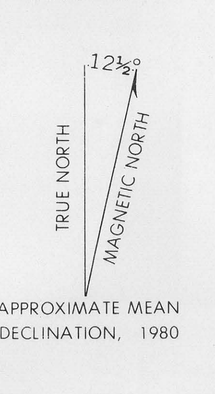
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

MISCELLANEOUS FIELD STUDIES
MAP MF-1162-H

42′30″
111°15′

Base from U.S. Geological Survey 1:62,500, McFadden Peak, Rockinstraw Mountain, 1949; 1:24,000, Picture Mountain, Copper Mountai Greenback Creek, Armer Mountain, Theodore Roosevelt Dam, Windy Hill, 1964



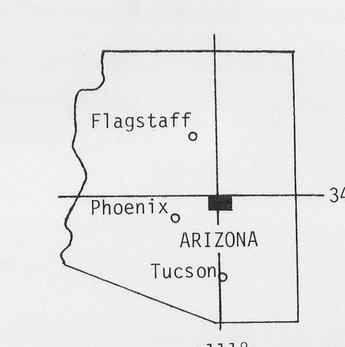
APPROXIMATE MEAN DECLINATION, 1980

SCALE 1:48 000

1 ½ 0 1 2 3 Miles

1000 500 0 1000 2000 3000 4000 Meters

CONTOUR INTERVAL 200 FEET
DATUM IS MEAN SEA LEVEL



Map showing area of report

Studies Related to Wilderness

The Wilderness Act (Public Law 88-577, September 3, 1964) and related Acts, require the Geological Survey and the Bureau of Mines to survey certain areas on Federal lands to determine their mineral resource potential. Results must be made available to the public and be submitted to the Administration and the Congress. These maps and reports present the results of a geologic and mineral survey of the Sierra Ancha Wilderness and Salome Study Area, Gila County, Arizona.

MINERAL RESOURCE POTENTIAL

In 1978 the U.S. Geological Survey and the U.S. Bureau of Mines conducted field investigations to evaluate the mineral resource potential of the Sierra Ancha Wilderness and Salome Study Area. Field studies included geologic mapping, geochemical sampling, geophysical surveys, and a survey of known mines, prospects, and mineralized zones.

High to moderate potential exists for deposits of uranium and asbestos within the Sierra Ancha Wilderness, and there is moderate to low potential for deposits of fluorspar and iron within the Wilderness. The Salome Study Area has very little or no mineral potential. Gravity and geochemical data suggest some potential for tin, tungsten, molybdenum, and barite mineralization in areas adjacent to and partly within the Wilderness and the Salome Study Area.

Uranium.--Uranium occurs principally in small vein deposits and in stratabound zones associated with veins in carbonaceous, potassium-rich siltstone of the lower part of the upper member of the Dripping Spring Quartzite. These deposits are thought to have formed during emplacement of diabase sills and dikes in the Precambrian stratigraphic section about 1,200 m.y. ago.

Most of the eastern two-thirds of the mapped area, including the Wilderness, contains the carbonaceous host rocks favorable for uranium deposits in the Sierra Ancha. In addition, diabase sills and dikes that are associated with uranium ore genesis are nearly everywhere present in the sedimentary section in this area. Small vein deposits may occur anywhere in the Wilderness and surrounding area in the carbonaceous host rocks. Most of the potential for uranium in the Sierra Ancha is in low-grade stratabound deposits associated with larger vein systems. Such deposits are likely to range in grade from 0.01 to 0.30 percent U_3O_8 and in size from 0.1 to 2.0 million pounds of U_3O_8. Geologic factors suggest that only a few areas are likely to have large deposits.

The areas of uranium potential are outlined on the map and are numbered in decreasing order of favorability:

Uranium area	Resource potential	Criteria used to define areas
U1	High	(a) Presence of upper member of Dripping Spring Quartzite (b) Extensive carbonaceous siltstone (c) Above diabase sill (d) Numerous uranium deposits with significant amount of stratabound uranium mineralization (e) Contact metamorphic effects and differentiated diabase (f) Aeroradiometric anomalies
U2	High	(a) Presence of upper member of Dripping Spring Quartzite (b) Extensive carbonaceous siltstone (c) Above diabase sill (d) Known uranium deposits (e) Minor occurrences of differentiated diabase (f) Anomalously high amount of radon in water
U3, U4	Moderate	(a) Presence of upper member of Dripping Spring Quartzite (b) Extensive carbonaceous siltstone (c) Numerous diabase sills, dikes and probably feeder dikes (d) Known uranium deposits and occurrences (e) Anomalously high amounts of radon and uranium in water (f) Aeroradiometric anomalies
U5	Moderate	(a) Presence of upper member of Dripping Spring Quartzite (b) Extensive carbonaceous siltstone (c) Above diabase sill (d) Known uranium deposits (e) Aeroradiometric anomalies
U6, U7, U8	Low	(a) Presence of upper member of Dripping Spring Quartzite (b) Extensive carbonaceous siltstone (c) Minor diabase sills near carbonaceous siltstone (d) Known uranium occurrences
U9	Low	(a) Presence of upper member of Dripping Spring Quartzite (b) Known uranium deposits (c) Anomalously high amounts of uranium in stream sediment (d) Aeroradiometric anomalies

Iron.--Iron deposits of two origins occur in the Mescal Limestone. Hematite concentrations that accumulated in the dolomitic algal member during laterization of the basalt that locally lies above the Mescal were partially to completely altered to magnetite during intrusion of the diabase. Elsewhere, thin beds and stockworks of magnetite formed by pyrometasomatic replacement of carbonate rock.

Areas of iron potential are outlined on the map and are discussed in decreasing order of favorability:

Iron area	Resource potential	Criteria used to define areas
I1	Moderate	(a) Presence of Mescal Limestone (b) Proximity of diabase sill (c) Known iron deposits (d) Exploration data from drilling and trenching (e) Aeromagnetic anomaly
I2	Low	(a) Presence of Mescal Limestone (b) Proximity of diabase sill (c) Known iron deposits (d) Exploration data (e) Aeromagnetic anomaly
I3, I4, I5	Low	(a) Presence of Mescal Limestone (b) Proximity of diabase sill (c) Aeromagnetic anomaly

Fluorspar.--Fluorspar occurs west of the Wilderness in a 1-mi-long zone along the east-trending McFadden fault. Substantial production and reserves have been developed in this area. Fluorspar has been prospected in faults in the western part of the Salome Study Area and has been observed elsewhere in stream-sediment samples from drainages crossing faults.

Areas of fluorspar potential are outlined on the map and are discussed in decreasing order of favorability:

Fluorspar area	Resource potential	Criteria used to define area
MR-1	High (west of Globe-Young highway) Moderate (east of Globe-Young highway)	(a) McFadden fault (b) Known fluorspar deposits (c) Exploration data from drilling (d) Geochemical anomalies
MR-2	Moderate	(a) Presence of faults (b) Known fluorspar deposits (c) Geochemical anomalies
MR-3, MR-4	Low	(a) Presence of faults (b) Geochemical anomalies

Copper.--Minor occurrences of copper have been reported from the Mack No. 8 claim (table 1, no. 6) and from upper Workman Creek in sec. 32, T. 6 N., R. 14 E., approximately 1 mi west of the Wilderness (Woodie Nichols, oral commun., 1979). Copper staining occurs locally in basalt above the Mescal Limestone and is especially evident in Pueblo Canyon within the Wilderness. These occurrences all have low potential for copper resources.

Sand and gravel.--The Sierra Ancha Wilderness and Salome Study Area contain large quantities of stone suitable for crushed rock and extensive deposits of sand and gravel. However, similar and larger deposits outside the area are more readily available and closer to existing markets.

Other resources.--Chemical and mineralogical analyses of the nonmagnetic fraction of heavy-mineral concentrates indicate additional areas of mineral potential. The geochemical data are shown on maps by Tripp and others (1980) and Barton and others (1980). Anomalous areas with their character and possible significance are outlined on the map and are summarized below:

Resource area	Significance	Evidence for resources
MR-2	Known fluorspar vein deposits in Tertiary(?) faults. Geochemical anomalies suggest mineralization possibly related to a buried pluton.	Samples contain fluorite, minium (lead oxide), galena, and scheelite. Analyses show high contents of tungsten, molybdenum, barium, lead, and bismuth.
MR-3	Probable vein-type mineralization along faults.	Samples contain scheelite, fluorite, and minium. Analyses show high contents of tungsten, barium, lead, and silver.
MR-4	Assemblage strongly suggests mineralization is related to nearby alkalic or silicic granitic pluton in drainage basins sampled.	Samples contain fluorite, scheelite, and galena. Analyses show high contents of tin, tungsten, molybdenum, lead, uranium, and thorium.
MR-5	Assemblage suggests mineralization possibly related to a buried alkalic or silicic granitic pluton.	Samples from a few drainages contain abundant fluorite and scheelite. Analyses show high contents of tungsten and bismuth; one shows high boron content.
MR-6	Mineralization may occur with asbestos mineralization in metamorphosed Mescal Limestone.	Analyses show very high contents of barium and above average contents of lead and molybdenum.
MR-7	Base-metal assemblage from unknown source in drainage basin.	Samples contain chalcopyrite and minium. Analyses show high contents of copper, lead, and zinc.
MR-8	Assemblage shows affinities to both base-metal deposits and mineralized granitic rocks. Indicative of mineralization along extension of McFadden fault or in parallel faults.	Samples contain minium. Analyses show high contents of lead and locally high contents of zinc, barium, tin, boron, and bismuth.
MR-9	Occurrence of uranium here suggests source unrelated to upper member of Dripping Spring Quartzite.	Analyses show high contents of uranium in water and unconcentrated stream sediments.

Asbestos.--Asbestos deposits occur in the cherty dolomitic member of the Mescal Limestone where the formation has been subjected to karst formation and silicification prior to deposition of the Troy Quartzite and then metamorphosed during intrusion of diabase. Zones of serpentine containing veins of long-staple, low-iron chrysotile asbestos developed essentially parallel to bedding where small-scale thrust and bedding-plane faults produced abundant fractures. Such faults are most prominent near small domes and monoclines, at discordant steps in a sill boundary, and adjacent to dikes. Typical asbestos deposits are small, flat lying, elliptical in plan, and elongated parallel to structure. Larger deposits occur where several folds related to diabase intrusion are closely spaced.

The areas of asbestos potential are outlined on the map and are discussed in decreasing order of favorability:

Asbestos area	Resource potential	Criteria used to define areas
A1	High	(a) Presence of cherty dolomitic member of Mescal Limestone (b) Proximity of diabase sill (c) Known asbestos deposits (d) Contact metamorphic effects (e) Favorable geometric relationship between host rocks and sill (f) Aeromagnetic anomaly
A2	Moderate	(a) Presence of cherty dolomitic member of Mescal Limestone (b) Proximity of diabase sill (c) Known asbestos deposit (d) Contact metamorphic effects (e) Aeromagnetic anomaly
A3	Low	(a) Presence of cherty dolomitic member of Mescal Limestone (b) Proximity of diabase sill (c) Known asbestos deposits (d) Contact metamorphic effects
A4, A5, A6, A7, A8, A9, A10, A11	Low	(a) Presence of cherty dolomitic member of Mescal Limestone (b) Proximity of diabase sill (c) Known asbestos deposits (d) Contact metamorphic effects

CORRELATION OF MAP UNITS

Qal, Qoa, Qls, Qt, Qp — QUATERNARY
Unconformity
Tg
Unconformity
Tt — Miocene — TERTIARY
Unconformity
Me — MISSISSIPPIAN
Unconformity
Dm — DEVONIAN
Unconformity
Ꞓs — CAMBRIAN(?)
Unconformity
Ydb
Yt
Unconformity
Ymu
Yml
Unconformity
Ydu
Ydl
Unconformity
Yp
Nonconformity
Yr
(Ymu through Yp: Apache Group) — PROTEROZOIC Y

DESCRIPTION OF MAP UNITS

Qal	ALLUVIUM
Qls	LANDSLIDE DEPOSITS
Qoa	OLDER ALLUVIUM
Qt	TERRACE DEPOSITS
Qp	PEDIMENT GRAVEL
Tg	GRAVEL
Tt	TUFF
Me	ESCABROSA LIMESTONE
Dm	MARTIN FORMATION
Ꞓs	SANDSTONE
Ydb	DIABASE
	APACHE GROUP--Includes (descending) Mescal Limestone, Dripping Spring Quartzite, and Pioneer Formation
Yt	TROY QUARTZITE
	MESCAL LIMESTONE
Ymu	Upper part--Includes dolomitic algal member and overlying argillitic member; see text
Yml	Lower part--Same as cherty dolomitic member; see text
	DRIPPING SPRING QUARTZITE
Ydu	Upper part--Same as siltstone member; see text
Ydl	Lower part--Includes Barnes Conglomerate Member and overlying middle arkose member; see text
Yp	PIONEER FORMATION
Yr	RUIN GRANITE

Fault, dashed where approximately located or inferred; dotted where concealed; bar and ball on downthrown side; arrow in direction of dip

Contact, dashed where approximately located, dotted where concealed

Monocline, showing trace and plunge of axis

Strike and dip of beds
- Inclined
- Vertical
- Horizontal
- Overturned

Strike and dip of joints
- Inclined
- Vertical

Fault breccia

Mineral deposit--numbers refer to table 1

Boundaries of Sierra Ancha Wilderness, Salome Study Area, and RARE II areas designated Nonwilderness (NW)

Boundaries of areas with identified mineral-resource potential--Numbers are keyed to descriptions in the section entitled "Mineral-resource potential" (above)
- Uranium (U)
- Asbestos (A)
- Iron (I)
- Fluorspar and other resources (MR)--Hachures on mineralized side of line

TABLE 1. MINERAL DEPOSITS AND OCCURRENCES IN AND AROUND THE SIERRA ANCHA WILDERNESS

Deposit number	Name	Location	Commodities[1]	Type of deposit[2]	Development category[3]	Brief description[4]	References cited[5]
1	Brushy Basin Trap	NW1/4 sec. 27, T. 7 N., R. 14 E.	U	Hydrothermal with secondary supergene enrichment.	P/I	Minor concentrations of low-grade uranium along poorly developed fractures in the black facies of the Dripping Spring Quartzite.	Granger and Raup, 1969b
2	Navajo	NW1/4 sec. 27, T. 7 N., R. 14 E.	U	do.	P/I	Minor concentrations of low-grade uranium along poorly developed fractures in the black facies of the Dripping Spring Quartzite.	Do.
3	Major Hoople	do.	U	do.	P/I	Low-grade uranium concentrated along well-defined fractures in the black facies of the Dripping Spring Quartzite.	Do.
4	Andy Gump	NE1/4 sec. 34, T. 7 N., R. 14 E.	U	do.	P/A	Low- to high-grade uranium concentrated along well-developed fractures in the black facies of the Dripping Spring Quartzite.	Schwartz, 1957; Granger and Raup, 1969a, b
5	Mack	SW1/4 sec. 36, T. 7 N., R. 13 E.	F	Hydrothermal	M/A	Fluorspar vein 1 to 12 ft wide intruding Dripping Spring Quartzite. Produced approximately 30,000 tons averaging 60-90 percent CaF_2 in 1976-78. Reserves of 300,000 tons determined by drilling.	Victor Randolph, Western Fluorspar Ltd., oral commun. 1978
6	Mack No. 8	SE1/4 sec. 1, T. 6 N., R. 13 E.	Cu	do.	P/A	Anomalous copper concentration along intrusive contact between diabase and Dripping Spring Quartzite.	
7	Sorrel Horse--Big Six	NW1/4 sec. 4, T. 6 N., R. 14 E.	U	Hydrothermal with secondary supergene enrichment.	P/I	Low- to moderate-grade uranium concentrated along well-defined fractures in the black facies of the Dripping Spring Quartzite.	Granger and Raup, 1969b
8	Sorrel Horse--Big Six	SW1/4 sec. 4, T. 6 N., R. 14 E.	U	do.	P/I	Low-grade uranium concentrated along well-defined fractures in the black facies of the Dripping Spring Quartzite.	Do.
9	Black Brush	SE1/4 sec. 4 and NE1/4 sec. 9, T. 6 N., R. 14 E.	U	do.	M/I P/A	Low- to high-grade uranium concentrated along well-defined fractures and along bedding planes in the black facies of the Dripping Spring Quartzite. Produced 11 tons averaging 0.07 percent uranium and 8 tons averaging 0.11 percent uranium in 1955-56.	Sharp, 1956; Schwartz, 1957; Williams, 1957; Granger and Raup, 1959, 1969a, b
10	Gold Creek	NE1/4 sec. 10, T. 6 N., R. 14 E.	Ag, Cu	Hydrothermal	P/I	Anomalous silver and copper in shear zone in lower Dripping Spring Quartzite.	Travis Ellison, oral commun., 1978
11	Horseshoe	NE1/4 sec. 10, T. 6 N., R. 14 E.	U	Hydrothermal with secondary supergene enrichment.	M/I	Low- to high-grade uranium in discontinuous concentrations along a small thrust fault in the black facies of the Dripping Spring Quartzite. Produced 14 tons averaging 0.09 percent uranium in 1956.	Schwartz, 1957; Granger and Raup, 1969a, b
12	Folks	SW1/4 sec. 10, T. 6 N., R. 14 E.	Asbestos	Contact metasomatic	P/I	Minor chrysotile asbestos in serpentinized Mescal Limestone.	Lee Folks, Young, Ariz., oral commun., 1978
13	Gold Creek	SE1/4 sec. 10, T. 6 N., R. 14 E.	Ag, Cu	Hydrothermal	P/I	Anomalous silver and copper in shear zone in lower part of Dripping Spring Quartzite.	Travis Ellison, oral commun., 1978
14	Quartzite	NW1/4 sec. 12, T. 6 N., R. 14 E.	U	Hydrothermal with secondary supergene enrichment.	P/I	Low-grade uranium locally concentrated along poorly defined fractures in the black facies of the Dripping Spring Quartzite.	Granger and Raup, 1969b
15	Rosa	S1/2 sec. 7, NE1/4 sec. 18, NW1/4 sec. 17, T. 6 N., R. 14 E.	Asbestos	Contact metasomatic	M/I	Minor chrysotile asbestos in serpentinized Mescal Limestone.	Stewart, 1956
16	Lucky Strike and Metate	S1/2 sec. 15, T. 6 N., R. 14 E.	Asbestos Fe	do.	M/I P/A	Abundant chrysotile asbestos in serpentinized Mescal Limestone. Magnetite and hematite locally replacing Mescal Limestone.	Stewart, 1955; Harrer, 1964
17	Pueblo	NE1/4 sec. 22, T. 6 N., R. 14 E.	Asbestos	do.	M/I P/A	Abundant chrysotile asbestos in serpentinized Mescal Limestone.	Stewart, 1955
18	Bonnie	NW1/4 sec. 14, T. 6 N., R. 14 E.	U	Hydrothermal with secondary supergene enrichment.	P/I	Minor concentrations of low-grade uranium along poorly defined fractures and bedding planes in the black facies of the Dripping Spring Quartzite.	
19	Betsy Ross no. 68	SE1/4 sec. 14, T. 6 N., R. 14 E.	U	Enrichment by meteoric waters along fractures.	P/I	Minor radioactive anomaly along fracture in lower part of Dripping Spring Quartzite.	
20	Circle Ranch	SW1/4 sec. 18, T. 6 N., R. 14 E.	Fe	Contact metasomatic	0	Magnetite and hematite locally replacing Mescal Limestone.	Harrer, 1964
21	Suckerite	SW1/4 sec. 24, T. 6 N., R. 13 E.	U	Hydrothermal with secondary supergene enrichment.	M/I	Moderate- to high-grade uranium concentrated along fractures in the black facies of the Dripping Spring Quartzite. Produced 2,603 tons averaging 0.23 percent uranium in 1956-57.	Schwartz, 1957; Granger and Raup 1959, 1969a, b
22	Pine Ridge	SW1/4 sec. 24, T. 6 N., R. 13 E.	Fe	Contact metasomatic	P/I	Magnetite locally replacing Mescal Limestone.	Harrer, 1964
23	Little Joe	C. sec. 19, T. 6 N., R. 14 E.	U	Hydrothermal with secondary supergene enrichment.	M/I P/A	Moderate- to high-grade uranium concentrated along fractures in the black facies of the Dripping Spring Quartzite. Produced 2,703 tons averaging 0.20 percent uranium in 1956-60.	Schwartz, 1957; Granger and Raup 1959, 1969a, b
24	Workman	SE1/4 sec. 19, T. 6 N., R. 14 E.	U	do.	M/I P/A	Low- to moderate-grade uranium concentrated in fractures in the black facies of the Dripping Spring quartzite. Produced 93 tons averaging 0.07 percent uranium, and 165 tons averaging 0.13 percent uranium in 1955-56.	Schwartz, 1957; Williams, 1957; Granger and Raup, 1959, 1969a, b
25	Circle Ranch	S1/2 sec. 21, T. 6 N., R. 14 E.	Fe	Contact metasomatic	0	Magnetite and hematite locally replacing Mescal Limestone.	Harrer, 1964
26	Reynolds Falls	SW1/4 sec. 21, T. 6 N., R. 14 E.	Asbestos	do.	M/I	Abundant chrysotile asbestos along bedding planes in serpentinized Mescal Limestone. Produced approximately 300 tons of fiber in 1924-52.	Wilson, 1928; Stewart and Haury, 1947; Stewart, 1955
27	Hope	NE1/4 sec. 30, T. 6 N., R. 14 E.	U	Hydrothermal with secondary supergene enrichment.	M/I P/A	Moderate- to high-grade uranium concentrated along fractures and bedding planes in the black facies of the Dripping Spring Quartzite. Produced 9,050 tons averaging 0.30 percent uranium in 1955-60.	Schwartz, 1957; Williams, 1957; Granger and Raup, 1959, 1969a, b
28	Lucky Stop	NW1/4 sec. 30, T. 6 N., R. 14 E.	U	do.	M/I P/A	Low- to moderate-grade uranium concentrated along fractures in the black facies of the Dripping Spring Quartzite. Produced 259 tons averaging 0.07 percent uranium, and 2,588 tons averaging 0.16 percent uranium in 1955-57.	Do.
29	Lost Dog	C. sec. 30, T. 6 N., R. 14 E.	U	do.	M/I P/A	Low- to moderate-grade uranium concentrated along fractures in the black facies of the Dripping Spring Quartzite. Produced 522 tons averagins 0.07 percent uranium and 1,040 tons averaging 0.17 percent uranium in 1954-56.	Schwartz, 1957; Granger and Raup, 1959, 1969a, b
30	Jon	SW1/4 sec. 29, T. 6 N., R. 14 E.	U	do.	M/I P/A	Low- to moderate-grade uranium concentrated along fractures in the black facies of the Dripping Spring Quartzite. Produced 49 tons averaging 0.09 percent uranium and 157 tons averaging 0.10 percent uranium in 1956.	Do.
31	Baker and Carr Mountains	Sec. 29, T. 6 N., R. 14 E.	Iron	Contact metasomatic	0	Magnetite and hematite locally replacing Mescal Limestone.	Harrer, 1964
32	Ancient (Cliff Spring)	NW1/4 sec. 26, T. 6 N., R. 14 E.	U	Hydrothermal with secondary supergene enrichment.	P/I	Minor uranium and copper staining in fractures and along bedding planes in an argillite member of the upper Mescal Limestone.	
33	Grindstone	NW1/4 sec. 25, T. 6 N., R. 14 E.	U	Enrichment by meteoric waters along fractures.	P/I	Minor radiometric anomalies in fractures in the black facies of the Dripping Spring Quartzite.	Granger and Raup, 1969b
34	Big Buck	SW1/4 sec. 25, T. 6 N., R. 14 E.	U	Hydrothermal with secondary supergene enrichment.	M/I	Low- to high-grade uranium concentrated along a well-defined fracture and along bedding planes in the black facies of the Dripping Spring Quartzite. Produced 279 tons averaging 0.14 percent uranium in 1956-57.	Schwartz, 1957; Granger and Raup, 1969a, b
35	Blue Rock	NE1/4 sec. 36, T. 6 N., R. 14 E.	U	do.	P/I	Low-grade uranium concentrated along fractures in the black facies of the Dripping Spring Quartzite.	Granger and Raup, 1969b
36	First Chance	E1/2 sec. 1, T. 5 N., R. 13 E.	U	do.	M/I	Moderate- to low-grade uranium concentrated along well-defined fractures in the black facies of the Dripping Spring Quartzite.	Do.
37	Coon Creek (Willyerd-Baker)	SW1/4 sec. 13, T. 5 N., R. 14 E.	Fe	Contact metasomatic	0	Magnetite and hematite locally replacing Mescal Limestone	Harrer, 1964
38	Donna Lee	SE1/4 sec. 13, T. 5 N., R. 14 E.	U	Hydrothermal with secondary supergene enrichment.	M/I P/A	Low- to high-grade uranium concentrated along fractures and along bedding planes in the black facies of the Dripping Spring Quartzite. Produced 12 tons averaging 0.16 percent uranium in 1959.	Schwartz, 1957; Williams, 1957; Granger and Raup, 1959, 1969b
39	Sue	SW1/4 sec. 19, T. 5 N., R. 15 E.	U	do.	M/I P/A	Low- to high-grade uranium concentrated along well-defined fractures in the black facies of the Dripping Spring Quartzite. Produced 450 tons averaging 0.21 percent uranium in 1955-56.	Do.
40	American Ores	W1/2 sec. 20, T. 5 N., R. 14 E.	Asbestos Fe	Contact metasomatic	M/I	Abundant chrysotile asbestos fiber in serpentinized Mescal Limestone. Produced approximately 2,000 tons of fiber in 1916-20 and 1958-63. Magnetite locally replacing Mescal Limestone.	Bateman, 1923; Wilson, 1928; Stewart, 1955; Rex Town, Globe, AZ, oral commun., 1979
41	Grand View	E1/2 sec. 18, T. 5 N., R. 14 E.	U	Hydrothermal with secondary supergene enrichment	P/I	Minor radioactive anomalies along fractures in the gray facies of the Dripping Spring Quartzite.	Granger and Raup, 1969b
42	Fairview	SE1/4 sec. 12, T. 6 N., R. 12 E.	U	do.	P/I	Low- to moderate-grade uranium concentrated along fractures in the upper Dripping Spring Quartzite.	Schwartz, 1957; Granger and Raup, 1969b
43	Oak Spring	W1/2 sec. 30, T 6 N., R. 12 E.	F	Hydrothermal	P/A	Fluorspar vein 1 to 5 ft wide intruding diabase.	
44	Saguaro	SW1/4 sec. 31, T 6 N., R. 12 E.	Cu, Ba	do.	M/I	Minor amounts of barite, malachite, and low-quality turquoise in shear zone in diabase.	
45	Journigan	NW1/4 sec. 7, T. 5 N., R. 12 E.	Ba, Pb, F	do.	M/I	Minor amounts of barite, galena, silver, and fluorite in shear zone in diabase.	
46	Salome	SE1/4 sec. 16, T. 5 N., R. 12 E.	Cu	do.	P/I	Anomalous copper staining, and locally massive feldspar in quartz vein in shear zone in granite.	
47	Rattlesnake (Wonder)	SE1/4 sec. 15, T 5 N., R. 13 E.	Mn	do.	P/I	Psilomelane and pyrolusite in shear zone in the lower part of Dripping Spring Quartzite.	Farnham, Stewart, and DeLong, 1961
48	Sunset (Armer)	E1/2 sec. 29, T. 5 N., R. 13	Mn	do.	M/I	Psilomelane and pyrolusite in shear zone in the lower part of Dripping Spring Quartzite. Produced 103.5 tons of sorted ore averaging 25.2 percent Mn in 1953-54.	Do.
49	Shepp no. 2	W1/2 sec. 31, T. 8 N., R. 15 E., and E1/2 sec. 36, T. 8 N., R. 14 E.	U	Hydrothermal with secondary supergene enrichment.	P/I	Low- to moderate-grade uranium concentrated along well-developed fractures in the black facies of the Dripping Spring Quartzite.	Schwartz, 1957; Granger and Raup, 1969a, b

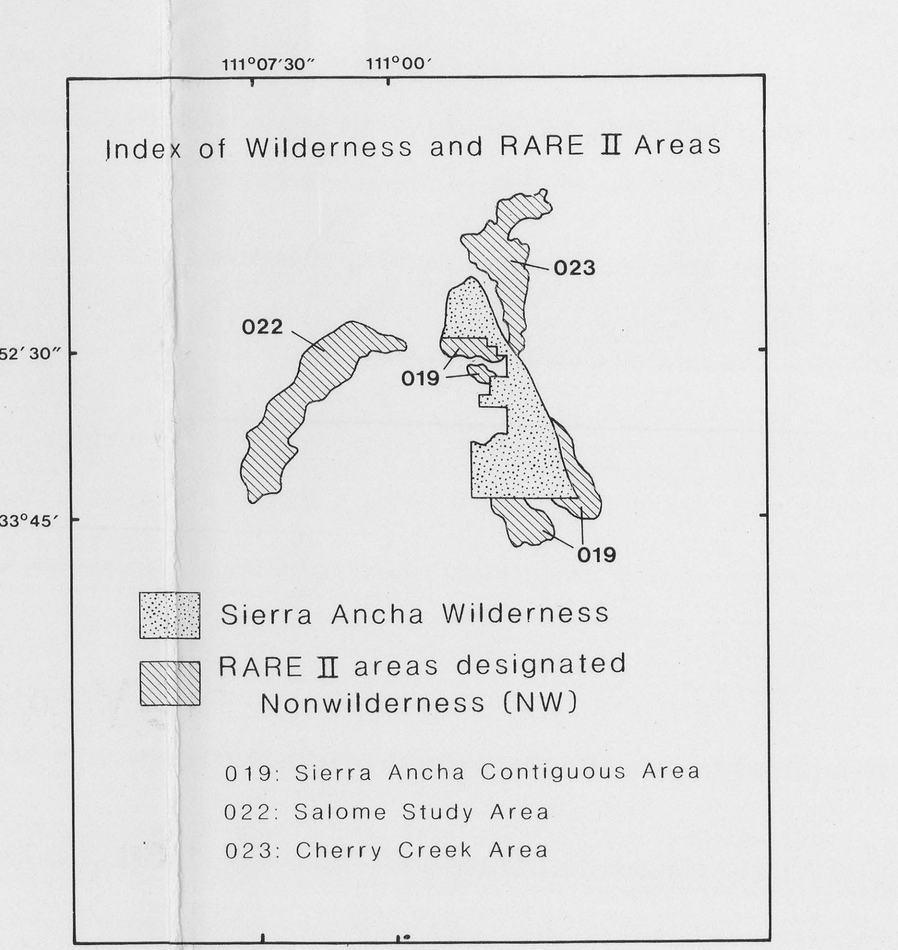
[1]Elemental commodities indicated by chemical symbol; minerals spelled out.

[2]Explanation of known or suspected genetic type of deposit or occurrence of mineralization.

[3]Symbols used:
O - Occurrence, no known exploration or development work
P - Prospect
  A - Active prospect, exploration or development work since 1975
  I - Inactive prospect, no known exploration or development work since 1975
M - Mine
  A - Active mine, production since 1975
  I - Inactive mine, no production since 1975

[4]Uranium production in the 1950's with an average grade of less than 0.10 percent uranium was not considered as ore, and was classified as "no pay". Because of the escalatio the price of uranium since the 1950's, the following classification has been used in this report:
low grade = less than 0.10 percent uranium
moderate grade = 0.10 to 0.20 percent uranium
high grade = greater than 0.20 percent uranium

[5]Deposits not referenced have not been described previously. Complete list of references in accompanying text.



MAP SHOWING MINERAL RESOURCE POTENTIAL OF THE SIERRA ANCHA WILDERNESS AND SALOME STUDY AREA, GILA COUNTY, ARIZONA

By
J. K. Otton[1], T. D. Light[2], A. F. Shride[1], J. R. Bergquist[1], C. T. Wrucke[1], P. K. Theobald[1], J. S. Duval[1], and D.M. Wilson[1]
1981

[1] U. S. Geological Survey
[2] U. S. Bureau of Mines, Denver, CO

Explanatory pamphlet accompanies map

Reprinted 1982

Interior—Geological Survey, Reston, Va.—1981

For sale by Branch of Distribution, U.S. Geological Box 25286, Federal Center, Denver, CO 80225