



CORRELATION OF MAP UNITS

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

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 primarily derived by erosion of local rock units and older surficial units
Qac	ALLUVIAL AND COLLUVIAL DEPOSITS (HOLOCENE), UNDIVIDED--Interbedded and mixed sand, silt, clay, indurated clasts, and clasts of baked and fused rock. Sediment primarily derived by erosion of local rock units. Primarily alluvial channel deposits, but gradational to colluvial deposits along valley margins. Forms a terrace level 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, primarily 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
Tw	WASATCH FORMATION (EOCENE AND PALEOCENE(?))--Generally drab-brown and gray, poorly indurated and interbedded sandstone, siltstone, clay, carbonaceous shale, and coal beds. Wasatch beds exposed above Felix coal beds are predominantly clay, carbonaceous shale, and thin coal beds, with minor sandstone. Coarse- to medium-grained channel sandstone bodies occur locally, immediately above and below lower Uln (U _l) coal bed. Persistent, coarse- to medium-grained, conglomeratic sandstone approximately 100 ft thick immediately underlies Felix (F) coal bed. Base arbitrarily chosen at top of upper Wyodak coal bed, Fort Union Formation. Maximum 450 ft exposed in quadrangle
Tfu	FORT UNION FORMATION (PALEOCENE)--Shown in cross section only

COAL BED--Long dashed where approximately located; short dashed where inferred; dotted where concealed. Coal beds F, F₁, Sc, and U_l crop out; other coal beds are shown in cross section on sheet 1 and generalized columnar section on sheet 2. Equivalent thickness, in feet, measured at solid triangle; calculated by methods of Smith and others (1913, p. 70-71) and Bass, Smith, and Horn (1970, p. 6). Rock interval, R, separates two closely spaced coal beds; mapped line represents base of lower coal. Beds identified as local are thin discontinuous coal beds of uncertain correlation

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; br identifies very small deposits

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

STRIKE AND DIP OF BEDS

Inclined

Component of dip, dot marks point of observation

STRUCTURE CONTOURS--Drawn on base of Felix (F) or lowest split of Felix (F₁) coal. Short dashed where above land surface. Depression contours identified by hachures. Contour interval 40 ft. Rapid and unpredictable interval changes, including differential compaction features (Law, 1976), preclude coincidence with structure contours drawn on other horizons

DRILL HOLES--Used in subsurface interpretations. Index number refers to subsurface coal section

Producing oil well

Abandoned oil-and-gas test hole

Water well

Coal test hole; U.S. Geological Survey and Montana Bureau of Mines and Geology (1974)

ABANDONED COAL MINE--Adjacent number is equivalent coal thickness, in feet. Equivalent coal thickness calculated by methods of Smith and others (1913, p. 70-71) and Bass, Smith, and Horn (1970, p. 6)

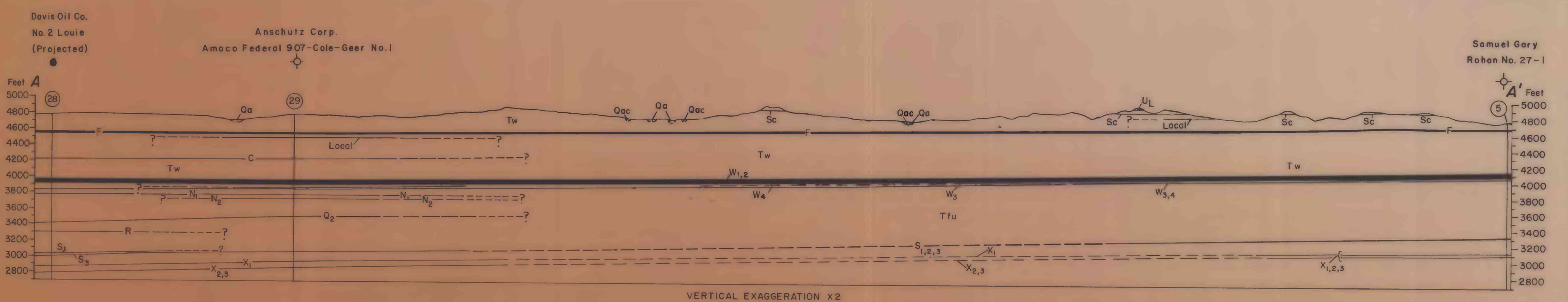
All measurements in feet.

To convert to meters,
multiply by 0.3048.

REFERENCES

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



PRELIMINARY GEOLOGIC MAP AND COAL DEPOSITS OF THE APPEL BUTTE QUADRANGLE, CAMPBELL COUNTY, WYOMING

By
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