

ENGINEERING GEOLOGY

This map was based primarily upon original photo-interpretation of color infrared aerial photography and LANDSAT imagery. Published and unpublished geologic maps and reports were used as supplementary sources of information. Minimum mapping resolution is usually 40 acres; important features that could be located with accuracy on the topographic base maps were mapped to a minimum of 10 acres.

Terrain units consist of landform types and their constituent geologic materials occurring from the ground surface to a depth of 25 feet. A simple terrain unit consists of a single landform type, layered, mosaic, and complex terrain units consist of 2 or more landform types. The terrain unit classification is based on the hierarchical catalog of landform types developed for Alaska by Brown and Lau (1980) and Kreis and Reger (1976, 1980). Landform types are identified by letter codes; uppercase letters indicate the origin of the deposit while lower case letters indicate the specific landform type within a group. See the User's Guide to the Copper River Area Resource Mapping Project for detailed descriptions of mapped units and documentation of mapping methods and sources.

UNCONSOLIDATED (SEDIMENTS) TERRAIN UNITS

- C Colluvial (gravity) Deposits
- Ca Avalanche Deposits
- Cg Rock Glacier
- Cl Landslide Deposits
- Ct Talus Deposits
- E1 Loess (wind deposited silt)
- Es Sand Dune
- Fd Fluvial (Stream) Delta Deposits
- Fda Abandoned Fluvial (Stream) Delta Deposits
- Ff Alluvial (Stream) Fan Deposits
- Ffg Granular Alluvial (Stream) Fan Deposits
- Ffs Silt Alluvial (Stream) Fan Deposits
- Fm Mud Volcano
- Fp Floodplain (Stream) Deposits
- Fpb Braided Floodplain (Stream) Deposits
- Fpm Meander Floodplain (Stream) Deposits
- Fpa Abandoned Floodplain (Stream) Deposits
- Fs Retransposed (Slopewash) Deposits
- Ft Fluvial (Stream) Terrace Deposits
- Fto Old Fluvial (Stream) Terrace Deposits
- Gq Glacier (Ice)
- Gl Glacial lacustrine (glacial lake) Deposits
- Gm Glacial Moraine (hilly) Deposits
- Gt Glacial Till (nearly level) Deposits
- Gtd Glacial Drumlin Till Deposits
- Gti Glacial Fluted Till Deposits
- Gto Older Glacial Till Deposits
- Gty Younger Glacial Till Deposits
- Gf Glacioluvial (meltwater) Deposits, Undifferentiated
- Gfo Glacioluvial (meltwater) Esker Deposits
- Gfk Glacioluvial (meltwater) Kame Deposits
- Gfl Lowland Glacioluvial (meltwater) Deposits
- Gfo Glacioluvial (meltwater) Outwash Deposits
- L Lacustrine (Lake) Deposits
- Lb Lacustrine (Lake) Beach Deposits
- Ll Lacustrine Thaw Basin/Lake Deposits
- Mb Marine Beach Deposits
- Mt Marine Tidal (mud flat) Deposits
- O Organic Deposits
- Wb Water Body: Bay
- Wf Water Body: Fjord
- Wg Water Body: Lagoon
- Wl Water Body: Lake
- Wt Water Body: Strait

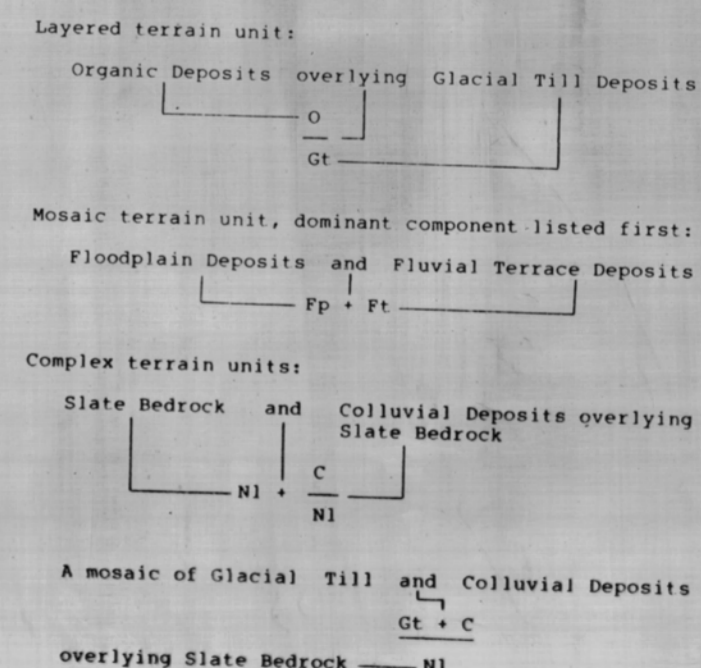
CONSOLIDATED (BEDROCK) TERRAIN UNITS

- Id Extrusive Igneous Bedrock (lava flows)
- Iba Extrusive Acidic Bedrock (lava flows)
- Ibb Extrusive Basic Bedrock (lava flows)
- Ig Intrusive Igneous Bedrock
- Iga Intrusive Acidic Bedrock (granitic rocks)
- Igb Intrusive Basic Bedrock (gabbroic rocks)
- Igu Intrusive Ultrabasic Bedrock
- Ip Pyroclastic Deposits (ash, cinder)
- N1 Slate, Phyllite
- Nm Marble
- Np Serpentine
- Nq Quartzite
- Ns Schist
- S Sedimentary Bedrock, Undifferentiated
- Sc Conglomerate
- Sh Shale, Siltstone
- Sl Limestone
- Ss Sandstone

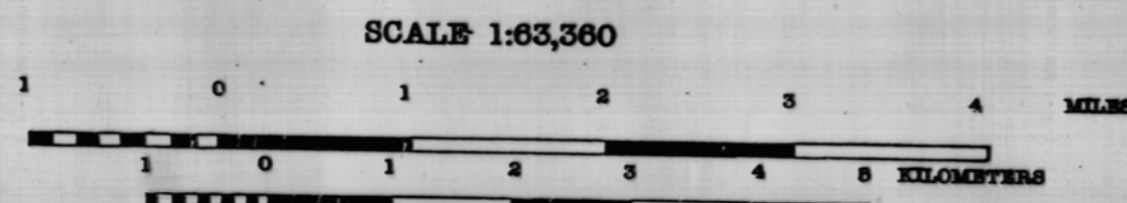
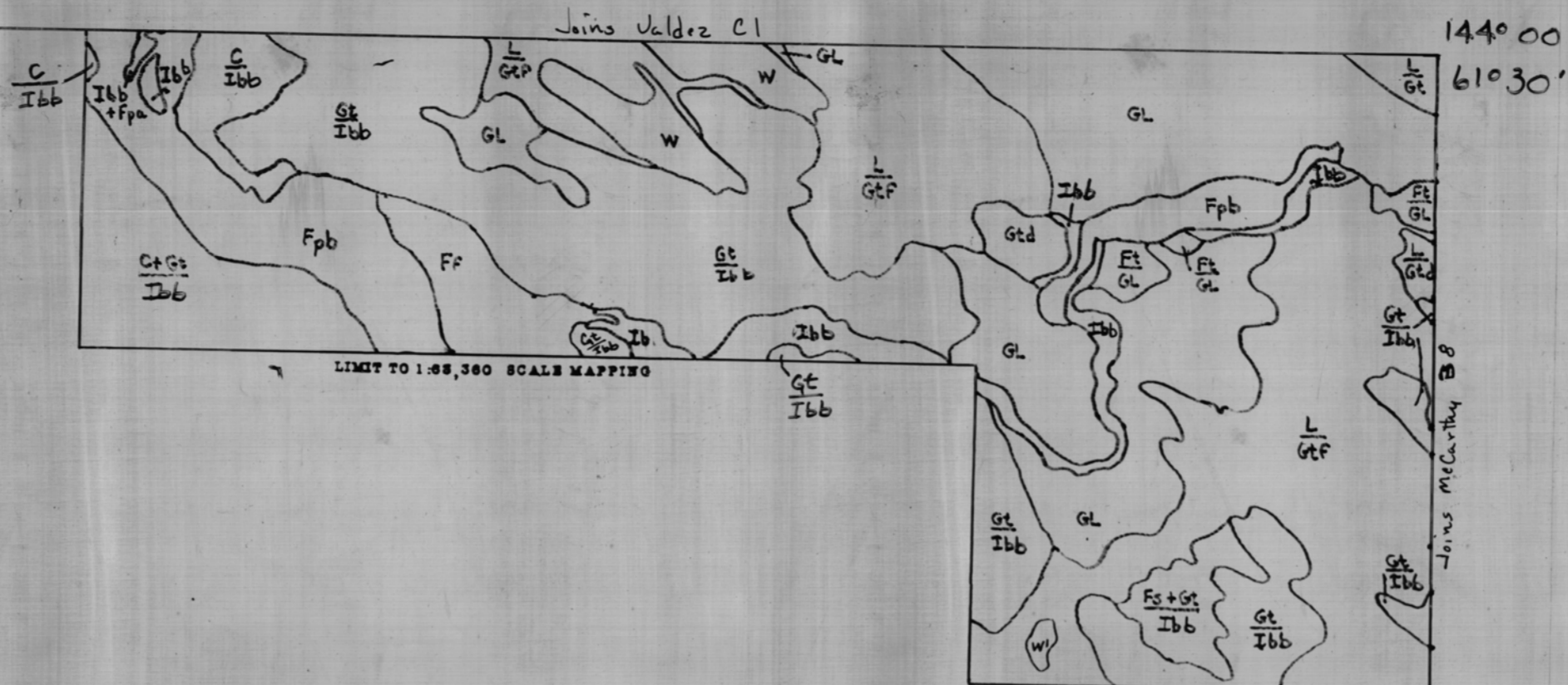
CONNECTIVES

- Layered terrain unit; one landform type overlying another.
- + Mosaic terrain unit; dominant component listed first. A mosaic terrain unit is composed of 2 discrete components, each of which comprises greater than 25% of the area of the polygon and which are too small and intricately mixed to separate.

EXAMPLES



This document is intended only for general land management and planning purposes. There has been no field verification of the interpretation other than recourse to published and unpublished maps and reports. Projects which require site-specific data will require additional on-site investigation to verify terrain units, their characteristics, and their geotechnical properties.



VALDEZ (B-1) QUADRANGLE
 ENGINEERING GEOLOGY

61° 15" 144° 22' 30"

PREPARED FOR THE
 STATE OF ALASKA
 DEPARTMENT OF NATURAL RESOURCES
 DIVISION OF GEOLOGICAL & GEOPHYSICAL SURVEYS
 BY AGRA

ARCTIC GEO RESOURCE ASSOCIATES
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