DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

BULLETIN 1736–C
PLATE 1

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

LEVEL 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

LEVEL 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 level of resource potential 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

APPROXIMATE BOUNDARY OF BLACK RIDGE CANYONS WILDERNESS STUDY AREA (CO-070-113/113A; UT-060-116/117)

APPROXIMATE BOUNDARY OF THE WESTWATER CANYON WILDERNESS STUDY AREA (UT-060-118)

Base from U.S. Geological Survey, 1:24,000
Battleship Rock, Colorado National Monument, 1962; Ruby Canyon, Sober Canyon, 1968; Bitter Creek West, 1972; Agate, Big Triangle, Marble Canyon, Westwater Canyon, 1985

APPROXIMATE MEAN DECLINATION, 1973

SCALE 1:50 000

1 ½ 0 1 2 3 MILES
1 .5 0 1 2 3 KILOMETERS

CONTOUR INTERVAL 40 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

AREA OF MAP

Geology mapped by R. P. Dickerson, 1986–87; M. I. Toth, 1983; J. E. Case, 1988

EXPLANATION OF MINERAL RESOURCE POTENTIAL

- Area of identified dimension stone resource
- Area of identified subeconomic placer gold, sand, and gravel resource
- H/D — Geologic terrane having high mineral resource potential for placer gold, with certainty level D
- M/C1 — Geologic terrane having moderate mineral resource potential for uranium in the Morrison Formation, with certainty level C
- M/C2 — Geologic terrane having moderate mineral resource potential for gold, silver, copper, and barite in vein deposits, with certainty level C
- L/C1 — Geologic terrane having low mineral resource potential for uranium, gold, mercury, copper, and silver in sedimentary rocks, for gold, silver, copper, and barite in vein deposits, for chromium, nickel, and cobalt in ultramafic rocks, and for geothermal energy and coal, with certainty level C
- L/C2 — Geologic terrane having low mineral resource potential for gold, mercury, copper, and silver in sedimentary rocks, for gold, silver, copper, and barite in vein deposits, for chromium, nickel, and cobalt in ultramafic rocks, and for geothermal energy, with certainty level C
- L/C3 — Geologic terrane having low mineral resource potential for geothermal energy, oil, gas, and carbon dioxide, with certainty level C
- L/D — Geologic terrane having low mineral resource potential for oil, gas, and carbon dioxide, with certainty level D
- N/D — Geologic terrane having no mineral resource potential for uranium in the Morrison Formation or for coal, with certainty level D

CORRELATION OF MAP UNITS

Qls, Qal, Qrf	Holocene, Pleistocene	QUATERNARY
Unconformity		
Kdb		CRETACEOUS
Unconformity		
Jmbb, Jms	Upper Jurassic	JURASSIC
Unconformity		
Je	Middle Jurassic	JURASSIC
Unconformity		
Jk, Jw	Lower Jurassic	JURASSIC
Unconformity		
Trc	Upper Triassic	TRIASSIC
Unconformity		
YXp, YXm		MIDDLE AND EARLY PROTEROZOIC

LIST OF MAP UNITS

- Qls — Landslide deposits (Holocene)
- Qrf — Rockfall deposits (Holocene)
- Qal — Alluvium and colluvium (Holocene and Pleistocene)
- Kdb — Dakota Sandstone (Upper Cretaceous) and Burro Canyon Formation (Lower Cretaceous)
- Jmbb — Brushy Basin Member of the Morrison Formation (Upper Jurassic)
- Jms — Salt Wash and Tidwell Members of the Morrison Formation (Upper Jurassic) and Wanakah Formation (Middle Jurassic)
- Je — Entrada Sandstone (Middle Jurassic)
- Jk — Kayenta Formation (Lower Jurassic)
- Jw — Wingate Sandstone (Lower Jurassic)
- Trc — Chinle Formation (Upper Triassic)
- YXp — Metapyroxenite (Middle and Early Proterozoic)
- YXm — Gneiss, amphibolite, diorite, quartz monzonite, and pegmatite (Middle and Early Proterozoic)

- Contact—Dashed where approximately located
- Normal fault—Dashed where approximately located; dotted where concealed. Bar and ball on downthrown side; U, upthrown side; D, downthrown side
- Monocline
- Strike and dip of bed
- Mine or quarry
- Adit
- Sand or gravel pit
- Dinosaur fossil locality

MAP SHOWING MINERAL RESOURCE POTENTIAL AND GEOLOGY OF THE BLACK RIDGE CANYONS AND WESTWATER CANYON WILDERNESS STUDY AREAS, GRAND COUNTY, UTAH, AND MESA COUNTY, COLORADO