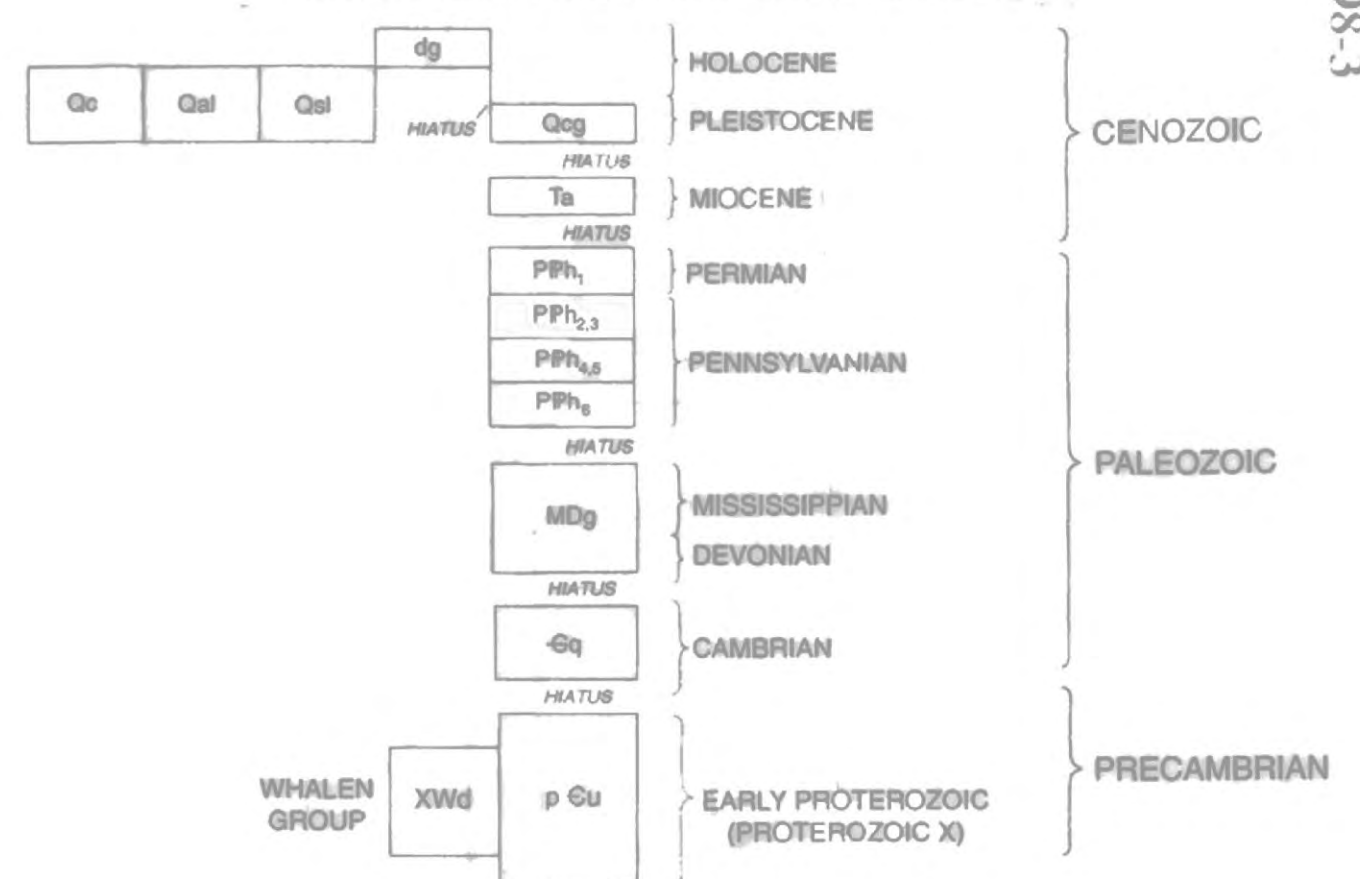


EXPLANATION

CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

- dg** disturbed ground - areas covered by urban or industrial development.
- Qc** Colluvium - Talus and block slide deposits at the base of cliffs and steep slopes.
- Qal** Alluvial deposits - Sand, silt, gravel, and clay deposited mainly along the North Platte River and smaller intermittent streams; includes alluvial terraces and adjoining colluvial deposits.
- UNCONFORMITY**
- Qal** Silty loess - Brown to dark brown deposits of windblown silt with minor clay and very fine sand; includes reworked deposits of loess. The thickness may exceed 80 feet. Locally called "blow dirt".
- UNCONFORMITY**
- Qcg** Gravel deposits - Boulder to pebble conglomerate deposited in a fluvial environment by the ancestral North Platte River. Contains fluvial cross-bedded sand zones. The boulders include many types of crystalline, metamorphic, and sedimentary rocks including but not limited to granite, monzonite, amphibolite, schist, quartzite, marble, limestone, and sandstone. Includes clasts from the Hartville uplift as well as clasts from the Laramie Mountains and farther west. Concentrated near faults, gravel deposits attain local thicknesses in excess of 150 feet.
- UNCONFORMITY**
- Ta** Arikaree Formation - Light gray tuffaceous sandstone containing occasional limy concretions. Vertebrate fossils are common in some areas. Only the upper part of the Arikaree Formation (McCraw, 1953), is found in the area. Forms bluffs and narrow canyons with local areas of bad-land topography.
- UNCONFORMITY**
- PPh₁** Hartville Formation, division 1 - Red silty shale and siltstone, red seolian sandstone, limestone. Forms ledges and slopes. Approximately 300' thick where completely exposed. Permian (Wolfecampian) in age (Danson and Botzly, 1949).
- PPh_{2,3}** Hartville Formation, divisions 2 and 3 - Interbedded gray limestone, buff to chalky white limestone and dolomite, pink dolomite, buff seolian (Tom Ahrbrandt, U.S. Geological Survey, personal communication, 1955) sandstone, gray, red, and maroon silt and claystones, and thin black shales. Brachiopods are common in limestones and dolomite layers. Fusulids reported in fine-grained clastic layers (Danson and Botzly, 1949). Forms ledged slopes and cliffs commonly covered with Mountain Mahogany. About 300 feet thick in the area.
- PPh_{4,5}** Hartville Formation, divisions 4 and 5 - Interbedded maroon, red, pink, and gray siltstones and claystones, gray, brown, and buff limestone, pink dolomite, and thin gray sandstones. Forms smooth slopes with limestone ledges. About 250 feet thick in the area.
- UNCONFORMITY**
- PPh₆** Hartville Formation, division 6 - Well-indurated maroon to red orthoquartzite. Forms cliffs and rocky knolls. Deposited on a well-developed karst surface, and fills sinkholes and caverns in the underlying Guernsey Limestone. Thickness 0 - 120 feet.
- UNCONFORMITY**
- MDg** Guernsey Limestone - Gray limestone with local beds and zones of chert. Brachiopods common. Thickness 0 to 180 feet. Forms smooth to ledged slopes commonly covered with Mountain Mahogany.
- UNCONFORMITY**
- Cq** Quartzite of probable Cambrian age - Gray to red to cream-colored coarse grained cross-bedded orthoquartzite found in lenses along the North Platte River below Guernsey Dam. Probably equivalent to the Deadwood Quartzite.
- UNCONFORMITY**
- WXd** Metadolomite - Gray, pink, white, and yellow, medium-grained (dolomite and marble, tremolite dolomite, siliceous dolomite, and limestone. Tremolite occurs as radiating blades resembling turkey tracks. Contains abundant concentrically layered siltstomatolite mounds. Estimated thickness, 300-350 m.
- pCu** Undifferentiated Precambrian rocks (only on cross section).

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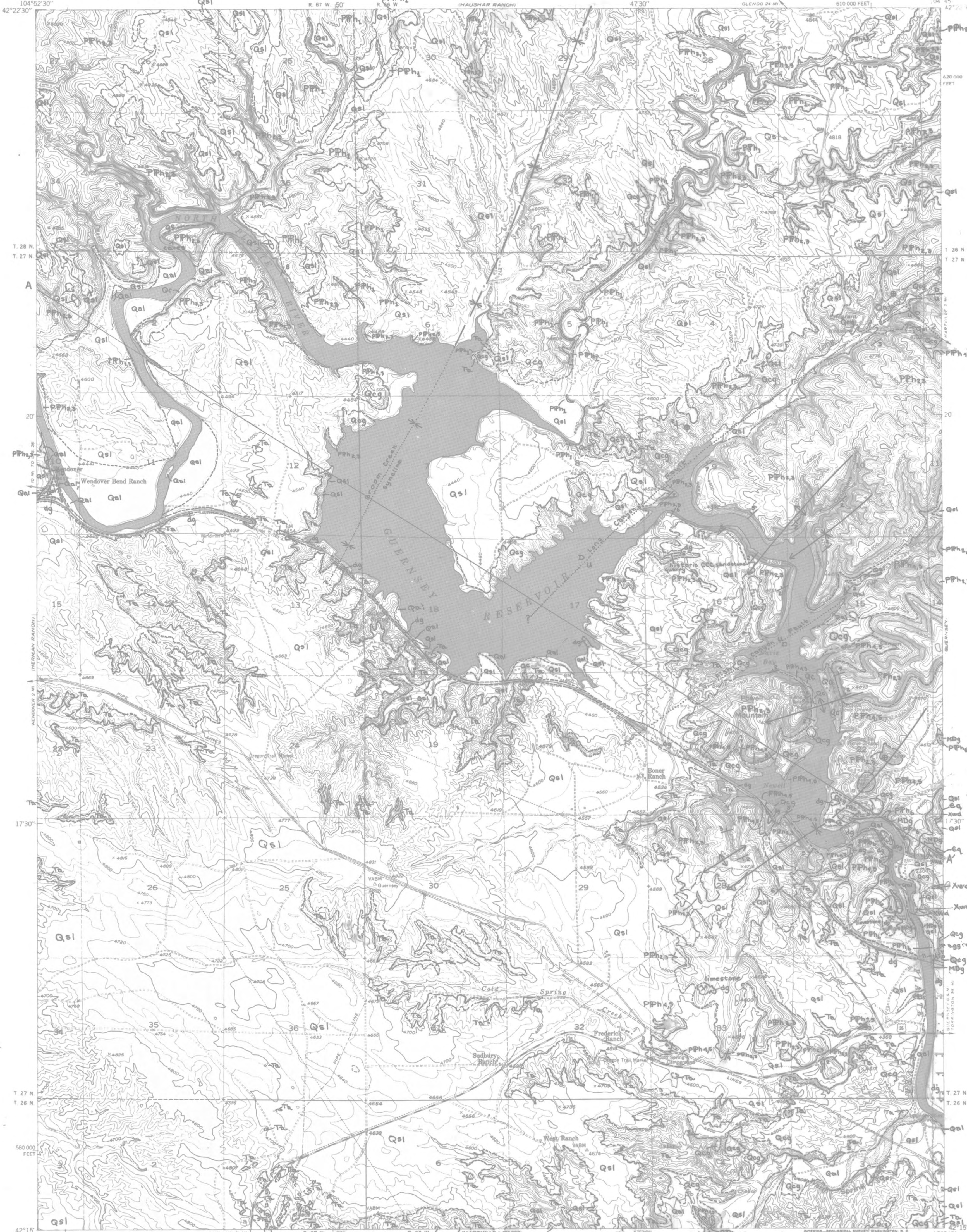
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SYMBOLS

- Contact - dashed where covered or inferred, dotted where concealed.
- High-angle fault - dashed where covered or inferred, dotted where concealed; bar and ball on downthrown side.
- Anticline, showing plunge of axis.
- Syncline, showing plunge of axis.
- Inclined bedding showing dip.
- Horizontal bedding.
- Mine, prospect, or mineral occurrence.

This map has not been edited for conformity with the editorial standards of the Wyoming State Geological Survey. This map was funded from the Wyoming State Geological Survey general operating budget and by the U.S. Geological Survey, Department of Interior, under assistance Award No. 1434-HG-97-AG-0181.8. The views and conclusions expressed on this map are those of the author and should not be interpreted as necessarily representing official policies, either expressed or implied, of the U.S. Government.

Cartography by Cynthia S. Boyd



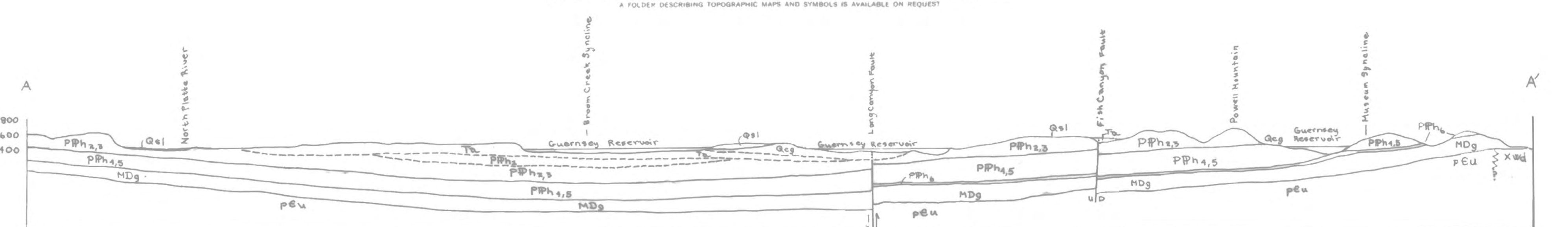
Maped, edited, and published by the Geological Survey as part of the Department of the Interior program for the development of the Missouri River Basin. Control by USGS and USC&GS. Topography from aerial photographs by multirex methods. Aerial photographs taken June 1947 and September 1948. Field check 1950. Polyconic projection 1927 North American datum 10,000-foot grid based on Wyoming coordinate system east zone. Dashed land lines indicate approximate location.

ROAD CLASSIFICATION
 Heavy-duty ———— GRAVEL LANE Light-duty ————
 Medium-duty ———— SANDY GRAVEL UNIMPROVED DIRT
 U. S. Route State Route

CONTOUR INTERVAL 20 FEET
 DATUM IS MEAN SEA LEVEL

GUERNSEY RESERVOIR, WYO.
 N4215-W10445/7.5
 EDITION OF 1951

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 A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



Preliminary Geologic Map of the Guernsey Reservoir Quadrangle, Platte County, Wyoming

by Ray E. Harris