Service/News

Starred items (*) available from New Mexico Bureau of Mines & Mineral Resources

Announcements

Geological Society of America—Annual meeting, Rocky Mountain Section, Bozeman, MT, May 7-8, 1982

American Geophysical Union—Spring meeting, Philadelphia, PA, May 31-June 4, 1982

American Association of Petroleum Geologists and Society of Economic Paleontologists and Mineralogists—Annual meeting, Calgary, June 27-July 1, 1982

Albuquerque Geological Society meets 1st and 3rd Tuesdays from September through May at 12 noon at the Four Seasons Motor Inn. Contact S. C. Feldman at P.O. Box 26884, Albuquerque, NM 87125 for information.

Roswell Geological Society, Inc. meets every 4th Thursday from October through May. For information contact R. H. Cress at P.O. Box 1171, Roswell, NM 88201.

New publications

NMBMMR

***Scenic Trip 3**—Roswell-Ruidoso-Valley of Fires, including trips to Lincoln, Tularosa, and Bottomless Lakes State Park, by John Eliot Allen and Frank E. Kottlowski, 1981, 96 p., 3 tables, 22 figs., 39 photos (7 in color), geologic map. These revised scenic trip road logs and their descriptions of the geology, history, and scenery cover the main routes from Roswell westward through Hondo, Lincoln (site of the Lincoln County Wars), Capitan, and Carrizozo, to the Valley of Fires State Park; then south along the flanks of towering Sierra Blanca through Nogal to Ruidoso, Mescalero, and Tularosa; and east past Ruidoso Downs returning to Roswell. An eastern side trip is to Bottomless Lakes State Park. $5.00

USGS

PROFESSIONAL PAPERS

P 1134-C—Geochemical variability of natural soils and reclaimed mine-spoil soils in the San Juan Basin, New Mexico, by R. C. Severson and L. P. Gough, 1981, 39 p.

P 1134-D—Biogeochemical variability of plants at native and altered sites, San Juan Basin, New Mexico, by L. P. Gough and R. C. Severson, 1981, 26 p.

MISCELLANEOUS INVESTIGATIONS SERIES

I-1231—Geologic map of the Gage SW quadrangle, Grant and Luna Counties, New Mexico, by C. H. Thorman and Harald Drewes, 1981, lat 32° to 32°07'30", long 108°07'30" to 108°15', scale 1:24,000

***I-1327**—Energy resources map of New Mexico, by U.S. Geological Survey and New Mexico Bureau of Mines and Mineral Resources, 1981, scale 1:500,000 $5.00 folded $6.50 rolled

MISCELLANEOUS FIELD STUDIES MAPS

***MF-1094**—Preliminary geologic map of the Kin Klizhin Ruins quadrangle, San Juan and McKinley Counties, New Mexico, by R. B. O'Sullivan, G. R. Scott, and D. L. Weide, 1979, lat 36° to 36°07'30", long 108° to 108°07'30", scale 1:24,000

NEW TOPOGRAPHIC MAPS

*Alegres Mountain	75-81	34°7'30"	108°7'30"	1:24,000	40
*Arabela	76-81	33°30'	105°7'30"	1:24,000	40
*Arroyo Serrano East	76-81	33°37'30"	105°	1:24,000	20
*Bell Peak	75-81	33°52'30"	108°15'	1:24,000	20
*C-N Lake	75-81	33°52'30"	107°45'	1:24,000	10, 5
*Camaleon Draw East	74-81	34°15'	105°15'	1:24,000	10
*Camaleon Draw West	75-81	34°15'	105°22'	1:24,000	10
*Capitan Peak	76-81	33°30'	105°15'	1:24,000	40
*Cedarville NE	75-81	34°22'30"	105°30'	1:24,000	10
*Claunch SE	75-81	34°	105°45'	1:24,000	20
*Corona North	74-81	34°15'	105°30'	1:24,000	10
*Corona South	75-81	34°7'30"	105°30'	1:24,000	20
*Cowboy Mesa SW	75-81	34°	105°7'30"	1:24,000	20
*Cox Peak	75-81	34°7'30"	108°	1:24,000	20
*Duran	75-81	34°22'30"	105°22'30"	1:24,000	10
*Gacho Hill SW	74-81	34°15'	105°7'30"	1:24,000	10
*Gallo Mountains East	75-81	34°	108°30'	1:24,000	40
*Gallo Mountains West	75-81	34°	108°37'30"	1:24,000	40
*Gallo Spring Canyon	75-81	34°7'30"	105°22'30"	1:24,000	20
*Horse Mountain West	75-81	33°52'30"	108°7'30"	1:24,000	10, 40
*Juan Largo Canyon East	75-81	33°52'30"	105°	1:24,000	20
*Juan Largo Canyon West	75-81	33°52'30"	105°7'30"	1:24,000	20
*Largo Mesa	75-81	34°7'30"	108°30'	1:24,000	20
*Log Canyon	75-81	34°	108°	1:24,000	20
*Lookout Mountain	75-81	33°15'	107°45'	1:24,000	40
*Luera Mountains East	75-81	33°45'	107°45'	1:24,000	40
*Mangas	75-81	34°7'30"	108°15'	1:24,000	20
*Mangas Mountain	75-81	34°	108°15'	1:24,000	40
*Mojonera Canyon	75-81	33°37'30"	107°52'30"	1:24,000	20
*O Bar O Canyon East	76-81	34°22'30"	108°7'30"	1:24,000	20
*Pajaro Canyon	75-81	34°7'30"	105°45'	1:24,000	20
*Pedernal Arroyo	75-81	33°45'	105°15'	1:24,000	20
*Pelon Hill	75-81	34°	105°30'	1:24,000	20
*Pelona Mountain	75-81	33°37'30"	108°	1:24,000	40
*Pino Mountain	75-81	34°22'30"	105°37'30"	1:24,000	10
*Polecat Draw	76-81	34°	105°52'30"	1:24,000	20
*Ponderosa Tank	75-81	34°7'30"	108°37'30"	1:24,000	20
*Progresso SE	75-81	34°15'	105°45'	1:24,000	20
*Progresso SW	75-81	34°15'	105°52'30"	1:24,000	10
*Progresso	75-81	34°22'30"	105°52'30"	1:24,000	10
*Progresso NE	75-81	34°22'30"	105°45'	1:24,000	10, 5
*Rael Spring	75-81	33°45'	108°15'	1:24,000	10, 40
*Rail Canyon	75-81	33°37'30"	108°7'30"	1:24,000	40
*Red Bluff Draw East	75-81	34°	105°15'	1:24,000	20
*Red Bluff Draw West	75-81	34°	105°22'30"	1:24,000	20
*Rough Mountain	75-81	34°7'30"	105°37'30"	1:24,000	20
*Salvation Peak	75-81	33°37'30"	108°15'	1:24,000	40, 20
*Sawmill Peak	75-81	33°22'30"	107°45'	1:24,000	40
*Taylor Peak	75-81	33°22'30"	107°52'30"	1:24,000	40
*Tecolote Peak	75-81	34°	105°37'30"	1:24,000	20
*Tularosa Canyon	75-81	33°52'30"	108°22'30"	1:24,000	20
*Yeso Mesa	75-81	34°22'30"	104°45'	1:24,000	20, 10

TOPO-BATHYMETRIC

*Zuni, NM	81	35°	108°	1:24,000	20m

REVISED TOPOGRAPHIC MAPS (PHOTOREVISION)

*Prairieview NE	70	79-81	33°7'30"	103°	1:24,000	5
*Ambrosia Lake	57	78-80	35°22'30"	107°45'	1:24,000	20
*Arroyo Cuervo	58	78-80	32°37'30"	107°15'	1:24,000	20, 10
*Blacks Bluffs	61	78-80	33°15'	107°7'30"	1:24,000	20
*Black Hill	61	78-80	33°30'	107°7'30"	1:24,000	20
*Blue Mountain	64	76-81	33°37'30"	107°22'30"	1:24,000	40
*Bluewater	57	78-80	35°15'	107°52'30"	1:24,000	20
*Cerro Alesna	63	78-81	35°22'30"	107°30'	1:24,000	20, 10
*Cerro Pelon	63	78-81	35°15'	107°30'	1:24,000	20
*Ciniza	62	78-80	35°22'30"	108°22'30"	1:24,000	20
*Cuchillo	61	78-80	33°7'30"	107°15'	1:24,000	20
*Dos Lomas	57	78-80	35°15'	107°45'	1:24,000	20
*Elephant Butte	58	78-80	33°7'30"	107°7'30"	1:24,000	20
*Goat Mountain	57	78-80	35°22'30"	107°52'30"	1:24,000	20
*Hickman Ranch	61	78-80	33°37'30"	107°7'30"	1:24,000	20
*Huerfano Hill	61	78-80	33°15'	107°15'	1:24,000	20

New Mexico Energy and Minerals Department

***New Mexico's energy resources '81**—Annual report of the Bureau of Geology in the Mining and Minerals Division of New Mexico Energy and Minerals Department, by E. C. Arnold, J. M. Hill, and others, 1981, 62 p., 41 tables, 22 figs. Annual summary of energy developments in New Mexico; discusses coal, oil, and gas reserves, possible geothermal applications, and production of coal, crude oil, natural gas, and uranium. $4.00

DOE

GJBX-395 (81)—Hydrogeochemical and stream sediment reconnaissance basic data for Fort Sumner quadrangle

GJBX-397 (81)—Hydrogeochemical and stream sediment reconnaissance basic data for Roswell quadrangle, New Mexico

GJBX-412 (81)—NURE aerial gamma-ray and magnetic reconnaissance survey of portions of New Mexico, Arizona, and Texas (vol. 1). Volume 2 consists of the following quadrangles: Texas–New Mexico—El Paso NH 13-1 quadrangle; New Mexico—Roswell NI 13-5 quadrangle; New Mexico—Fort Sumner NI 13-5 quadrangle; New Mexico—Carlsbad NI 13-11 quadrangle; and Arizona—Holbrook NI 12-5 quadrangle.

Open-file reports

NMBMMR

***146**—Geology of the tenth potash ore zone: Permian Salado Formation, Carlsbad district, New Mexico, by R. C. M. Gunn and J. M. Hills, 1981, 46 p. $9.20

***148**—Abandoned or inactive uranium mines in New Mexico, by O. J. Anderson, 1981. (Reports sold by individual counties at individual prices.)

***149**—Hydrocarbon source-rock evaluation study, Cockrell Corp. No. 1 Coyote State well, Grant County, New Mexico, by L. P. Tybor, GeoChem Laboratories, Inc., 1981, 18 p. $3.60

***150**—Facies mosaic of the upper Yates and lower Tansill formations (Upper Permian), Rattlesnake Canyon, Guadalupe Mountains, New Mexico, by A. H. Schwartz, 1981, 163 p. $32.60

***151**—Hydrocarbon source-rock evaluation study, Cockrell Corp. No. 1 Playas State well, Hidalgo County, New Mexico, by L. P. Tybor, GeoChem Laboratories, Inc., 1981, 23 p. $4.60

***152**—Hydrocarbon source-rock evaluation study, Cockrell Corp. No. 1 Pyramid Federal well, Hidalgo County, New Mexico, by L. P. Tybor, GeoChem Laboratories, Inc., 1981, 12 p. $2.40

***153**—Petroleum source rocks in exploration wells drilled to Paleozoic or Mesozoic units, Hidalgo and Grant Counties, New Mexico, by S. Thompson III, 1981, 126 p. New Mexico residents may obtain copies free of charge from the New Mexico Energy Research and Development Information Center, University of New Mexico, Albuquerque. Nonresidents may order copies at $4.50 each from New Mexico Bureau of Mines and Mineral Resources in Socorro.

***154**—Geology and coal resources Pinehaven quadrangle, by D. E. Tabet, 1981, 71 p., 2 maps $16.20

***156**—Hydrocarbon source-rock evaluation study, Petroleos Mexicanos No. 1 Chinos well, Chihuahua, Mexico, by P. J. Cernock and J. A. Haykus, GeoChem Laboratories, Inc., 1979, 21 p. $4.20

***159**—Geology of the northwestern Gallinas Mountains, Socorro County, New Mexico, by Greg C. Coffin, 1982, 214 p., 2 maps $44.80

***160**—Geology and coal resources of the Alamo Band Navajo Reservation, Socorro County, New Mexico, by JoAnne C. Osburn, 1982, 64 p., 2 maps $14.80

***161**—Preliminary evaluation of the mineral resource potential of the Petaca Pinta Wilderness study area, Cibola County, New Mexico, by Mark J. Logsdon, 1982, 30 p. $6.00

USGS

79-0108—Coal resource occurrence and coal development maps of the Lybrook quadrangle, Sandoval, Rio Arriba, and San Juan Counties, New Mexico, by Dames and Moore, 1981, 24 p., 11 over-size sheets, scale 1:24,000

79-0109—Coal resource occurrence and coal development potential maps of the Counselor quadrangle, Sandoval and Rio Arriba Counties, New Mexico, by Dames and Moore, 1981, 16 p., 6 over-size sheets, scale 1:24,000

79-0160—Coal resource occurrence maps of the Arroyo Chijuillita quadrangle, Sandoval County, New Mexico, by Dames and Moore, 1981, 14 p., 3 over-size sheets, scale 1:24,000

79-0608—Coal resource occurrence and coal development potential maps of the Llaves SW quadrangle, Rio Arriba County, New Mexico, by Dames and Moore, 1981, 19 p., 12 over-size sheets, scale 1:24,000

79-0611—Coal resource occurrence and coal development potential maps of the Bloomfield SW quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 21 p., 16 over-size sheets, scale 1:24,000

79-0614—Coal resource occurrence and coal development potential maps of the Gould Pass SW quadrangle, San Juan and Rio Arriba Counties, New Mexico, by Dames and Moore, 1981, 21 p., 17 over-size sheets, scale 1:24,000

79-0616—Coal resource occurrence and coal development potential maps of the Santos Peak quadrangle, Rio Arriba County, New Mexico, by Dames and Moore, 1981, 20 p., 16 over-size sheets, scale 1:24,000

79-0799—Coal resource occurrence and coal development potential maps of the Bloomfield NE quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 23 p., 21 over-size sheets, scale 1:24,000

79-0801—Coal resource occurrence and coal development potential maps of the NE quarter of the Gould Pass 15-min quadrangle, Rio Arriba and San Juan Counties, New Mexico, by Dames and Moore, 1981, 20 p., 16 over-size sheets, scale 1:24,000

79-1113—Coal resource occurrence and coal development potential maps of the Aztec NE quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 19 p., 11 over-size sheets, scale 1:24,000

79-1115—Coal resource occurrence and coal development potential maps of the Farmington North quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 19 p., 12 over-size sheets, scale 1:24,000

79-1118—Coal resource occurrence and coal development potential maps of the Aztec SE quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 23 p., 27 over-size sheets, scale 1:24,000

79-0159—Coal resource occurrence and coal development potential maps of the Taylor Ranch quadrangle, Sandoval County, New Mexico, by Dames and Moore, 1981, 13 p., 3 over-size sheets, scale 1:24,000

79-0609—Coal resource occurrence and coal development potential maps of the Regina quadrangle, Rio Arriba and Sandoval Counties, New Mexico, by Dames and Moore, 1981, 10 p., 2 over-size sheets, scale 1:24,000

79-0622—Coal resource occurrence and coal development potential maps of the Tafoya Canyon quadrangle, Rio Arriba County, New Mexico, by Dames and Moore, 1981, 14 p., 7 over-size sheets, scale 1:24,000

79-0804—Coal resource occurrence and coal development potential maps of the Pillar quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 30 p., 29 over-size sheets, scale 1:24,000

79-0610—Coal resource occurrence and coal development potential maps of the Gallegos Trading Post quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 24 p., 13 over- size sheets, scale 1:24,000

79-0612—Coal resource occurrence and coal development potential maps of the Huerfano Trading Post NW quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 27 p., 16 over-size sheets, scale 1:24,000

79-0613—Coal resource occurrence and coal development potential maps of the Bloomfield SE quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 21 p., 17 over-size sheets, scale 1:24,000

79-0615—Coal resource occurrence and coal development potential maps of the Gould Pass SE quadrangle, Rio Arriba and San Juan Counties, New Mexico, by Dames and Moore, 1981, 19 p., 13 over-size sheets, scale 1:24,000

79-0617—Coal resource occurrence and coal development potential maps of the Huerfano Trading Post quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 18 p., 13 over- size sheets, scale 1:24,000

79-0618—Coal resource occurrence and coal development potential maps of the Nageezi NW quadrangle, San Juan and Rio Arriba Counties, New Mexico, by Dames and Moore, 1981, 21 p., 21 over-size sheets, scale 1:24,000

79-0796—Coal resource occurrence and coal development potential maps of the Farmington South quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 22 p., 13 over-size sheets, scale 1:24,000

79-0797—Coal resource occurrence and coal development potential maps of the Horn Canyon quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 18 p., 12 over-size sheets, scale 1:24,000

79-0800—Coal resource occurrence and coal development potential maps of the Gould Pass NW quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 24 p., 28 over-size sheets, scale 1:24,000

79-1112—Coal resource occurrence and coal development potential maps of the Aztec NW quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 21 p., 20 over-size sheets, scale 1:24,000

79-1116—Coal resource occurrence and coal development potential maps of the Flora Vista quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 18 p., 9 over-size sheets, scale 1:24,000

79-1117—Coal resource occurrence and coal development potential maps of the Aztec SW quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 23 p., 20 over-size sheets, scale 1:24,000

79-1119—Coal resource occurrence and coal development potential maps of the Navajo Dam SW quadrangle, San Juan County, New Mexico, by Dames and Moore, 1981, 24 p., 28 over-size sheets, scale 1:24,000

79-1121—Coal resource occurrence and coal development potential maps of the Nageezi SE quadrangle, Rio Arriba and San Juan Counties, New Mexico, by Dames and Moore, 1981, 18 p., 12 over-size sheets, scale 1:24,000

80-1022—Simulation of an aquifer test on the Tesuque Pueblo Grant, New Mexico, by G. A. Hearne, 1981, 47 p.

80-1023—Mathematical model of the Tesuque aquifer system underlying Pojoaque River basin and vicinity, New Mexico, by G. A. Hearne, 1981, 195 p.

80-1231—Scanning electron micrographs of modern chrysomonad cysts from Castor Pond, Jemez Mountains, New Mexico, by D. P. Adam and P. J. Mehringer, Jr., 1980

80-398—Preliminary geologic map of the Sapello River area, Sangre de Cristo Mountains, Mora and San Miguel Counties, New Mexico, by E. H. Baltz and J. M. O'Neill, 1980

81-242—Stratigraphic sequence measured from Jurassic Todilto Limestone to Cretaceous Dakota Sandstone, west side of San Juan Basin, near Crystal, San Juan County, New Mexico, by V. P. Byers, 1981

80-805—Laboratory, field, and computer flow study of the origin of Colorado Plateau type uranium deposits, by F. G. Ethridge, N. V. Ortiz, D. K. Sunada, and N. Tyler, 1980

81-555—Temperature-depth data for selected deep drill holes in the United States obtained using maximum thermometers, by M. Guffanti and M. Nathenson, 1981

81-161—Fission-track ages of air-fall tuffs in Miocene sedimentary rocks of the Española Basin, Santa Fe County, New Mexico, by G. A. Izett and C. W. Naeser, 1981

80-807—The heliothermic lake—a direct method of collecting and storing solar energy, by D. W. Kirkland, J. P. Bradbury, and W. E. Dean, 1980

80-2014—Time-term solutions and corresponding data for the crustal structure of north-central New Mexico, by J. N. Murdock and L. H. Jaksha, 1980

81-243—Chemical character of minesoils at one Alaskan and twelve western conterminous United States coal strip mines, by R. C. Severson and L. P. Gough, 1981

80-879—Uranium series disequilibrium investigations related to the WIPP site, New Mexico—Part I, A preliminary study of uranium-thorium systematics in dissolution residues at the top of evaporites of the Salado Formation—implications to process and time; Part II, Uranium trend dating of surficial deposits and Gypsum Spring deposit near WIPP site, New Mexico, by B. J. Szabo and W. C. Gottschall (Part I) and J. N. Rosholt and C. R. McKinney (Part II), 1980

80-995—Aeromagnetic map of the Buck Robinson Peak area, Arizona and New Mexico, by U.S. Geological Survey, 1980

80-997—Aeromagnetic map of the Little Dog-Pup Canyon area, New Mexico, by U.S. Geological Survey, 1980

80-1128—Aeromagnetic map of the southern part of the Silver City 1° × 2° quadrangle, Arizona and New Mexico, by U.S. Geological Survey, 1980

81-172—Geophysical log suite from drill holes no. 1 and 2, Mariano Lake-Lake Valley Drilling Project, McKinley County, New Mexico, by U.S. Geological Survey, 1981

81-439—Geophysical log suite from Drill Hole No. 3, Mariano Lake-Lake Valley Drilling Project, McKinley County, New Mexico, by U.S. Geological Survey, 1981

81-88—Aeromagnetic map of an area south of Chama, New Mexico, by U.S. Geological Survey, 1981

80-382—Mineral resources of the Pecos Wilderness and adjacent areas, Santa Fe, San Miguel, Mora, Rio Arriba, and Taos Counties, New Mexico, by U.S. Geological Survey, U.S. Bureau of Mines, and New Mexico Bureau of Mines and Mineral Resources, 1980

81-40—Principal facts for gravity stations and base-station net in the Silver City 1° × 2° quadrangle, Arizona and New Mexico, by J. C. Wynn, 1981

81-0468—Geologic data for borehole ERDA-6, Eddy County, New Mexico, by C. L. Jones, 1981, 60 p., 2 over-size sheets

81-0064—Preliminary appraisal of ephemeral-streamflow characteristics as related to drainage area, active-channel width and soils in northwestern New Mexico, by H. R. Hejl, Jr., 1981, 19 p.

81-0661—Methodology, statistical analysis, and listing of the spectrographic analyses of geochemical samples, Hells Hole further planning area (RARE II), Greenlee County, Arizona, and Grant County, New Mexico, by J. R. Hassemer, K. C. Watts, C. L. Forn, and E. L. Mosier, 1981, 138 p.

81-1077—Preliminary geologic map of the Wheeler Peak-Hondo Canyon area, Taos County, New Mexico, by J. C. Reed, Jr., J. M. Robertson, and P. W. Lipman, 1981, 1 over-size sheet, scale 1:50,000

81-0969—Geophysical log suite from drill hole no. 4, Mariano Lake-Lake Valley drilling project, McKinley County, New Mexico, 1981, 9 p., 8 over-size sheets

81-0970—Geophysical log suite from drill hole no. 5, Mariano Lake-Lake Valley drilling project, McKinley County, New Mexico, 1981, 9 p., 5 over-size sheets

81-0971—Geophysical log suite from drill hole no. 6, Mariano Lake-Lake Valley drilling project, McKinley County, New Mexico, 1981, 8 p., 6 over-size sheets

81-0972—Geophysical log suite from drill hole no. 7, Mariano Lake-Lake Valley drilling project, McKinley County, New Mexico, 1981, 9 p., 4 over-size sheets

81-0973—Geophysical log suite from drill hole no. 7A, Mariano Lake-Lake Valley drilling project, McKinley County, New Mexico, 1981, 13 p., 7 over-size sheets

81-0974—Geophysical log suite from drill hole no. 8, Mariano Lake-Lake Valley drilling project, McKinley County, New Mexico, 1981, 9 p., 1 over-size sheet

81-0975—Geophysical log suite from drill hole no. 9, Mariano Lake-Lake Valley drilling project, McKinley County, New Mexico, 1981, 8 p., 2 over-size sheets

81-0976—Geophysical log suite from drill hole no. 10, Mariano Lake-Lake Valley drilling project, McKinley County, New Mexico, 1981, 8 p., 2 over-size sheets

81-1080—Quartz-pyrite-molybdenite stockwork near South Fork Peak, Taos County, New Mexico, by S. D. Ludington, 1981, 10 p.

82-135—Paleoshores in the Upper Cretaceous Point Lookout Sandstone, southern San Juan Basin, New Mexico, by Robert S. Zech, 1982, 23 p.

Abstracts

RUBIDIUM-STRONTIUM AND RELATED STUDIES OF THE SALADO FORMATION, SOUTHEASTERN NEW MEXICO, by *J. K. Register*, 1981, SAND 81-7072 Sandia National Laboratories, 119 p.

The Salado Formation, a member of the Ochoa Series, is a bedded salt deposit which is found in the Delaware Basin of southeastern New Mexico and west Texas. It is comprised primarily of halite and sylvite with minor amounts of sulfate minerals. Rubidium-strontium age determinations of the evaporite minerals in the Salado indicate an age of final equilibration of 214 ± 15 m.y. This age is fairly consistent with the geologic age of the formation, precluding substantial alkali-alkaline earth migration since deposition. Polyhalite and anhydrite samples from the Salado give $^{87}Sr/^{86}Sr$ values of about .7078, which are consistent with reported values for Permian seawater. The REE and trace element concentrations of the polyhalite and anhydrite samples are very low, reflecting the composition of seawater. Rubidium-strontium age determinations of the clay minerals extracted from the salt suggest a minimum age of 390 ± 77 m.y. This age probably represents the minimum age of the provenance of the clay minerals. The REE and trace element concentrations as well as the mineralogy of the clay minerals indicate a detrital origin for the clay minerals with some clay-brine interaction. Clay minerals seem generally depleted in the light REE (relative to NAS) which most likely were replaced by Ca^{2+} and Na^{+} from the evaporitic brines.

PROBLEMS IN DETERMINATION OF THE WATER CONTENT OF ROCK-SALT SAMPLES AND ITS SIGNIFICANCE IN NUCLEAR-WASTE STORAGE SITING, by *Edwin Roedder and R. L. Bassett,* published in Geology, v. 9, no. 11, p. 525-530 (November 1981)

The in situ water content of rock salt in beds or domes and the exact nature of its occurrence are of considerable importance for the safe design and operation of nuclear-waste storage facilities in salt deposits. Most published determinations of the "water content" of salt are not comparable. Many determinations contain serious, and in part systematic, errors. The multiplicity of water sources in salt samples, the methods of sample selection and preparation, and the analytical methods used are such that some of these results may be low by as much as an order of magnitude. There is no panacea, but most of the sources of error can be minimized.

Geological Society of America

Papers dealing with New Mexico geology presented at annual meetings of the Geological Society of America and associated societies in Cincinnati, Ohio, Nov. 2-5, 1981 are listed below. Abstracts were published in Geological Society of America, Abstracts with Programs 1981, v. 13, no. 7, 600 p. (September 1981)

Orbicular rocks, Sandia Mountains, New Mexico, by Kathleen Affholter, Department of Geological Sciences, Virginia Polytechnic Institute and State University, Blacksburg, VA

Contemporary tectonic boundary of the Basin and Range province and southeastern Colorado Plateau: Jemez lineament, by M. J. Aldrich, Jr., and A. W. Laughlin, Los Alamos National Laboratory, Los Alamos, NM

A Jurassic closed basin in the Morrison Formation, by Thomas E. Bell, Department of Geology and Geophysics, University of California (Berkeley), Berkeley, CA

Regressive sedimentological patterns, Upper Cambrian Bliss Sandstone, Silver City range, southwestern New Mexico, by Henry S. Chafetz and John C. Meredith, Geology Department, University of Houston, Houston, TX, and Gary Kocurek, Geology Department, University of Texas (Austin), Austin, TX

Application of a diffusion-equation model of fault-scarp degradation to Late Quaternary fault scarps in Colorado and New Mexico, by S. M. Colman and M. N. Machette, U.S. Geological Survey, Denver, CO

Origin of the Mariano Lake uranium deposit, McKinley County, New Mexico, by N. S. Tishman, R. L. Reynolds, M. B. Goldhaber, and J. F. Robertson, U.S. Geological Survey, Denver, CO

Gravity analysis of ancestral Rockies in Texas and New Mexico: constraints on Late Paleozoic intra-

plate tectonics, by A. G. Goldstein, Bureau of Economic Geology, University of Texas (Austin), Austin, TX, and G. R. Keller, Department of Geology, University of Texas (El Paso), El Paso, TX

Structure and tectonics of the Pajarito fault zone in the Española Basin of the Rio Grande rift, northern New Mexico, by Matthew Golombek, Department of Geology and Geography, University of Massachusetts, Amherst, MA

Reversals in partitioning of Fe and Mg between coexisting staurolite and chloritoid, by J. A. Grambling, Department of Geology, University of New Mexico, Albuquerque, NM

Observations on the replacements of carbonates by sulfates, by Alonzo D. Jacka, Geosciences Department, Texas Tech University, Lubbock, TX

K/Ar dating of illitic clay in the contact metamorphic zone at Cerrillos, New Mexico, by Mingchou Lee and J. L. Aronson, Department of Geological Sciences, Case Western Reserve University, Cleveland, OH

Aqueous geochemistry in geothermal exploration-application to the Lightning Dock geothermal area, New Mexico, by M. J. Logsdon, New Mexico Bureau of Mines and Mineral Resources, Socorro, NM, and Gary P. Landis, U.S. Geological Survey, Denver, CO

Paleoenvironments in north-central New Mexico during the early and late Eocene, by Spencer G. Lucas and R. M. Schoch, Department of Geology and Geophysics, Yale University, New Haven, CT

Oscillatory zoning in birefringent garnets from metacarbonates, Emory cauldron, southwestern New Mexico, by Peter Maggiore and J. A. Grambling, Department of Geology, University of New Mexico, Albuquerque, NM

Regional implications of carbonatites in the Lemitar Mountains, Socorro County, New Mexico, by V. T. McLemore, New Mexico Bureau of Mines and Mineral Resources, Socorro, NM

Pegmatite emplacement in the Cribbenville area, Petaca district, Rio Arriba County, New Mexico, by Randy Merker, Department of Geology, University of New Mexico, Albuquerque, NM

Genesis of the Hansonburg Mississippi Valley-type mineralization in New Mexico, based upon fluid inclusion and structural interpretations, by B. R. Putnam III, AMAX Exploration, Inc., Salem, MO, and D. I. Norman, Department of Geosciences, New Mexico Institute of Mining and Technology, Socorro, NM

Fission track dating of sandstone-type uranium deposits, by P. E. Rosenberg and R. L. Hooper, Department of Geology, Washington State University, Pullman, WA

Zircons and isotopes in sedimentary basin analysis—a case study of the upper Morrison Formation, southern Colorado Plateau, by Leon T. Silver and Ian Williams, Division of Geological Planetary Sciences, California Institute of Technology, Pasadena, CA

Gas analyses of fluid inclusions from Questa, New Mexico molybdenite deposit, by R. W. Smith and D. I. Norman, Department of Geoscience, New Mexico Institute of Mining and Technology, Socorro, NM

The mineralogy and petrology of villiaumite (NaF) bearing phonolite sills from northeastern New Mexico, by J. C. Stormer, Department of Geology, University of Georgia, Athens, GA □

MINING REGISTRATIONS

(SEPT. 4, 1981 THROUGH DEC. 14, 1981)

State Mine Inspector 2340 Menaul N.E. Albuquerque, NM 87107

Date and operation	Operators and owners	Location
9-4-81 silver, gold	Operator—East Camp, Summit Minerals, Inc., Box W, Duncan, AZ 85534; Gen. Mgr.: D. E. Hanson, same address, phone: 359-2835	Grant Co.; sec. 8, T. 17 S., R. 20 W.; Steeple Rock mining district; private land; 15 mi down Carlisle Road; underground
9-4-81 uranium	Operator—Section 27, Spider-Rock Mining, Box 4047, Ambrosia Lake, NM 87020; Gen. Mgr.: R. W. Stevenson, P.O. Box 3241, Milan, NM, phone: 287-8983; Person in charge: Fred W. Holley, 400 West Cedar, Grants, NM, phone: 876-2314 Owner—United Nuclear Corp.	McKinley Co.; sec. 27, T. 14 N. R. 9 W.; underground; Ambrosia Lake mining district; private land; north on NM-53, 1 mi north to United Nuclear Corp. mill
9-4-81 uranium	Operator—Nose Rock #1, Phillips Uranium Corp., P.O. Box J, Crownpoint, NM 87313; Gen. Supt.: Von Maynard, same address, phone: 786-5861; Resident Operations Mgr.: Daryl Bunch, same address and phone; Person in charge: Von Maynard Owner—Phillips Uranium Corp., same address	McKinley Co.; sec. 31, T. 19 N., R. 11 W.; underground, inactive; Gallup mining district; private land; 12 mi northeast of Crownpoint, NM, off Navajo highway 9.
9-17-81 silver, copper	Operator—St. Cloud, St. Cloud Mining Co., P.O. Box 11398, Albuquerque, NM 87192; Gen. Mgr.: Patrick S. Freeman; Gen. Supt.: Ray Nations, 1715 Morningrise SE, Albuquerque, NM, phone: 268-3495; Person in charge: Patrick S. Freeman; Other official: James Sottile III Owner—Goldfield Corp., 65 NASA Blvd., Melbourne, FL 32901	Sierra Co.; sec. 30, T. 11 S., R. 8 W.; Chloride mining district; private and state land; underground; 3 mi southwest of Chloride, NM
9-17-81 molybdenum	Operator—Molycorp, Inc., C. Neel Const. Services, Inc., P.O. Box 765, Questa, NM; Gen. Mgr.: James Meyer, 4011 Hannett NE, Albuquerque, NM, phone: 265-0318; Other officials: Michele Worm, Pres., P.O. Box 6754, Albuquerque, NM; James P. Meyer, Jr., Vice-president, P.O. Box 765, Questa, NM Owner—Michele Worm, same address as above	Taos Co.; sec. 36, T. 29 N., R. 13 E.; Red River mining district; private land; 8 mi east of Questa on NM-38; construction, mill.
9-28-81 coal	Operator—Lee Ranch mine, SF Coal Corporation, P.O. Box 3588, Albuquerque, NM 87190; Gen. Mgr.: A. L. Smith, Vice-president, Coal Operations, phone: 262-2211, 4801 Indian School Rd. NE, Ste. 200, Albuquerque, NM 87110; Other official: R. T. Zitting, President, P.O. Box 3588, Albuquerque, NM 87190 Owner—SF Coal Corp.	McKinley Co.; surface; see letter with registration for sections and township; private and state land; 10 mi north of San Mateo, NM, via state, forest service, and private roads
9-28-81 gold, silver	Operator—Gold King Imperial, Queenstake Oakcreek Mining, Box 162, Duncan, AZ 85534; Person in charge: Leslie H. Billingsley, Rt. 1, Box 9, Duncan, AZ, 85534, phone: (602) 359-2783; Gen. Mgr.: Terry C. Tipton, P.O. Box 162, Duncan, AZ 85534, phone: (602) 359-2262; Gen. Supt.: Leslie H. Billingsley; Other official: Donald Todd, Foreman at mine, Duncan, AZ Owner—Queenstake Oakcreek Mining is leasing property from Grant County Mining, c/o Gordon Utter, 32019 East Interstate 10, Redlands, CA 92373	Grant Co.; sec. 23, T. 17 S., R. 21 W.; underground; Steeple Rock mining district; private land; from the town of Duncan, 10 mi northeast on the old Carlisle Road
9-28-81 gold, silver	Operator—Mina Amigos Mining Co. mine, Mina Amigos Mining Co., Box 206, Truth or Consequences, NM 87901; Gen. Mgr.: Ira Holliday, same address, phone: 744-5613; Person in charge: Ralph Wilderson, W. Gale St., Lordsburg, NM, phone: 542-3290; Gen. Supt.: Ralph Wilderson, same address and phone Owner—Doug Hanson, Duncan, AZ	Grant Co.; sec. 31, T. 21 S., R. 16 W.; Gold Hill mining district; federal land; 40 mi south of Silver City, NM, on NM-90 turn east at the W. D. Ranch Road and proceed 6 mi to the mine
9-28-81 uranium	Operator—NJ 45 mine, Teton Exploration Drilling Co., P.O. Drawer A-1, Casper, WY 82602; Gen. Mgr.: Victor Magnus, same address, phone: (307) 265-4102; Person in charge: Jack Freeland, 1510 Berryhill, Milan, NM, phone: 287-4221; Gen. Supt.: Duane Roe, P.O. Drawer A-1, Casper, WY, phone: (307) 265-4102 Owner—Anaconda Co., P.O. Box 638, Grants, NM 87020	Cibola Co.; sec. 35, T. 11 N., R. 5 W.; surface, vent hole; Grants mineral belt mining district; private property; 7 mi north of Old Laguna on NM-279
10-21-81	Operator—St. Cloud, Todilto Explor. & Devel. Corp., 3810 Academy Parkway St. NE, Albuquerque, NM 87109; Gen. Mgr. Contractor: George Warnock, same address, phone: 345-8391; Persons in charge: Ron Ingimundson and Richard Johnson, same address and phone; Gen. Supt.: George Warnock; Other officials: Leila Rodgers, Admin. Supt., same address and phone Owner—St. Cloud Mining Co., P.O. Box 11398, Albuquerque, NM 87192	Sierra Co.; sec. 30, T. 11 S., R. 8 W.; Chloride mining district; works—1500 decline; NM-52 to Winston, then 8 mi up Chloride Creek to mine
10-21-81 leonardite	Operator—Black Diamond Project, Farris Mines, Inc., Box 687, Grants, NM 87020; Gen. Mgr.: Jerry F. Farris, same address, phone: 287-4858; Person in charge: Obie Hall, Sage Motel, Farmington, NM Owner—Mid-Continent, contracting under NL Baroid, who has an agreement with Mid-Continent	San Juan Co.; sec. 28, T. 32 N., R. 13 W.; works—strip-open pit; private property; NM-17 north of Farmington, NM, turn left at 16 mi marker, go approximately 2½ mi to site

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Date and operation	Operators and owners	Location
11-13-81 coal	Operator—Burnham mine, Consolidation Coal Co., 3535 E. 30th St., Farmington, NM 87401; Gen. Mgr.: Mike Thurman, same address, phone: 327-6333 Property owner—Navajo Nation, Window Rock, AZ 86515	San Juan Co.; sec. 25, T. 25 N., R. 16 W. type: sub-bituminous; surface; private land belonging to the Navajo Nation; southwest of Farmington, NM, near Burnham Chapter house
11-23-81 coal	Operator—Arroyo No. 1 (ID 2901820), Energy Constructors, Inc., P.O. Box 30025, Sta. D, Albuquerque, NM 87110; Gen. Mgr.: Jack A. Lawrence, same address, phone: 247-1062; Person in charge: Dick Rowan (Energy Constructors), same address and phone; Gen. Supt.: Ed Murzyn, same address and phone Property owner—Page Mill Energy Corp., same address and phone	Sandoval Co.; sec. 16, T. 17 N., R. 2 W.; strip; state land; 42 mi out NM-44, turn left, back to town of San Luis
12-14-81 uranium	Operator—Northeast Churchrock, Teton Exploration Drilling Co., P.O. Drawer A-1, Casper, WY 82603; Gen. Mgr.: Victor Magnus, same address, phone: (307) 265-4102; Person in charge: Joe Pendergast, (DUR 2000) P.O. Box 2125, Milan, NM, phone: 287-4221; Gen. Supt.: Kerry Roe, P.O. Drawer A-1, Casper, WY, phone: (307) 265-4102 Property owner—United Nuclear Corp., P.O. Drawer QQ, Gallup, NM 87301	McKinley Co.; sec. 17, T. 16 N., R. 16 W.; Grants mining district; uranium; type—surface; works—vent hole; private land; from Grants, west on I-40 to McGaffey exit, service road west approx. 5 mi, turn right on CR hwy to end of road

(TO BE CONTINUED NEXT ISSUE)

Oil and gas wells drilled

(*continued from p. 19*)

Kinney, E. E., 1967, The oil and gas fields of southeastern New Mexico: Roswell Geological Society, 1967 symposium supplement, 195 p.

Meyer, R. F., 1966, Geology of Pennsylvanian and Wolfcampian rocks in southeast New Mexico: New Mexico Bureau of Mines and Mineral Resources, Mem. 17, 123 p.

Molenaar, C. M., 1977, Stratigraphy and depositional history of Upper Cretaceous rocks of the San Juan Basin area, New Mexico and Colorado, with a note on economic resources: New Mexico Geological Society, Guidebook 28th field conference, p. 159-166

Oil and Gas Journal, 1981, Permian Basin CO_2 targets pinpointed: Oil and Gas Journal, v. 79, no. 47, p. 185-186

Roberts, J. W., Barnes, J. J., and Wacker, H. J., 1976, Subsurface Paleozoic stratigraphy of the northeastern New Mexico basin and arch complex: New Mexico Geological Society, Guidebook 27th field conference, p. 141-152

Speer, W. R., 1976, Oil and gas exploration in the Raton Basin: New Mexico Geological Society, Guidebook 27th field conference, p. 217-226

Thompson, Sam, III, Tovar R., J. C., and Conley, J. N., 1978, Oil and gas exploration wells in the Pedregosa Basin: New Mexico Geological Society, Guidebook 29th field conference, p. 331-342

Wheatley, R., 1981, 'Tight' designation sparks Abo play: Oil and Gas Journal, v. 79, no. 25, p. 26-27 □

New USGS publication

Bulletin 1535. GEOLOGIC NAMES OF THE UNITED STATES THROUGH 1975, by R. W. Swanson, M. L. Hubert, G. W. Luttrell, and V. M. Jussen, 1981, 643 p. $9.00

This report lists most of the rock-stratigraphic names in published use in the United States through 1975 and the major elements necessary for their definition. The report was prepared primarily from U.S. Geological Survey lexicons published in 1938, 1957, 1966, 1970, and 1981, from library research, and from data in the files of the Survey's Geologic Names Committee. It also incorporates information supplied by State geologists.

The information is maintained in the computer of the U.S. Geological Survey in Reston (Virginia), Denver (Colorado), and Menlo Park (California). In the interests of usability the published list is necessarily selective. Informal names have been omitted until given formal status. Names used in charts, figures, map explanations, tables, abstracts, or in text without proper description must be considered informal.

Aeromagnetic maps

(*continued from p. 27*)

357 GP-357—Central part of San Miguel County, 1963

424 GP-424—Aeromagnetic and geologic map of part of the Silver City mining region, Grant County, New Mexico, by W. R. Jones, J. E. Case, and W. P. Pratt, scale 1:63,360, 1974

462 GP-462—Natural gamma aeroradioactivity of the Gnome (Carlsbad) area, New Mexico and Texas, by J. A. MacKallor, scale 1:250,000, 1964

838 GP-838—Aeromagnetic map of the Morenci-Monticello area, southeastern Arizona and southwestern New Mexico, scale 1:250,000, 1972

861 GP-861—Aeromagnetic map of the Carlsbad area, New Mexico and Texas, scale 1:250,000, 1973

Map inspection locations

1. U.S. Geological Survey Library, Rm. 4-A-100, 12201 Sunrise Valley Dr., Reston, VA 22092
2. U.S. Geological Survey Library, 1526 Cole Blvd. at W. Colfax Ave., Golden, CO (mail address: Stop 914, Box 25046, Federal Center, Denver, CO 80225)
3. U.S. Geological Survey Library, 345 Middlefield Rd., Menlo Park, CA 94025
4. P.I.O., Rm. 169, Federal Building, 1961 Stout St., Denver, CO 80294
5. P.I.O., Rm. 7638, Federal Building, 300 N. Los Angeles St., Los Angeles, CA 90012
6. P.I.O., Rm. 504, Custom House, 555 Battery St., San Francisco, CA 94111
7. P.I.O., Rm. 1C45, Federal Building, 1100 Commerce St., Dallas, TX 75242
8. P.I.O., Rm. 8105, Federal Building, 125 S. State St., Salt Lake City, UT 84138
9. U.S. Geological Survey, 505 Marquette, NW, Albuquerque, NM 87125
10. New Mexico Bureau of Mines and Mineral Resources, Campus Station, Socorro, NM 87801
11. Arizona Bureau of Geology and Mining Technology, 845 N. Park Ave., Tucson, AZ 85719
12. Nevada Bureau of Mines and Geology, University of Nevada, Reno, NV 89507 □

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