



EXPLANATION OF MINERAL RESOURCE POTENTIAL
[Entire area has inferred subeconomic resources of sandstone, and canyon bottoms have inferred subeconomic resources of sand and gravel in terraces and alluvium. Entire area has no mineral resource potential for coal, at certainty level D]

- M/B** Geologic terrane having moderate mineral resource potential for oil and gas, certainty level B—Applies to entire study area
- M/C** Geologic terrane having moderate mineral resource potential for gold, certainty level C—Applies only to stream gravels of the Dolores River and La Sal Creek
- L/B** Geologic terrane having low mineral resource potential for metals other than gold and uranium, certainty level B—Applies to entire study area
- L/C** Geologic terrane having low mineral resource potential for uranium, geothermal energy, and the evaporites, gypsum, anhydrite, salt, and potash, certainty level C—Applies to outcrop area of Morrison Formation (Jm) for uranium; applies to entire study area for geothermal energy; applies to outcrop area of Hermosa Formation (Ph) for evaporites

CORRELATION OF MAP UNITS

Qals		QUATERNARY
Unconformity		
Kdb	Upper and Lower Cretaceous	CRETACEOUS
Jm	Upper Jurassic	JURASSIC
Jmwe	Upper and Middle Jurassic	
Unconformity		
Jfinkw	Jurassic and Upper Triassic	TRIASSIC
Tc	Upper Triassic	
Unconformity		
Ph	Middle Pennsylvanian	PENNSYLVANIAN

DESCRIPTION OF MAP UNITS

- Qals** Alluvium and landslide deposits (Quaternary)—Relative ages of landslides and alluvium are unknown, but landslides are probably older
- Kdb** Dakota Sandstone (Upper Cretaceous) and Burro Canyon Formation (Lower Cretaceous)—Dakota Sandstone consists of gray, yellow, and buff flaggy sandstone with conglomerate, carbonaceous shale, and coal. Burro Canyon Formation consists of white, gray, and red massive sandstone and conglomerate, also green mudstone and shale and thin beds of gray limestone
- Jm** Brushy Basin and Salt Wash Members of the Morrison Formation (Upper Jurassic)—Brushy Basin Member consists of gray, green, red, and purple bentonitic mudstone interbedded with sandstone and conglomerate. Salt Wash Member consists of grayish-brown sandstone and minor red or gray mudstone
- Jmwe** Tidwell Member of the Morrison Formation (Upper Jurassic) and Wanakah Formation and Entrada Sandstone of the San Rafael Group (Middle Jurassic)—Tidwell Member consists of reddish-brown and gray mudstone and minor gray sandstone and limestone. The Tidwell was mapped in this area as upper beds of the Wanakah Formation (R.B. O'Sullivan, oral commun., 1987). Wanakah Formation consists of red, gray, green, and brown sandy shales and mudstones interbedded with thin beds of limestone and sandstone (mapped as Summerville Formation prior to work of R.B. O'Sullivan (1980, 1981)). Entrada Sandstone consists of orange, buff, and white, fine- to medium-grained, massive crossbedded sandstone of the Slick Rock Member in upper part and nonresistant red siltstone and fine-grained sandstone of the Dewey Bridge Member in lower part
- Jfinkw** Navajo Sandstone (Jurassic and Triassic?), Kayenta Formation (Upper Triassic?), and Wingate Sandstone (Upper Triassic) of the Glen Canyon Group—Navajo Sandstone consists of white to buff, fine-grained, massive, crossbedded sandstone. Kayenta Formation consists of red, buff, and gray, thin-bedded, flaggy, fine- to coarse-grained sandstone interbedded with shale, siltstone, and conglomerate. Wingate Sandstone consists of reddish-brown to grayish-orange, massive, crossbedded sandstone
- Tc** Chinle Formation (Upper Triassic)—Interbedded orange-red siltstone, sandstone, and shale
- Ph** Hermosa Formation (Middle Pennsylvanian)—Gray fossiliferous limestone member in upper part and gypsum and salt of the Paradox Member in lower part

EXPLANATION OF MAP UNITS

- Contact—Dotted where concealed
- - - Fault—U, upthrown side, D, downthrown side. Dashed where approximately located or inferred; dotted where concealed
- Axial trend of anticline (from Williams, 1964)
- Approximate boundary, Wilderness Study Area
- Strike and dip of beds
- Horizontal beds
- Heavy-mineral concentrate sample site—Mentioned in text
- ◇ Stream-sediment sample site—Mentioned in text
- Visible gold sample site—Mentioned in text
- ⚡ Well drilled by U.S. Bureau of Reclamation, spring 1987—Mentioned in text

LEVEL OF RESOURCE POTENTIAL ↓	H/A	H/B	H/C	H/D
	UNKNOWN POTENTIAL	M/B MODERATE POTENTIAL	M/C MODERATE POTENTIAL	M/D MODERATE POTENTIAL
	L/B	L/C	L/D	N/D NO POTENTIAL
	LOW POTENTIAL	LOW POTENTIAL	LOW POTENTIAL	NO POTENTIAL
	A	B	C	D
	LEVEL OF CERTAINTY →			

LEVELS OF RESOURCE POTENTIAL

- H** High mineral resource potential
- M** Moderate mineral resource potential
- L** Low mineral resource potential
- U** Unknown mineral resource potential
- N** No known mineral resource potential

LEVELS OF CERTAINTY

- A** Available data not adequate
- B** Data indicate geologic environment and suggest level of resource potential
- C** Data indicate geologic environment, give good indication of level of resource potential, but do not establish activity of resource-forming processes
- D** Data clearly define geologic environment and indicate activity of resource-forming processes in all or part of the area

Diagram showing relationships between levels of mineral resource potential and levels of certainty. Shading shows levels that apply to this study area

Base from U.S. Geological Survey, Montrose County, Colorado, 1:50,000, 1976, and San Miguel County, Colorado, 1:50,000, 1977

Geology modified from Carter and Gault (1957), Carter (1954, 1955a, and 1955b), Weir and others (1950), and Waterbury (1955)

MAP SHOWING MINERAL RESOURCE POTENTIAL AND SIMPLIFIED GEOLOGY OF THE DOLORES RIVER CANYON WILDERNESS STUDY AREA, MONTROSE AND SAN MIGUEL COUNTIES, COLORADO