Formation: Feltis, R. D. -1

Oil and Gas

Cenozoic natural gas: Osmond, J. C.

Paleontology

Eocene rodent: Black, C. C.

Sedimentary Petrology

Cycles in Green River Formation: Picard, M. D. -2

Stratigraphy

Eocene, Green River Formation: Picard, M. D. -2

UINTA MOUNTAINS**Sedimentary Petrology**

Gartra Member sediment structures and paleocurrents: McCormick, C. D.

UINTAH COUNTY**Areal Geology**

Untermann, G. E.

Stratigraphy

Raven Ridge, Upper Cretaceous-Lower Tertiary: Catacosinos, P. A.

URANIUM**Utah, SE**

Veins in Kane Creek: Davidson, D. M., Jr.

UTAH COUNTY**Areal Geology**

Highway guide, U.S. 50 and 6, Spanish Fork Canyon: Rigby, J. K. -2

Wasatch Mountain front near Provo: Rigby, J. K. -3

Economic Geology

Pyrophyllite-bearing clay, Clinton deposits: Henderson, G. V.

UTAH**Absolute Ages**

Radiocarbon, geologic and archaeologic samples: Chatters, R. M.

Economic Geology

Oil-impregnated rock deposits: Ritzma, H. R. -2

Oil-impregnated sandstone: Ritzma, H. R. -1

Phosphate in western phosphate region: Gere, W. C.

Ground Water

Conditions, spring 1967: Baker, C. H., Jr.

Levels, 1961-65: U. S. Geol. Survey

Hydrology

Effect of mineralized springs on water supplies: Milligan, J. H. -1

Fluvial sediment, 1905-65 (compilation): Mundorff, C. C.

Water research lab: Clyde, C. G.

Mineral Deposits

Analysis, base metal mining districts: Botbol, J. M.

Paleontology

Devonian trilobite *Protaspis*: Denison, R. H. -1

Permian: Yochelson, E. L.

Sedimentation

Paleocurrents, Basal Sauk transgressive clastics: Seeland, D. A.

Stratigraphy

Pennsylvanian, spectral-density analysis: Mann, J. C.

Permian, phosphoria Park City and Shedhorn Formations: Yochelson, E. L.

UTAH, C**Paleontology**

Crinoids, Pennsylvanian: Washburn, A. T.

Flora from Lake Mountain, Lower Pennsylvanian: Tidwell, W. D., -1, 2

Stratigraphy

Lake Mountain, Lower Pennsylvanian: Tidwell, W. D. -1, 2

Regional continental deposits: Schneider, M. C.

Sanpete-Sevier Valley anticline: Gunderson, W. C.

Structure
Sanpete-Sevier Valley anticline, Gunderson, W. C.

UTAH, N
Economic Geology
San Francisco Chemical Company: King, D. L., Sr.

Geophysical Study
Profile across northern Wasatch trench: Cook, K. L.

Stratigraphy
Cambrian: Rigo, R. J.

Structural Geology
Middle Rocky Mountains and northeastern Great Basin, Permian: Sheldon, R. P.

UTAH, NE
Paleontology
Eocene ("late-Uintan") prosimian primates: Robinson, P.

Eocene rodents: Dawson, M. R.

Logan quadrangle, Ordovician brachiopods: Ross, R. J., Jr.

Structural Geology
Rocky Mountain, major structures: Eardley, A. J.

UTAH, NC
Geophysical Surveys
Jordan Valley, seismic-refraction profile: Arnow, T.

Northern Areal Geology
Western Phosphate field: Swanson, R. W.

Northeastern Geochemistry
Potassic igneous rocks: Best, M. G.

UTAH, S
Paleoecology
Environment: Hallgarth, W. E. -2

Structure
General Permian study: Hallgarth, W. E. -1

UTAH, SC
Engineering
Glen Canyon Dam: Wiegel, E.

Stratigraphy
Regional continental deposits: Schneider, M. C.

UTAH, SE
(See also PARADOX BASIN)
Geomorphology
Popular explanation: Foushee, E.

Mineral Deposits
Uranium veins, Kane Creek: Davidson, D. M., Jr.

UTAH, SW
Areal Geology
Zion: Hagood, A.

Igneous Petrology
Tertiary Quicapa Group: Williams, P. L.

Stratigraphy
Tertiary Quicapa Group: Williams, P. L.

Structural Geology
Sevier orogenic belt: Armstrong, R. L. -1

UTAH, W
Economic Geology
Cordilleran miogeosyncline: Armstrong, R. L. -2

Ground Water
Perennial recharge: Thomas, H. E.

Paleontology
Actinoceroid cephalopods, Ordovician: Flower, R. H. -1, 2
Sponges, west Utah Silurian: Rigby, J. K. -1

Stratigraphy
Cambrian, Silver Island Mountains: Robison, R. A.
Lower Permian: Barosh, P. J.

Structure
Cordilleran miogeosyncline: Armstrong, R. L. -2

UTAH, E
Geochronology
Precambrian, Uncompahgre Plateau: Hedge, C. E.

Oil Shale
Green River Formation: Donnell, J. R.

WASHINGTON COUNTY
Structural Geology
Hurricane Cliffs: Watson, R. A.

WAYNE COUNTY
Geochemistry
Utah jet, aberrant vitrinite: Traverse, A.

OPEN FILE

The following items recently have been placed on open file by the USGS; copies are available at the Utah Survey.

1. Paleogeographic maps of the Telegraph Creek, Eagle, Claggett, Judith River, Bearpaw, and Fox Hills times of late Cretaceous Epoch in the western interior region, by J. R. Gill and W. A. Cobban. 6 sheets, scale 1:5,000,000.
2. A summary of the USGS recent aeromagnetic activities in Utah, including an index map indicating all airborne surveys of Utah that have been published by the USGS.
3. Principal facts for gravity stations in Heber and Rhodes Valleys, Wasatch County, Utah, by Donald L. Peterson.

Material placed on open file may be reproduced. The cost of such reproduction must be assumed by the individual.

EDITORSHIP CHANGES HANDS

Gladys V. Isakson, UG&MS editor, has accepted the position of Technical Publications Editor with the Intermountain Forest and Range Experiment Station, U.S. Forest Service, at Ogden.

Mrs. Isakson, who has held her Survey position since October 1, 1966, will be succeeded by Mrs. Mildred R. Detling.

Mrs. Detling has served as editor at Dugway Proving Grounds since September 1968.

Both editors were to assume their new positions June 16.

Conventioneers Rock Out

The 1969 Utah State Legislature has designated topaz as the state's official gem.

The Mineralogical Society of Utah and the Wasatch Gem Society of the Rocky Mountain Federation, will host the annual joint convention of the American Federation of Mineralogical Societies (AFMS), and the Rocky Mountain Federation of Mineralogical Societies (RMFMS), June 19-22.

The American and Rocky Mountain Federation will hold their convention meetings at Hotel Utah.

Featured with the meetings are field trips to various collecting sites and educational booths displaying fossils, antiquities, and Utah minerals.

A Gem and Mineral Show will be held in the new Civic Auditorium. Exhibits are both competitive and non-competitive.

The convention will attract rock hounds and dealers from all over the United States.

QUARTERLY REVIEW

State of Utah *Calvin L. Rampton*
Governor
University of Utah *James C. Fletcher*
President

College of Mines & Mineral Industries *George R. Hill*
Dean

Utah Geological & Mineralogical Survey *William P. Hewitt*
Director

UTAH GEOLOGICAL AND MINERALOGICAL SURVEY

103 Utah Geological Survey Building
University of Utah
Salt Lake City, Utah
84112