

GENERALIZED DESCRIPTION OF MAP UNITS IN THE BEECHEY POINT AND SAGAVANIRKTOK QUADRANGLES, ALASKA

Map symbol	Name	Description	Distribution and thickness	Topography and vegetation	Permafrost	Susceptibility to frost action	Drainage		Susceptibility to erosion	Suitability for construction uses	Problems
							Surface	Subsurface (if thawed)			
Qfg	Flood plain gravel	Gravel and sand with minor amounts of silt and clay. Gravel clasts well rounded to subrounded and of diverse rock types derived from Brooks Range. Imbricate structure of cobbles and pebbles common.	Present along the major rivers, Sagavanirktok, Kadleroshilik, Shaviovik, and Kavik; thickness unknown, probably less than 50 feet except along Sagavanirktok River where thickness may exceed 50 feet.	Flood plain, flat with braided drainage channels; relief generally less than 10 feet. Vegetation generally absent.	Generally free of permafrost near surface. Probably present at some (unknown) depth.	Low	Good	Good	High because of proximity to river channels.	Excellent, primarily as coarse aggregate; presence of some chert objectionable.	Subject to erosion and flooding during times of high runoff (spring breakup). Depth of river scour must be determined before burying pipe or cable. Auefis conditions can occur locally. Shallow ground-water table will be problem during excavation.
Qrs	Recent slide deposit	Unsorted, unconsolidated soil and rock rubble derived from Tertiary rocks.	Occurs as one isolated slide on an unnamed tributary of the Kavik River in the southeast corner of map. Probably less than 20 feet thick.	Hummocky, irregular topography on sloping river bank. Composed of tilted slump blocks covered with shrubs and grass.	Present within 2 feet of surface.	High	Poor	Fair	High	Poor	Subject to surface movement during spring and summer thawing.
Qc	Colluvium	Poorly sorted sand, silt, and clay derived from local upslope sources. May contain minor amounts of coarse material. Generally consists of a mixture of soil and other fine-grained materials that are subject to slow downslope creep when thawed.	Present near base of slopes bordering the Kavik River in the southeast part of map area. Probably less than 20 feet thick.	Generally smooth slopes along the base of steeper slopes. Low shrubs and grasses common.	-----do-----	High	Fair	Poor	High	Poor	May occasionally be subjected to surface movement. Generally this material is present at or near the base of steeper slopes and represents the accumulation of debris derived by slow flowage from upslope.
Qlb	Drained lake basin deposit	Carbonaceous sandy silt overlying sandy gravel. Low scarps and vegetation patterns indicate former shorelines.	Throughout the coastal plain; superimposed on coastal-plain silts and sands (Qg). Probably less than 15 feet thick.	Flat topography surrounded by subdued scarps (former shorelines). Tundra vegetation.	Present within 2 feet of surface. Contains much ice. Ice wedges and pingos common.	High	Poor	Poor	High	Poor	May settle if enclosed ice melts.
Qds	Dune sand	Fine to medium sand, well-sorted.	Present only at one locality near the mouth of the Sagavanirktok River. Probably 10 to 30 feet thick.	Low ridge dune-forms with tundra vegetation.	Generally present within 2 feet of surface. Ice content generally lower than in underlying sediments (Qg).	Low	Good	Good	Low except for some wind erosion in vegetation-free area.	Limited quantity of well-sorted sand.	
Qs	Sand, silt, and clay	Carbonaceous sand, silt, and clay of multiple origin; primarily residual, eolian, and colluvial in nature. Differs from coastal-plain deposits (Qg) by the lack of pebbles and cobbles.	Present in the southern part of the map area at the inland boundary of the coastal-plain sediments. Generally 20 feet thick but locally thicker.	Gentle slopes rising above the flat coastal plain. Streams have cut 6- to 15-foot gullies into the soft sediments. Tundra vegetation.	Present within 2 feet of surface.	High	Poor	Poor	High, stream gullying.	Poor	High ice content makes this material subject to extreme settlement and flowage even on gentle slopes if enclosed ice melts.
Qvg	Vegetated gravel	Gravel and sand with minor amounts of silt and clay. Gravel clasts well rounded to subrounded. Commonly mantled with 1 to 3 feet of carbonaceous silt.	Extensive deposits along the major rivers. Probably less than 50 feet thick except along the Sagavanirktok River, where thickness may exceed 50 feet.	Low, flat terraces bordering and occasionally surrounded by younger flood plain gravels (Qfg). Covered almost everywhere by tundra or low brush vegetation.	Generally present within 2 feet of the surface. Ice wedges present locally.	Low except in silt-rich cover	Good	Good	High because of proximity to major rivers.	Good when stripped of thin silt overburden; however, materials generally must be thawed before being excavated. Presence of chert objectionable.	Flooding and erosion common during high runoff. Shallow ground-water table limits depth of excavation.
Qg	Coastal-plain silt, sand, and gravel	Carbonaceous pebbly silt and silty sand overlying sandy gravel.	Widespread throughout map area where it underlies most of the coastal plain. Pebbly silt is as much as 20 feet thick, and the underlying gravel at least 20 feet; total thickness of unit unknown but could be several hundred feet.	Flat except for lake basins, pingos, and stream channels. Tundra covered.	Present within 2 feet of surface. Ice wedges common. Erosion common along river banks resulting in slumping and settling. Pingos present locally.	High	Poor	Poor	High	Poor	Settling and slumping common when enclosed ice is thawed. Thawing common where overlying vegetation mat is removed or disturbed.
Qtg	Terrace gravel	Gravel and sand with minor amounts of silt and clay. Gravel clasts well rounded to subrounded. Generally mantled with 1 to 5 feet of carbonaceous silt.	Occurs as low terraces bordering the Kavik River. Probably 10 to 20 feet thick.	Generally flat terrace bounded by scarps 4 to 10 feet high. Tundra and brush vegetation.	Present within 2 feet of the surface. Ice wedges locally present.	High in silty overburden; low in underlying gravel and sand.	Fair to poor	Good	High in areas next to river flood plains	Fair; silty overburden and permafrost pose problems.	Flooding and erosion in areas near river flood plains. Shallow ground-water table limits depth of excavation.
Qog	Outwash gravel	Coarse sandy gravel with minor amounts of silt. Gravel clasts subrounded to well rounded. Locally mantled with 1 to 2 feet of carbonaceous silty sand and silt.	High terraces bordering Kavik River. Five to 50 feet thick.	Gently sloping terrace moderately dissected by small streams. Tundra vegetation.	Present within 2 feet of surface.	Low	Poor	Good	Low	Good; however, would have to be thawed before excavation.	Except for the presence of permafrost, would be well drained and of potential use as aggregate.
Ts	Semiconsolidated sandstone and conglomerate.	Poorly consolidated conglomerate, sandstone, and siltstone, with some low-grade coal beds. Characterized by high content of resistant rock types (quartz, chert, and quartzite).	Most widespread on hills bordering the Kavik River in the southeast part of the map. Also crops out as narrow band on northwest side of Kadleroshilik River. Thickness unknown.	Gentle to steep slopes. Tundra vegetation.	Variable within 2 to 10 feet(?) of surface.	Low	Good	Good	Low	Coarse-grained fraction good for coarse aggregate, but fine-grained material too variable in texture and composition and contains objectionable coal and chert.	Local landsliding (Qrs) in fine-grained materials on steeper slopes.
Kc	Sandstone, siltstone, and coal	Moderately well indurated sandstone and siltstone. Low-grade coal beds common.	Occurs in the extreme southeast corner of map area. Thickness unknown	-----do-----	Variable	Low	Good	Good	Low	Fair for riprap and coarse fill.	Small mudflows developed in fine-grained sediments on steep slopes.