

DESCRIPTION OF MAP UNITS<sup>1</sup>

UNCONSOLIDATED DEPOSITS  
Alluvial Deposits

- Qal** ALLUVIUM - Elongate deposits of gravel and sand with few to numerous boulders; well sorted and medium to thick bedded; locally crossbedded
- Qlp** FLOODPLAIN ALLUVIUM - Elongate deposits of gravel and sand with few to numerous boulders beneath modern floodplains and associated low terraces; surface smooth except for local low scarps
- Qb** POINT BAR ALLUVIUM - Arcuate deposits of gravel and sand forming point bars along margins of modern streams and tracing abandoned stream channels; surface thickly vegetated by tall stands of deciduous trees
- Qat** TERRACE ALLUVIUM - Gravel and sand forming elevated benches bordering modern floodplains; surface smooth except for local low scarps
- Qaf** ALLUVIAL FAN DEPOSITS - Fan-shaped, heterogeneous mixtures of gravel with some sand and silt and few to numerous, subangular to rounded boulders, especially in proximal areas, which may include debris-flow deposits

Colluvial Deposits

- Qc** UNDIFFERENTIATED COLLUVIUM - Irregular, heterogeneous blankets, aprons, and fans of angular to subrounded rock fragments, gravel, sand and silt that are left on slopes or at slope bases by residual weathering and complex mass-movement processes, including rolling, sliding, flowing, gelifraction, and frost creep; locally washed by meltwater and slope runoff; surface generally reflects configuration of underlying bedrock surface
- Qac** UNDIFFERENTIATED COLLUVIUM AND ALLUVIUM - Fan-shaped and elongate, heterogeneous mixtures of subangular rock fragments and gravel with some silt and sand deposited in upper stream courses primarily by debris flows, gelifraction, and by brief, intense, summer stream flow; surface smooth, except for local low scarps and shallow, steep-sided channels
- Qct** TALLS CONE DEPOSITS - Cone-shaped, heterogeneous mixtures of angular rock fragments with trace to some gravel, sand, and silt deposited on steep bedrock slopes and at mouths of steep bedrock couillers by snow avalanches, free fall, tumbling, rolling, and sliding; surface steep, slightly irregular, and covered with numerous angular rock fragments
- Qca** COLLUVIAL APRON DEPOSITS - Apron-shaped, heterogeneous mixtures of angular rock fragments with trace to some gravel, sand, and silt deposited at the bases of steep slopes bordering modern stream valleys; may include a considerable component of redeposited eolian silt in the northern part of the region; locally washed by meltwater and slope runoff; surface steep to gently sloping

Complex Deposits

- Qs** UNDIFFERENTIATED SWAMP DEPOSITS - Elongate to blanket deposits of peat, organic silt, and organic sand accumulated as surface deposits in local basins, in former stream channels, and downslope from springs and seeps; saturated and locally frozen, locally ice rich; complex bedded; surface smooth
- Ql** UNDIFFERENTIATED LACUSTRINE DEPOSITS - Arcuate or semicircular deposits of silt, sand, and organic silt along margins of local small lakes and filling basins of drained lakes; saturated and locally frozen, locally ice rich; surface smooth
- Qel** LOESS - Heterogeneous blankets of silt and organic silt laid down primarily by eolian processes, but may be considerably reworked by fluvial and colluvial processes; probably perennially frozen and ice rich; local ice wedges; surface smooth to locally pitted and gullied by melting of ice-rich permafrost; minimum ages of 38,770 ± 5,540-3,250 yr BP (GX-21044) and > 42,020 yr B.P. (GX-21045)

BEDROCK

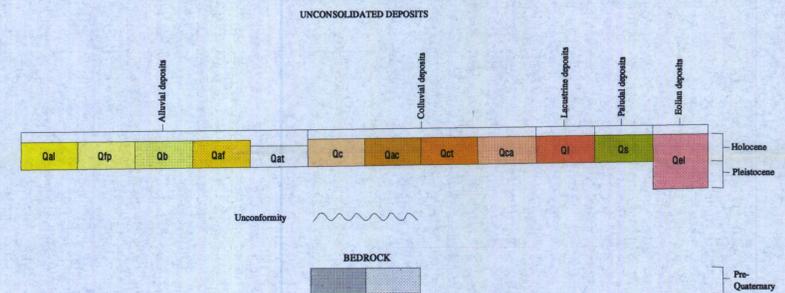
- EXPOSED BEDROCK**
- THINLY COVERED BEDROCK**

<sup>1</sup>Map units and symbols are described for the Charley River D-1, C-1, and part of the B-1 quadrangles but may not be present on a given map of the group. Map units not present on the map sheet are shown without color in the explanation.

EXPLANATION OF MAP SYMBOLS

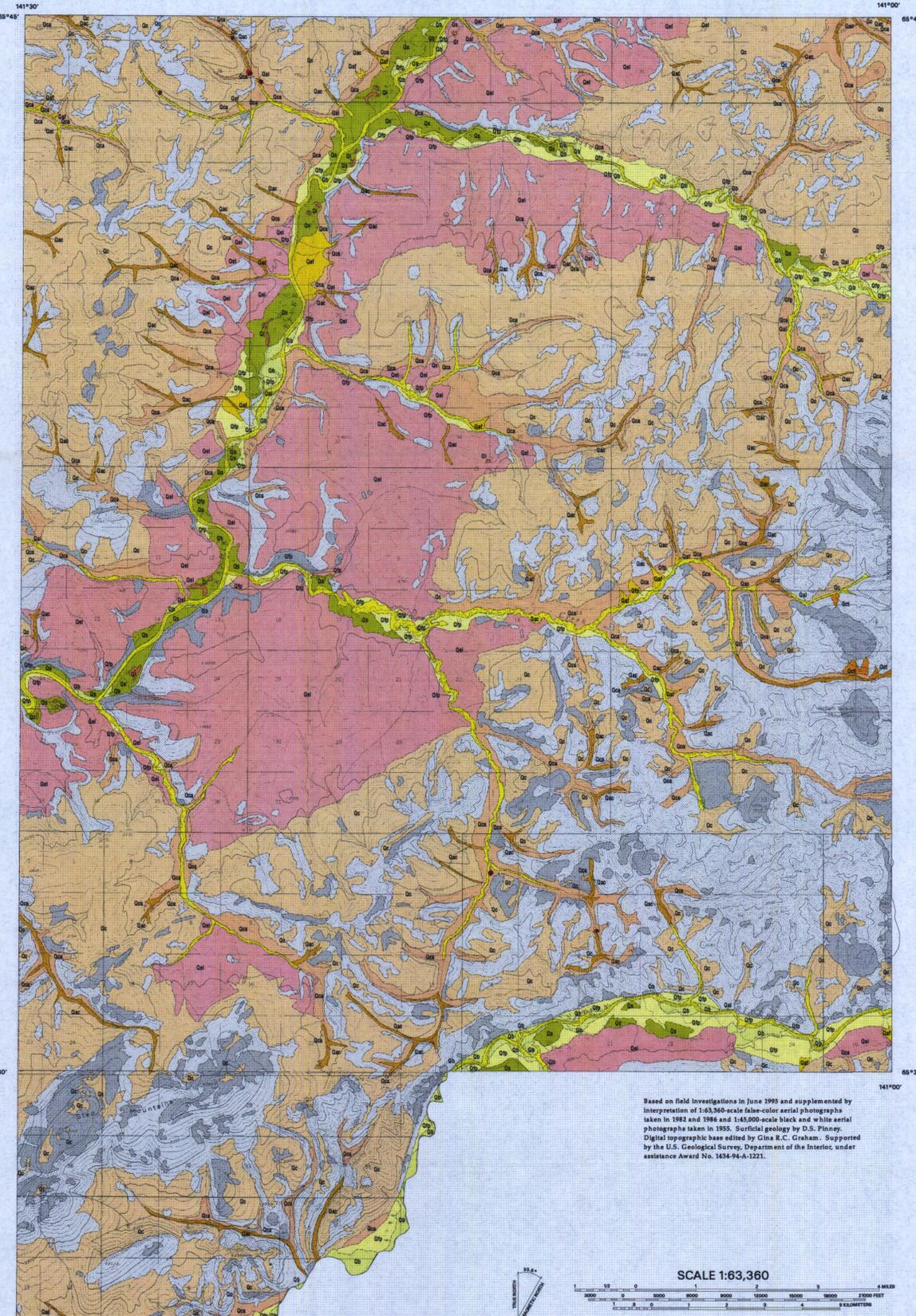
- Approximate contact
- Pingo

CORRELATION OF MAP UNITS



Based on field investigations in June 1995 and supplemented by interpretation of 1:63,360-scale false-color aerial photographs taken in 1982 and 1986 and 1:45,000-scale black and white aerial photographs taken in 1955. Surficial geology by D.S. Pinney. Digital topographic base edited by Gina R.C. Graham. Supported by the U.S. Geological Survey, Department of the Interior, under assistance Award No. 1434-94-A-1221.

SCALE 1:63,360



141°30'  
Base modified from U.S. Geological Survey D-1 (1956) 1:63,360 Quadrangles, Alaska. Universal Transverse Mercator Projection, 1927, North American Datum. Scanned and rectified for use in ARC/INFO GIS system.



LOCATION OF STUDY AREA

**SURFICIAL GEOLOGIC MAP OF THE CHARLEY RIVER C-1 AND PART OF THE B-1 QUADRANGLES, EASTCENTRAL ALASKA**

By

D.S. Pinney, J.G. Clough, and S.A. Liss

1995



Department of Natural Resources  
Division of Geological and Geophysical Surveys  
Geologic Data Modeling System