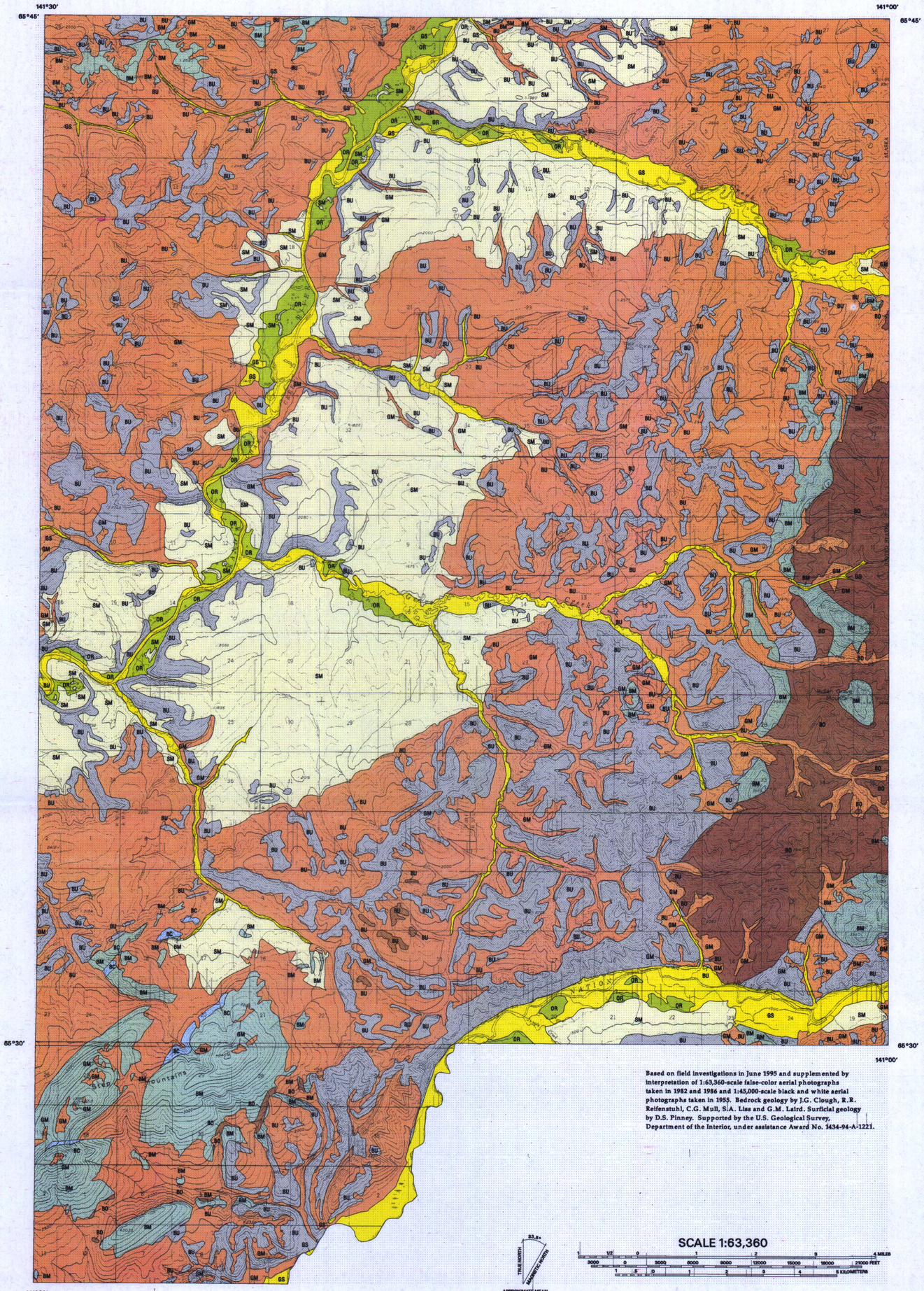
ALASKA DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS
IN COOPERATION WITH THE U.S. GEOLOGICAL SURVEY

PUBLIC-DATA FILE 95-33d
PINNEY AND OTHERS (1995), sheet 2 of 2



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. Bedrock geology by J.G. Clough, R.R. Reifenstuhl, C.G. Mull, S.A. Liss and G.M. Laird. Surficial geology by D.S. Pinney. Supported by the U.S. Geological Survey, Department of the Interior, under assistance Award No. 1434-94-A-1221.

33.8°
TRUE NORTH
MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION, 1995

SCALE 1:63,360

1 1/2 0 1 2 3 4 MILES
3000 0 3000 6000 9000 12000 15000 18000 21000 FEET
1 .5 0 1 2 3 4 5 KILOMETERS

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

GEOLOGIC-MATERIALS

This map illustrates potential near-surface sources of various geologic materials that may be useful for construction. Field observations indicate that each geologic unit (for example, stream alluvium) has a definite composition or range of composition wherever that unit is found. Therefore, the presence of material type is interpreted from the distribution of geologic units. This map is generalized and is not intended to show exact locations of specific materials. The purpose is to indicate general areas that deserve consideration for certain materials and to eliminate other general areas from consideration. Local variations are common, especially near unit boundaries. Potential availability of construction materials associated with each geologic-materials unit are qualitatively summarized in the table below. Precise economic evaluations of specific localities as sources of construction materials will require detailed examination of each deposit, including areal extent, volume, grain-size variation, thickness of overburden, thermal state of the ground, and depth to water table as well as logistical factors, demand, and land ownership.

DESCRIPTION OF MAP UNITS[1]

- **GS** — Chiefly (estimated greater than 80%) clean sand and gravel. Rare oversized material. Includes GW and GP (Unified Soil Classification)
- **GM** — Mixed coarse and fine material. Estimated 20-80% coarse, granular deposits with considerable oversized material. Includes GM and GC (Unified Soil Classification)
- **SM** — Chiefly fine materials. Estimated greater than 80% sand, silt, and clay. Includes SM, SC, ML, MH, CL, and CH (Unified Soil Classification)
- **OR** — Chiefly organic materials. Estimated greater than 50% peat, organic sand, or organic silt. Includes Pt (Unified Soil Classification)
- **BV** — Medium-jointed, fine- to medium-grained igneous rocks
- **BC** — Medium-jointed, fine- to coarse-grained sedimentary carbonate rocks
- **BM** — Medium-jointed, fine- to medium-grained quartzose sedimentary rocks; includes conglomerates
- **BO** — Fissile, fine-grained sedimentary rocks and their weakly metamorphosed equivalents
- **BU** — Undifferentiated or variable bedrock lithologies

[1]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.

POTENTIAL AVAILABILITY OF VARIOUS GEOLOGIC MATERIALS

Probability of locating sources of _____ [a]

Map unit	Composition	Gravel and Sand	Sand	Mixed coarse- and fine-grained material	Clay	Crushed aggregate	Riprap armor rock	Building stone
GS	Gravel and sand	Good	Good	Poor	Nil	Good	Nil	Nil
GM	Mixed coarse and fine materials	Moderate	Moderate	Good	Poor	Poor	Nil	Nil
SM	Fine materials	Nil	Poor	Nil	Poor to moderate	Nil	Nil	Nil
OR	Organic materials	Nil	Nil	Nil	Moderate	Nil	Nil	Nil
BV	Fine-grained igneous rocks	Nil	Nil	Nil	Nil	Good	Good	Poor
BC	Fine- to coarse-grained carbonate rocks	Nil	Nil	Nil	Nil	Good	Good	Good
BM	Fine- to medium-grained quartzose sedimentary rocks	Nil	Nil	Nil	Nil	Good	Good	Good
BO	Fine-grained fissile sedimentary rocks	Nil	Nil	Nil	Nil	Poor	Poor	Poor
BU	Undifferentiated or variable lithologies	Nil	Nil	Nil	Nil	Poor to Good	Poor to Good	Poor

[a]The imprecise terms "good", "moderate", "poor", and "nil" are purposely used to indicate the relative probability of locating good deposits of each construction material in the various map units. No definite values are assigned to each term, but they may indicate a probability of 80 percent or more for "good", 30 to 80 percent for "moderate", less than 30 percent for "poor", and essentially zero chance for "nil."

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

By

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

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