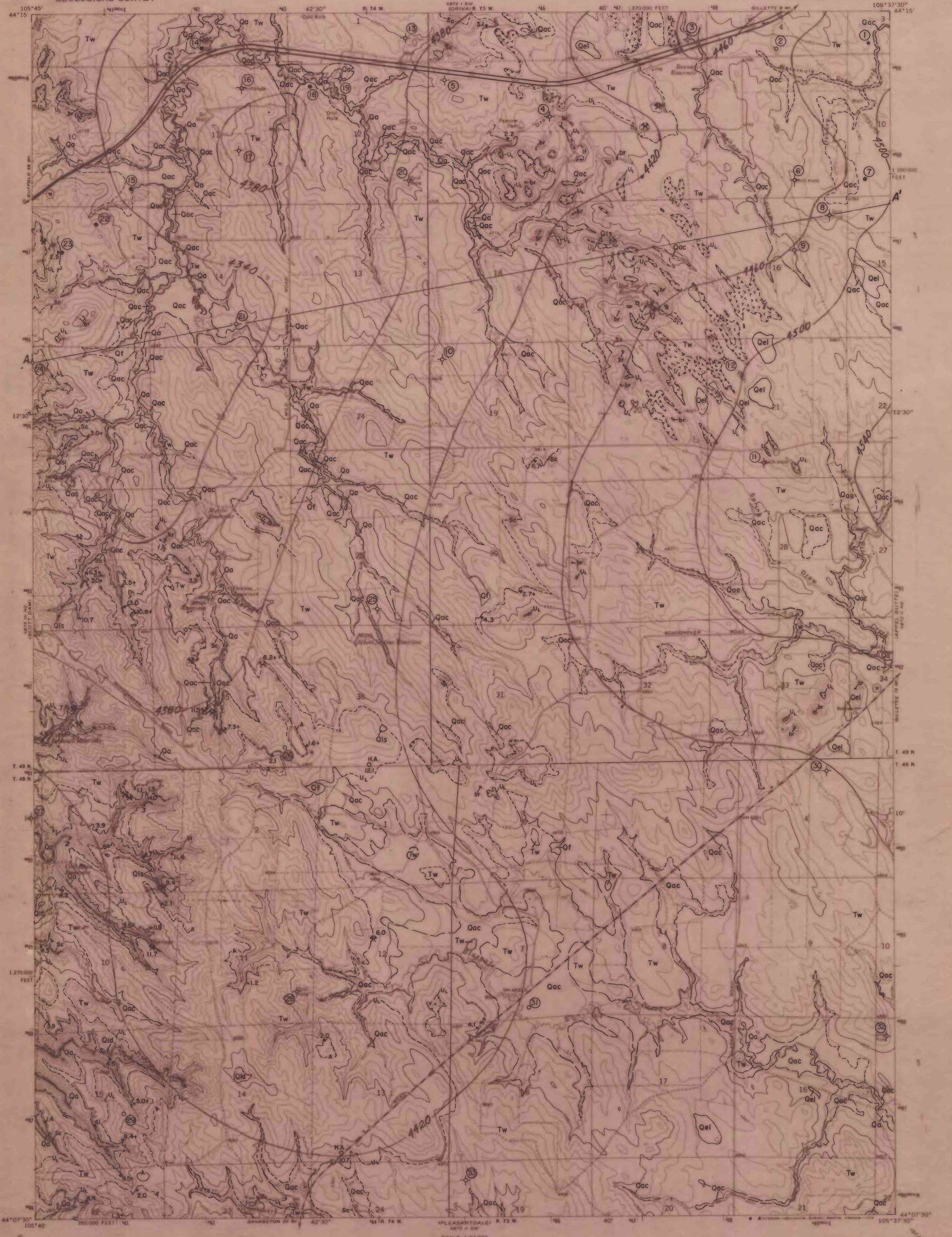
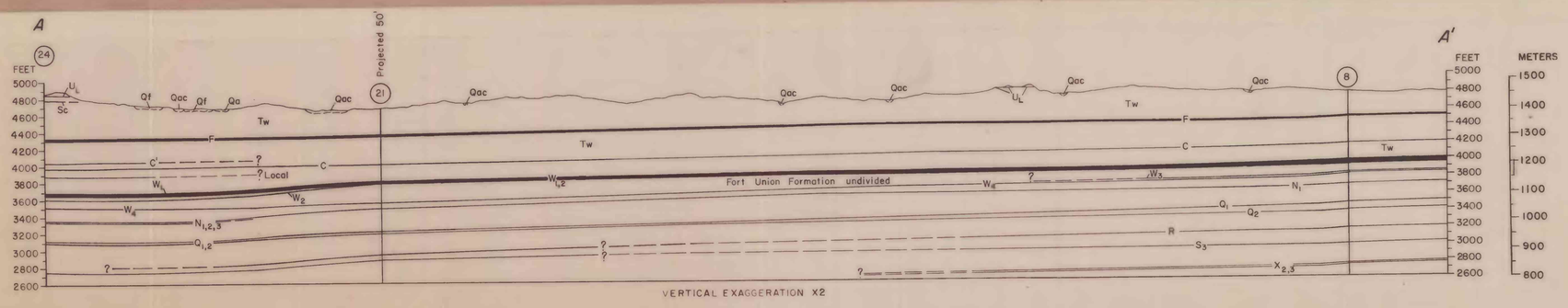
OPEN-FILE REPORT 80-648
SHEET 1 OF 2

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

FOUR BAR J RANCH QUADRANGLE
WYOMING—CAMPBELL CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)





SCALE 1:24000

CONTOUR INTERVAL 20 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

UTM GRID AND 1971 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

QUADRANGLE LOCATION

Geology mapped in 1973.
Assisted by Steve Laraway

FOUR BAR J RANCH, WYO.
N4407.5—W10537.5/7.5
1971

DESCRIPTION OF MAP UNITS

Qa	Qac	Qel	Qls	Qf	Holocene	QUATERNARY
Qld					Pleistocene(?)	
Tw					Eocene and Paleocene(?)	TERTIARY
Tfu					Paleocene	

DESCRIPTION OF MAP UNITS

Qa ALLUVIAL CHANNEL DEPOSITS (HOLOCENE)--Interbedded and mixed sand, silt, clay, indurated clasts, and clasts of baked and fused rock. Sediment mainly derived by erosion of local rock units and older surficial units

Qac ALLUVIAL AND COLLUVIAL DEPOSITS, UNDIVIDED (HOLOCENE)--Interbedded and mixed sand, silt, clay, indurated clasts, and clasts of baked and fused rock. Generally forms terrace about 5-10 ft above existing stream level

Qel EPHEMERAL LAKE DEPOSITS (HOLOCENE)--Mixed and interbedded clay, silt, and sand, occupying small internal drainage basins. Evaporite minerals, mainly gypsum, may be present as interbedded stringers or thin surface encrustations

Qls LANDSLIDE DEPOSITS (HOLOCENE)--Rock material and soil that have undergone mass movement

Qf ALLUVIAL FAN DEPOSITS (HOLOCENE)--Torrential, poorly sorted, deposits of sand, silt, clay, indurated clasts, and clasts of baked and fused rock; slightly dissected. Found at outlet of steeper gradient valleys tributary to major drainage valleys

Qld LAG DEPOSITS (PLEISTOCENE(?))--Local concentrations of scattered blocks and cobbles of dark-reddish-brown, iron-cemented, well-indurated, coarse-grained, conglomeratic arkose. Deposits are remnants of a stratigraphically higher unit since removed by erosion

Tw WASATCH FORMATION (EOCENE AND PALEOCENE(?))--Generally drab-brown and gray, composed of soft interbedded sandstone, siltstone, shale, carbonaceous shale, and thin coal beds. Exposed strata are generally fine grained, but a major coarse- to medium-grained crossbedded poorly indurated fluvial sandstone is locally present between the Scott (Sc) and Lower Ulm (U_L) coal beds. Maximum 310 ft exposed in quadrangle

Tfu FORT UNION FORMATION (PALEOCENE)--Shown in cross section only

—F— COAL BED--Long dashed where approximately located; short dashed where inferred. Letter denotes specific coal bed identified on coal index (sheet 2). Equivalent thickness of coals, in feet, measured at triangle; calculated by method of Smith and others (1913, p. 70-71), and Bass, Smith, and Horn (1970, p. 6)

BAKED AND FUSED ROCK--Overburden baked and fused by burning of coal bed identified by letter. Attached v's indicate base; long dashed where approximately located; short dashed where inferred. Dotted line indicates inferred extent of burning; dotted boundary area indicates a burned coal without exposed base; br identifies very small exposures

CONTACT--Long dashed where approximately located; short dashed where inferred

1½ COMPONENT OF DIP--Dot marks point of observation

—4420— STRUCTURE CONTOURS--Drawn on base of Felix (F) coal bed. Contour interval 40 ft

DRILL HOLES--Number in circle refers to subsurface coal sections

- Producing oil well
- Abandoned oil-and-gas test hole
- Coal test hole; U.S. Geological Survey and Montana Bureau of Mines and Geology (1974)
- HA 12.1 Hand augered coal test hole; showing coal thickness, in feet
- 7.3+ ABANDONED COAL MINE--Adjacent number is equivalent coal thickness, in feet, calculated by method of Smith and others (1913, p. 70-71), and Bass, Smith, and Horn (1970, p. 6)

All measurements in feet.
To convert to meters, multiply by 0.3048.

REFERENCES

Bass, N. W., Smith, H. L., and Horn, G. H., 1970, Standards for the classification of public lands: U.S. Geological Survey Circular 633, 10 p.

Denson, N. M., Keefer, W. R., and Horn, G. H., 1973, Coal resources of the Gillette area, Wyoming: U.S. Geological Survey Miscellaneous Investigations Map I-848-C, scale 1:250,000.

Dobbin, C. E., and Barnett, V. H., 1928, The Gillette coal field, northeastern Wyoming: U.S. Geological Survey Bulletin 796-A, p. 1-50.

Grazis, S. L., 1977, Geologic map and coal resources of the Pleasantdale quadrangle, Campbell County, Wyoming: U.S. Geological Survey Coal Series Map C-76, scale 1:24,000.

Smith, G. O., and others, 1913, The classification of the public coal lands: U.S. Geological Survey Bulletin 537, 197 p.

U.S. Geological Survey and Montana Bureau of Mines and Geology, 1974, Preliminary report of coal drillhole data and chemical analyses of coal beds in Campbell County, Wyoming: U.S. Geological Survey Open-File Report 74-97, 241 p.

This report has not been edited for conformity with Geological Survey editorial standards.

GEOLOGIC MAP AND COAL DEPOSITS OF THE FOUR BAR J RANCH QUADRANGLE, CAMPBELL COUNTY, WYOMING

By
G. L. Galyardt

1980