

/* ----- CODESET ----- */
Title: Preliminary Derivative Geologic Materials Map of the Fairbanks Mining District, Alaska
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DESCRIPTION OF MATERIALS UNITS (MAT)

GW - TAILINGS. Well graded gravels with little or no fines. Appears as steep imbricate gravel piles, locally leveled, 1 to >25 m thick. Primarily gravel clasts 2-15 cm diameter and some cobbles to >25 cm diameter. Low sand and silt content (<5 percent) as a result of dredging process. Only locally perennially frozen with low ice content.

GM-GW - ALLUVIUM. Silty gravels and poorly graded gravel-sand-silt mixtures to well graded gravels and gravel-sand mixtures with little or no fines. Alluvium along larger rivers is primarily clean, rounded gravel with layers of sand and minor silt, generally overlain by silt up to 1-4 m thick. Thickness of alluvium is 3 to >120 m. Contains discontinuous permafrost to known depths of 84 m; permafrost absent under rivers and lakes. Alluvium along small upland streams is up to several meters thick and contains variable proportions of stratified silt, sand, and gravel, with silt and sand often dominant.

GM - COLLUVIUM. Silty gravels and poorly graded gravel-sand-silt mixtures. Crudely bedded, heterogeneous mixtures of angular gravel, sand, and silt in variable proportions up to several meters thick (up to several tens of meters thick in landslide areas, Qls). May contain angular clasts up to several tens of centimeters in diameter. Locally perennially frozen with low ice content.

ML-SM - SLOUGH FILLINGS. Inorganic silts to silty sands and poorly graded sand-silt mixtures. Contains 10-30 percent clay and minor organic material. Discontinuously frozen; permafrost may extend into underlying sand and gravel.

ML - LOESS AND SILT-FAN DEPOSITS. Inorganic silts and very fine sands with slight plasticity. Contains <10 percent clay and minor layers of sand and gravel and organic matter. Thickness 1-60 m thick in loess areas (Qef), 1-15 m thick in silt fans (Qafs). Permafrost generally absent in loess areas except in isolated patches with low ice content on north-facing slopes. Silt-fan areas contain discontinuous permafrost with moderate ice content.

OL - REWORKED SILT. Organic-rich silts with low plasticity. Contains <20 percent clay; locally contains minor lenses of sand and gravel. Thickness 10 to >100 m thick. Perennially frozen with high ice content in valley bottoms and locally along lower hillsides. Very difficult to excavate unless thawed.

Pt - PEAT. Spongy, wet, fibrous organic matter, 1 to >6 m thick. Perennially frozen with high ice content. Very difficult to excavate unless thawed. Good source of raw peat in thawed areas but poor drainage usually requires dewatering of excavation pits.

BV - Medium-jointed, fine- to medium-grained igneous rocks. Generally massive with evenly spaced joint sets and minor amounts of reactive minerals, such as feldspars and micas. In fresh exposures, BV rocks may be suitable for riprap, D-1, and crushed-aggregate applications. However, these rocks are frequently subjected to deep groundwater degradation and alteration of the network minerals potassium feldspar and plagioclase. This weathering can produce a sandy grus that significantly modifies or prohibits above-stated uses.

BC - Medium-jointed, fine- to coarse-grained meta-sedimentary rock; includes marble. May be useful for crushed-aggregate applications, but heterogeneous composition and texture cause physical properties to vary greatly.

BM - Medium-jointed, fine- to medium-grained quartzose meta-sedimentary rocks; includes meta-conglomerates. Fresh exposures of massive quartz-rich lithologies may be suitable sources of riprap and other structural-aggregate applications. Other more schistose varieties contain reactive minerals, such as muscovite, calcite, and plagioclase, which degrade to noncompetant and deeply weathered materials.

BO - Fissile, fine-grained meta-sedimentary rocks. Platy, fissile nature, couple with existence of reactive minerals muscovite, calcite, and plagioclase in finely laminated layers, suggest that these rocks generally are noncompetant and extensively weathered, making them unsuitable for structural applications. May serve as crushed aggregate for road-metal uses.

BU - Undifferentiated or variable rock lithologies. Heterogeneous unit that contains a wide variety of material properties. Main exposure on Fourth of July Hill is poorly lithified conglomerate and sandstone that exhibit properties similar to those found in placer-mine tailings (GW).