

PLEASE REPLACE IN POCKET
IN BACK OF BOUND VOLUME

76
100
1993

THIS MAP CONCERNS WORK DONE BY THE
U.S. GEOLOGICAL SURVEY ON BEHALF OF
THE DIVISION OF RAW MATERIALS OF THE
U.S. ATOMIC ENERGY COMMISSION

TRACE ELEMENTS
MEMORANDUM REPORT 993

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DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



Geological Period	Unit	Description
Pleistocene and Recent	Qal	Alluvium Silt, sand, and some interbedded gravel; 0 to 35 feet thick; forms alluvial plains and low terraces along Alkali, Bradford, Devil, and Montezuma canyons.
	Ql	Loess Well-sorted red silt and very fine sand, largely wind deposited, reworked partly by water; 0 to 25 feet thick; forms agricultural soil on uplands.
Upper Cretaceous	Kd	Dakota sandstone Light-brown and yellowish-brown sandstone with abundant plant fossils; interbedded, lenticular, gray carbonaceous claystones and coal; thin conglomeratic sandstone at base locally; locally 80 feet thick; crops out at crest of "rim rock" cliff which separates upland from canyons.
	Kbc	Burro Canyon formation Light-colored conglomeratic sandstone; interbedded greenish, lenticular mudstone; silicified sandstone and limestone near top locally; 50 to 160 feet thick; forms face of "rim rock" cliff which separates upland from canyons.
Lower Cretaceous	Jmb	Morrison formation Brushy Basin member, Jmb, variegated mudstone, some sandstone and conglomerate lenses; 150 to 270 feet thick; forms slope above steep-walled inner canyons; generally covered with landslides or colluvium. Westwater Canyon member, Jmw, yellowish- and greenish-gray, lenticular sandstone and interbedded green mudstone; 80 to 160 feet thick; forms intermediate slopes below gentle slope formed by the Brushy Basin and above steep cliff formed by the Salt Wash. Salt Wash member, Jms, light-colored lenticular sandstone interbedded with red mudstone, 380 to 400 feet thick; forms series of steep cliffs and narrow benches of inner canyon; massive sandstone lenses near the middle of the member locally contain uranium-vanadium deposits.
	Js	Summerville formation Orange-pink even-bedded sandstone, interbedded with reddish-brown siltstone and mudstone; base not exposed; forms steplike slope below steep canyon walls formed by the Salt Wash member of the Morrison formation.
Upper Jurassic	Contact	(Dashed where inferred or indefinite)
San Rafael group	Structure contour	Approximate strike and dip of beds (Owing to low dips and lenticular nature of beds, attitudes were determined from preliminary structure contours drawn on the base of the Dakota sandstone; dip in degrees)
	Adit	(Uranium-vanadium mine)
JURASSIC	Small open cut or prospect	(Uranium-vanadium deposit)
	Gravel pit	
CRETACEOUS	Section corner found in the field	

Mapped by the Geological Survey 1954
Topography by multiplex methods from
aerial photographs taken 1953



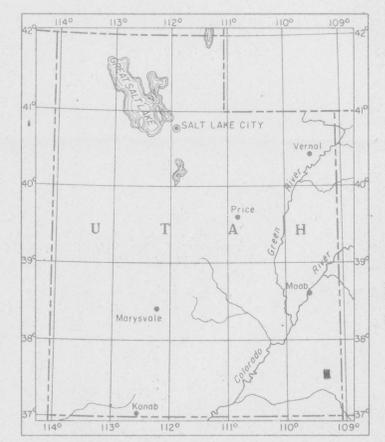
CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL

Geology mapped 1955.

PRELIMINARY GEOLOGIC MAP OF THE VERDURE 3SE QUADRANGLE, SAN JUAN COUNTY, UTAH

by

Lyman C. Huff and Frank G. Lesure



INDEX MAP OF UTAH SHOWING AREA OF THIS REPORT