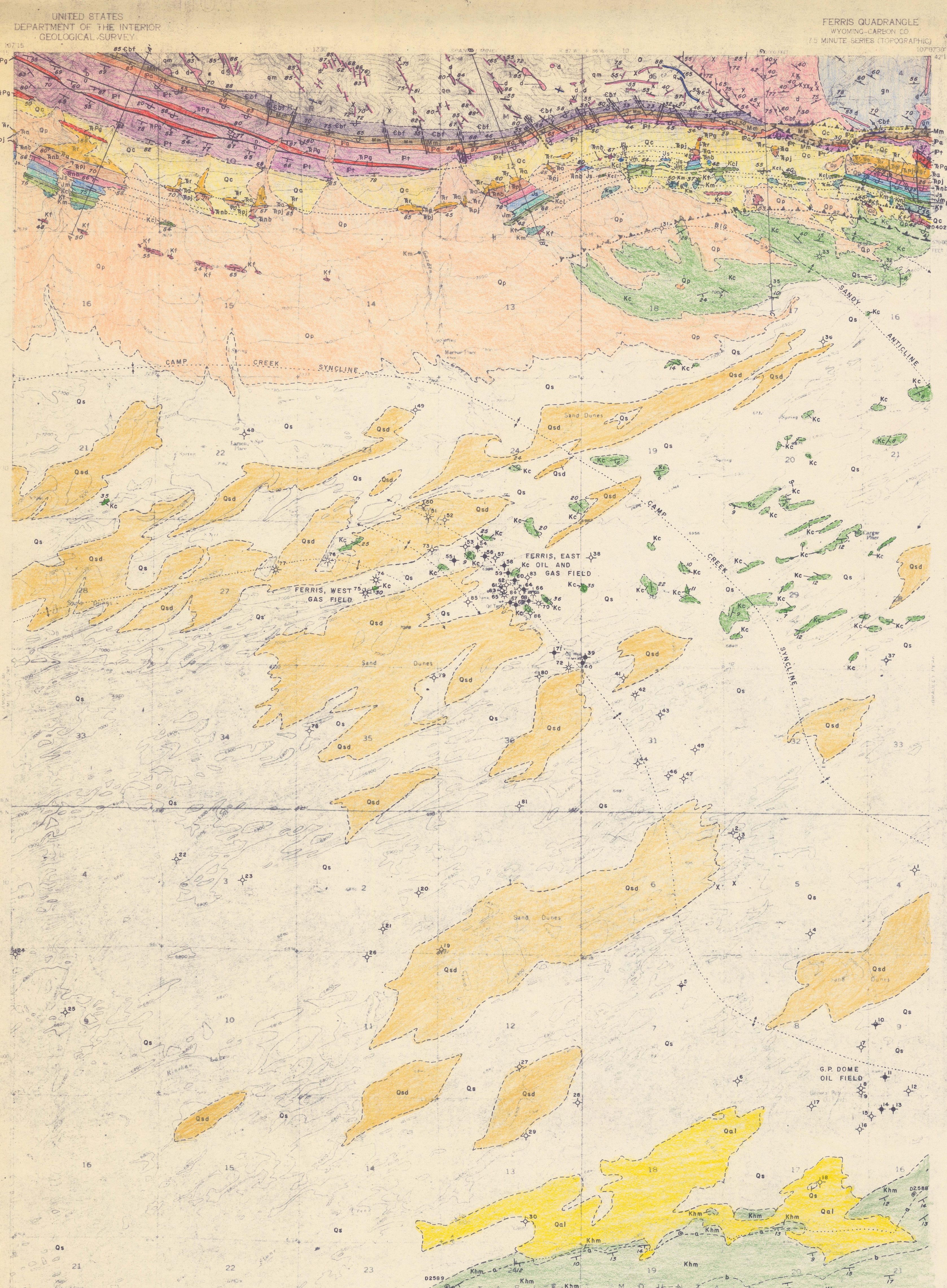
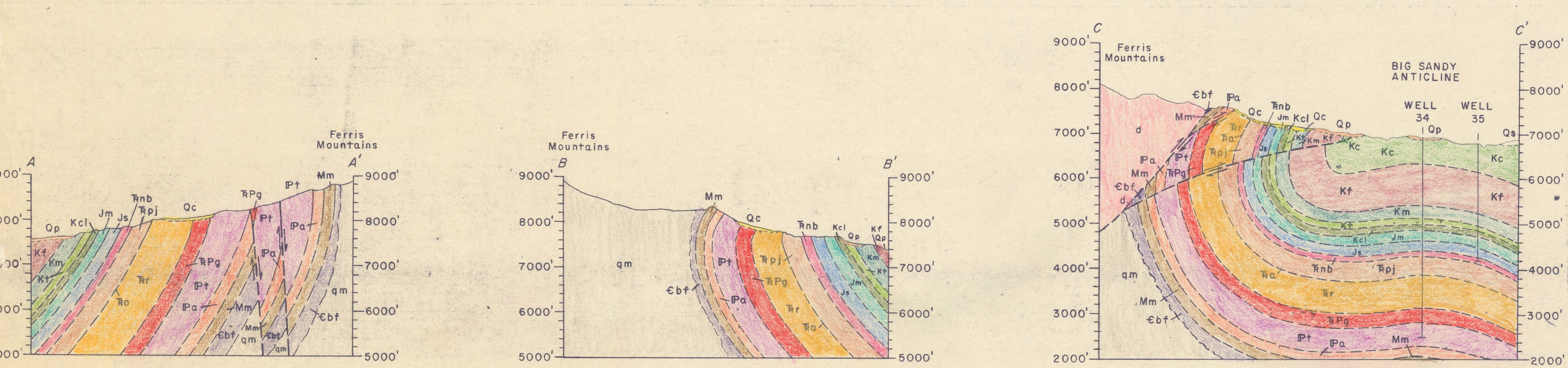


Washington office



Base by U.S. Geological Survey, 1953
as part of the Department of the Interior
for the development of the National River Basin
Committee Report No. 1 (1953)
Topography from aerial photographs by the U.S. Army
Photographic Corps, 1947-1948
Photoreduced from 1:250,000 scale
Geologic map of the Ferris Quadrangle, Carbon County, Wyoming
by Robert L. Rioux and Mortimer H. Staatz, 1972
Geology mapped in 1960 and 1963
Scale 1:24,000
FERRIS, WYO.
Map No. 1-4972
1972



PRELIMINARY
GEOLOGIC MAP OF THE FERRIS QUADRANGLE, CARBON COUNTY, WYOMING
By
Robert L. Rioux and Mortimer H. Staatz
1972

CORRELATION OF MAP UNITS

Qal	Qsd	Qc	HOLOCENE AND PLEISTOCENE	QUATERNARY
Qs				
Qp				
unconformity				
Kc			UPPER CRETACEOUS	CRETACEOUS
Kf				
Km				
Kcl				
unconformity				
Jm			UPPER JURASSIC	JURASSIC
Js				
unconformity				
Rnb			TRIASSIC(?)	
Rp				
Ra				
unconformity				
Chugwater Group			TRIASSIC	
Rp				
Pt			TRIASSIC AND PERMIAN	
Pa				
unconformity				
Mm			UPPER AND LOWER MISSISSIPPIAN	MISSISSIPPIAN
Cbf				
unconformity				
Cbf			MIDDLE CAMBRIAN	CAMBRIAN
Cbf				
unconformity				
q			Relative age uncertain	PRECAMBRIAN
d				
qm				
gn				

LINE SYMBOLS

—	Contact-- Dashed where approximately located; dotted where concealed
—	Fault-- Dashed where approximately located; dotted where concealed; arrows indicate relative movement
—	Thrust fault-- Dashed where approximately located; dotted where concealed. Sawtooth on upper plate
—	Anticline-- Showing crestline and direction of plunge. Approximately located; dotted where concealed
—	Syncline-- Showing troughline and direction of plunge. Dashed where approximately located; dotted where concealed
Inclined	Strike and dip of beds
Overturned	Strike and dip of foliation
Inclined	Dip of quartz vein
Inclined	Dip of diabase dike
x	Prospect
+	Abandoned oil well
+	Abandoned gas well
+	Dry hole with show of oil
+	Dry hole with show of gas
+	Dry hole-- Wells drilled for oil or gas. Number refers to table of wells
@ 02589	USGS Mesozoic fossil locality-- Denver catalogue number refers to table of fossils

DESCRIPTION OF MAP UNITS

SURFICIAL DEPOSITS (HOLOCENE AND PLEISTOCENE)

Qal Alluvium-- Brown to gray clay, silt, sand, and gravel; unconsolidated

Qsd Dune sand-- Light-brown to gray moderately sorted fine- to medium-grained windblown sand; unconsolidated; forms active dunes

Qc Colluvium-- Mostly boulders, cobbles, and sand; partly silt and clay; includes younger alluvial fan deposits and slope wash off the steep south face of the Ferris Mountains; unsorted and unconsolidated; boulders derived mainly from Tensleep Sandstone

Qs Sand-- Light-brown to gray moderately sorted fine- to medium-grained windblown sand; unconsolidated; mostly stabilized by vegetation

Qp Pediment gravel-- Subangular to subrounded cobbles, pebbles, and boulders; mixed with sand and silt; pediment surfaces formed by coalescing fan deposits along south flank of the Ferris Mountains

HAYSTACK MOUNTAINS FORMATION (UPPER CRETACEOUS)¹-- Exposed sequence consists of interbedded sandstone, siltstone, and shale. Sandstone is light gray to buff and mostly thin bedded and platy; glauconitic, crossbedded, and ripple marked in lowermost exposures. Shale and siltstone are gray with a few thin brown carbonaceous shale beds in lowermost exposures. Contains *Baculites obtusius* at several localities and numerous oyster shells at several horizons. Top of formation not present in quadrangle; base of formation concealed. Exposed sequence includes, in ascending order: the upper part of the O'Brien Spring Sandstone Member, the middle unnamed member, the Hatfield Sandstone Member, and the lower part of the upper unnamed member of the Haystack Mountains Formation of the Mesaverde Group (Gill and others, 1970). b, base of Mesaverde Formation of Path and Moulton (1924), McAndrews (1963), and Bayley (1968). a, top of O'Brien Spring Sandstone Member

COBY SHALE (UPPER CRETACEOUS)-- Gray to greenish-gray silty shale; generally calcareous in lower part of formation; contains thin platy very fine grained to fine-grained silty sandstone beds, commonly glauconitic, in upper part of formation. Generally poorly exposed throughout quadrangle. About 6,500 feet thick

FRONTIER FORMATION (UPPER CRETACEOUS)-- Upper part, mainly gray to tan fine-grained ledge-forming sandstone, commonly crossbedded; contains black chert grains and pebbles; interbedded with dark-gray shale and siltstone. Lower part, dominantly dark gray shale with a few thin glauconitic sandstone and bentonite beds. About 700-900 feet thick

MONEY SHALE (LOWER CRETACEOUS)-- Dark-gray to black laminated siltstone; weathers to bluish-gray to white plates and blocks; includes many interbedded thin bentonite beds and a few thin sandstone and siltstone beds. About 250-350 feet thick

THERMOPOLIS SHALE (LOWER CRETACEOUS)-- Dark gray to black fissile shale and a few thin brown sandstone and siltstone beds and lenses. Ledge-forming Muddy Sandstone Member at top consists of gray to brown fine-grained silty sandstone. About 100-150 feet thick

CLOVERLY FORMATION (LOWER CRETACEOUS)-- Light-yellowish-gray to tan thin-bedded sandstone and conglomeratic sandstone. Sandstone is fine to coarse grained and locally crossbedded and ledge forming. Conglomerate pebbles are mainly chert and quartz. About 50-150 feet thick

MORRISON FORMATION (UPPER JURASSIC)-- Grayish-green, pink, and maroon blocky claystone and siltstone interbedded with gray to buff thin-bedded and locally crossbedded sandstone; contains a few maroon limestone beds and nodules. About 150-250 feet thick

SUNDANCE FORMATION (UPPER JURASSIC)²-- Interbedded sandstone, siltstone, and shale. Very light gray thick-bedded calcareous sandstone at top and bottom. Siltstone is olive green and reddish brown. Shale is gray green to olive green and fissile. Thin gray concretionary limestone beds in upper part of formation. Glauconite is common in middle part of formation. About 200-300 feet thick

BELL SPRINGS MEMBER OF NUGGET SANDSTONE (TRIASSIC?)³-- Pale-reddish-brown to gray fine-grained calcareous laminated sandstone; commonly ledge forming; interbedded with pale-red, green, and purplish-gray siltstone. About 100-200 feet thick

CHUGWATER GROUP (TRIASSIC)

Pogo Agie and Jelm Formations, undivided²-- Upper 60 feet consists of dark-reddish-brown siltstone. Lower part consists of interbedded pale-reddish-brown siltstone and sandstone; locally calcareous. About 350-450 feet thick

Alcova Limestone²-- Light-gray to purplish-gray finely crystalline thinly laminated limestone; forms conspicuous ledge. 8-12 feet thick

Red Peak Formation-- Interbedded reddish-brown siltstone, shale, and fine-grained sandstone; partly calcareous. About 600-900 feet thick

GOOSE EGG FORMATION (TRIASSIC AND PERMIAN)-- Reddish-brown to tan siltstone and shale interbedded with light-gray and lavender dolomite that locally contains chert nodules; a few beds of anhydrite near top and bottom of formation. About 250-350 feet thick

TENSLEEP SANDSTONE (PENNSYLVANIAN)-- Mainly buff, gray, and tan fine-grained well-sorted calcareous sandstone; crossbedding common. Several buff to light-gray dolomite and limestone beds in lower 100 feet; commonly cherty near base of formation. About 500-750 feet thick

ANSEN FORMATION (PENNSYLVANIAN)-- Light-gray to reddish-brown siltstone and fine-grained sandstone; interbedded with purple shale and tan, buff, and pink cherty thin-bedded limestone and dolomite. Locally at base contains Upper Mississippian Darwin Sandstone Member consisting of reddish-brown sandstone. About 150-250 feet

MADISON LIMESTONE (MISSISSIPPIAN)-- Light-gray, buff, and tan limestone and dolomite, finely to coarsely crystalline, generally thin bedded; cherty near base of formation. Top of formation is an irregular dissolution surface. About 150-300 feet thick

BUCK SPRING FORMATION OF SHAW (1954) AND FLATHEAD SANDSTONE, UNDIVIDED (MIDDLE CAMBRIAN)-- Upper part, a thin to thick-bedded fine- to medium-grained yellowish-brown, brown, reddish-brown, or gray sandstone that is commonly glauconitic. Lower part, thick-bedded medium-grained reddish-brown sandstone; grains are well rounded. About 0-500 feet thick

QUARTZ VEIN (PRECAMBRIAN)-- Massive, white, opaque

DIABASE (PRECAMBRIAN)-- Fine-grained dark-green speckled rock consisting principally of hornblende and andesine with accessory magnetite and quartz; commonly altered to sericite and chlorite and some clinozoisite and epidote. Forms dikes and irregular intrusives; only the larger ones are shown on map

QUARTZ MONZONITE (PRECAMBRIAN)-- Coarse-grained equigranular pink and gray rock consisting of plagioclase, microcline, and quartz and accessory chlorite, biotite, hornblende, zoisite, epidote, apatite, and zircon. Cut by numerous diabase dikes

GNEISS (PRECAMBRIAN)-- Laminated fine-grained gray, white, or pink rock consisting principally of microcline, plagioclase, and quartz with accessory hornblende and biotite. Composition ranges from granite to quartz diorite

Whitney Peak (Hayden, 1968)	Muddy Gap (Hayden, 1968)			
Spiral (Hayden, 1971)	Lower (Hayden, 1971)	FERRIS	Bradley Peak (Hayden, 1971)	Seneca (Hayden, 1971)
			Alcova (Hayden, 1963)	Seneca (Hayden, 1971)
			Alcova (Hayden, 1963)	Seneca (Hayden, 1971)
			Alcova (Hayden, 1963)	Seneca (Hayden, 1971)

INDEX MAP SHOWING THE LOCATION OF THE FERRIS AND NEARBY PUBLISHED QUADRANGLES

1 The Haystack Mountains Formation of the Mesaverde Group in this general area is described in detail by Gill, Merewether, and Cobban (1970, p. 12-20).

2 A section was measured across the Alcova Limestone, Pogo Agie and Jelm Formations, Bell Springs Member of Nugget Sandstone, and Sundance Formation in the W58E sec. 9, T. 26 N., R. 87 W., by Phipps (1968, p. D3-D4).

3 The Haystack Mountains Formation of the Mesaverde Group in this general area is described in detail by Gill, Merewether, and Cobban (1970, p. 12-20).

Wyoming (Ferris quad). sheet 1, cop. 1. Geol. 1:24,000. 1972.

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