



INDEX SHOWING SOURCES OF GEOLOGIC DATA AND NAMES OF U.S. GEOLOGICAL SURVEY TOPOGRAPHIC QUADRANGLES FROM WHICH BASE MAP WAS PREPARED

42°45'	CLAYTON HILL	ROCKY MOUNTAIN	FREEBORN	B	CHANDLER	UTTER	BANNER	106°00'
30'	ALCOVA	ALCOVA	TRINITY BUTTES	C	WIND RIVER	ICE CAVE	WIND RIVER	
15'	NEW SPRING	BEAR W/TH	HORSE BEAK	D	WIND RIVER	ICE CAVE	WIND RIVER	
42°37'30"	FOURMILE RIDGE	FOURMILE POINT	WILD TOOTH	A	CHALK HILLS	CHALK HILLS	CHALK HILLS	
	BEAR CREEK	WIND RIVER	CHANDLER		WIND RIVER	CHALK HILLS	CHALK HILLS	

A. Geology generalized from J. L. Weitz and J. D. Love, compilers, 1952, Geologic map of Carbon County, Wyoming; Wyoming Geol. Survey.
 B. Geology generalized from J. L. Weitz, J. D. Love, and S. A. Harbison, compilers, 1954, Geologic map of Natrona County, Wyoming; Wyoming Geol. Assoc. Guidebook 9th Ann. Field Conf., Casper area, 1954.
 C. Geology mapped by N. M. Denson, 1964-65.
 D. Geology mapped by E. N. Harshman, 1960-65.
 E. Base for area east of 106° and south of 42°15' from aerial photographs.

EXPLANATION

To
Ogallala Formation
Coarse- to medium-grained sandstone and conglomerate and interbedded light-gray cherty limestone; contains abundant glass shards. Derived largely from older Tertiary and Precambrian rocks. 0-300 feet thick

Ta
Arikaree Formation
Tuffaceous siltstone, sandstone, limestone, and conglomerate. Derived in part from Precambrian rocks. 0-150 feet thick

Twdr
White River Formation
Upper part is interbedded siltstone and conglomerate; lower part is tuffaceous siltstone; some claystone and conglomerate at base. Clastic debris is derived from Precambrian rocks. As much as 850 feet thick

UNCONFORMITY

Twb
Wagon Bed Formation
Silty siltified claystone and interbedded coarse-grained sandstone; contains some volcanic material. 0-160 feet thick

Twdr
Wind River Formation
Siltstone, coarse-grained sandstone, and poorly sorted conglomerate. Derived from Mesozoic, Paleozoic, and Precambrian rocks. As much as 550 feet thick

UNCONFORMITY

Tfu
Fort Union Formation
Coarse-grained weakly indurated arkosic sandstone and conglomerate; contains variegated red and gray siltstone in upper part and lenticular interbeds of carbonaceous shale and siltstone in lower part. About 235 feet thick

UNCONFORMITY

McPr
Shale, siltstone, sandstone, conglomerate, and limestone
Continental and marine in origin. May be as much as 6000 feet thick

UNCONFORMITY

pCr
Granitic and metamorphic rocks

— Contact
- - - Dashed where approximately located

— Fault
- - - Dashed where approximately located; dotted where concealed. U, upthrown side; D, downthrown side

— Strike and dip of beds

— Apparent dip
In feet per mile

— Contours
Drawn on pre-Wind River Formation erosion surface. Solid line indicates good control; long dashes, fair to poor control; short dashes, reconstructed contours on surface destroyed by Recent erosion. Contour interval 100 feet

⊙ Fossil locality
⊕ Selected dry test hole
⊖ Mine shaft
⊗ Open-pit mine
⊘ Uranium prospect

MAP SHOWING AREAL DISTRIBUTION OF TERTIARY ROCKS, BATES HOLE-SHIRLEY BASIN AREA, SOUTH-CENTRAL WYOMING

By
N. M. Denson and E. N. Harshman
1969