

GENERALIZED DESCRIPTION OF MAP UNITS IN WISEMAN AND CHANDALAR QUADRANGLES, ALASKA

Map Unit (Listed by age)	Name	Description	Distribution and Thickness	Topography and Vegetation	Permafrost	Susceptibility to Frost Action	Drainage Surface	Subsurface (if thawed)	Susceptibility to Erosion	Construction Uses	Remarks
Qag	Modern Alluvium	Silt, sand, & subangular to subrounded gravel; boulders up to 8" in diameter; composition variable.	Throughout; thickness unknown; may be as much as 50'.	Gentle slopes at low elevations; generally bare of vegetation.	Generally absent except where water freezes to bottom of stream channel.	Gravel - low Silt & sand - high	Good	Good	Gravel - low Silt & sand - high	Source of borrow & concrete aggregate; locally, deposit contains material deleterious as concrete aggregate.	Composition, grain-size, & permafrost variable; subject to flooding; subject to maximum probable earthquake of magnitude 5.5.
Qaf	Alluvial Fans	Heterogeneous mixture of silt, sand, & angular to subrounded gravel; apex of fan composed chiefly of coarse material; fine-grained sediments occur at toe.	Throughout; abundant along Middle Fork of Koyukuk & Dietrich Rivers; thickness unknown; may be as much as 50'.	Gentle to steep slopes; locally, covered with patches of spruce & birch.	Generally within 2' of surface.	Gravel - low Silt & sand - high	"	Fair to good	Gravel - low Silt & sand - high	Source of borrow material; locally, has high percentage of fines.	Composition, grain-size, & ice content variable; subject to flooding; subject to maximum probable earthquake of magnitude 5.5.
Qta	Talus	Coarse rock fragments up to 3' across occurred at base of steep slopes.	Along Dietrich River; thickness unknown.	Steep slopes; no vegetation.	Generally absent; may be within 6' of surface.	Low.	"	Good	Low	None.	Material unstable & should not be disturbed; subject to maximum probable earthquake of magnitude 5.5.
Qco	Colluvium	Heterogeneous mixture of silt, sand, & rock fragments; usually fine-grained on gentle slopes; coarse on steep slopes.	Throughout; thickness unknown; may be as much as 25'.	Gentle to moderate slopes; scant vegetation.	Generally within 1-1/2' of surface.	Coarse colluvium - low Fine colluvium - high	"	Generally poor	Coarse colluvium - low Fine colluvium - high	Source of borrow material in coarse colluvium.	Composition, grain-size, & ice content variable; locally has ice lenses; if disturbed slides may develop on steeper slopes; subject to maximum probable earthquake of magnitude 5.5.
Qls	Landslides	A slide that includes bedrock.	Throughout, on steep slopes; thickness unknown.	Moderate to steep slopes; scant or no vegetation.	Generally within 3' to 4' of surface.	Low	"	Good	Low	None.	Landslide areas should be avoided because slide may be rejuvenated if disturbed; subject to maximum probable earthquake of magnitude 5.5.
Qss	Soil Slides	Slide restricted to soil profile; does not include any bedrock.	Between Rosie & Slate Creeks; thickness unknown.	"	Generally at base of slide.	High	"	Poor	High	None.	Soil slides are generally thin & should be left undisturbed; subject to maximum probable earthquake of magnitude 5.5.
Qsw	Swamp Deposits	Organic silt, fine sand, & vegetation.	Isolated area south of Linda Creek; thickness unknown.	Flat-lying poorly drained areas; sedges, grasses, & small shrubs.	Generally within 1' of surface.	"	Poor	Poor	Low, except high if water channeled through deposit.	None.	Swamp deposits contain ice lenses; subject to maximum probable earthquake of magnitude 5.5.
Qog	Older Alluvium	Silt, sand & subangular to subrounded gravel.	Along major rivers; thickness unknown; may be as much as 25'.	Gentle slopes; locally moderate vegetation, with spruce & shrubs.	Generally within 2' of surface.	Gravel - low Silt & sand - high	Good; locally poor	Generally good	Gravel - low Silt & sand - high	Source of concrete aggregate; deposit locally contains deleterious fragments for concrete aggregate.	Composition, grain-size & ice content variable; subject to maximum probable earthquake of magnitude 5.5.
Qtg	Terrace Gravels	Clean sand & gravel with minor amounts of silt.	Along South & Middle Forks of Koyukuk River & Dietrich River; as much as 50' thick.	Gentle to moderate slopes; scant vegetation.	Generally within 2' of surface.	Gravel - low Silt & sand - high	Good	Good	Gravel - low Silt & sand - high.	Source of borrow material.	Although composition, grain-size & ice content variable, deposit is relatively free of fines; subject to maximum probable earthquake of magnitude 5.5.
Qhg	High-level Gravels	Clean sand & gravel with some silt.	Isolated patch south of Jennie Creek; generally thin; less than 10' thick.	Moderate slopes; scant vegetation.	Generally within 2' of surface.	Gravel - low Sand with silt - moderate.	"	"	Gravel - low Sand with silt - moderate.	None.	Too difficult to get to as borrow material; subject to maximum probable earthquake of magnitude 5.5.
Qt	Till Deposits	Poorly sorted, heterogeneous mixture of silt, sand, & rock fragments with some clay.	Along Dietrich River north of Linda Creek; thickness unknown.	Flat-lying, locally hummocky; scant vegetation.	Generally within 1-1/2' of surface.	Highly variable; generally moderate to high.	Moderate	Poor to moderate	Variable; generally moderate.	Isolated areas may be sources of borrow; however, generally poor source of borrow material because of poorly sorted character of till.	The heterogeneous character of this deposit requires individual study of borrow pits to determine suitability & ice content; subject to maximum probable earthquake of magnitude 5.5.
Qktg	Kame Terrace Gravels	Sand & gravel with some silt locally; debris stratified.	Between Linda Creek & Rosie Creek; thickness unknown; may be as much as 100'.	Flat to gentle slopes with local depressions; vegetation varies from scant near Linda Creek to spruce & small shrubs near Rosie Creek.	Generally within 5' of surface.	Gravel - low Silt & sand - moderate to high.	Good	Good	Gravel - low Silt & sand - high.	Good source for borrow material.	Deposit may contain ice lenses locally; subject to maximum probable earthquake of magnitude 5.5.
Qk	Kettle Moraine Complex	Ground moraine consisting of sand & gravel mantled by silt with numerous closed depressions generally containing water.	Between Middle & South Forks of Koyukuk River; thickness unknown.	Flat to gentle slopes; moderate to scant vegetation consisting of spruce & shrubs.	Generally within 5' of surface.	Gravel - low Silt & sand - high.	Poor to moderate	Moderate	Gravel - low Silt & sand - high.	Generally good as source of borrow.	Deposit contains local depressions with lakes; deposit also has relatively high ice content; subject to maximum probable earthquake of magnitude 5.5.
Ks	Conglomeratic Sandstone	Thinly-bedded to massive sandstone, conglomeratic sandstone, conglomerate, & coal; conglomerate pebbles of quartz & meta-sedimentary rocks.	South Fork Koyukuk River.	Moderate to steep slopes; scant to no vegetation.	Variable; generally within 10' of surface; no ice except where it may heal fractures & joints.	Low	Good	Moderate	Low	Source of borrow material.	Subject to maximum probable earthquake of magnitude 5.5.
Kgw	Graywacke, Conglomerate, Shale	Graywacke, conglomerate, & shale; conglomerate pebbles & boulders of mafic igneous rocks & quartzite.	Adjacent to Ks Unit north of South Fork Koyukuk River.	Moderate slopes; scant vegetation.	"	"	"	Good	"	Locally, source of borrow material if crushed.	"
KJa	Argillite and Chert	Thinly bedded red, green, & dark-gray argillite & chert.	North flank of Cathedral Mountain.	Moderate to steep slopes; scant to no vegetation.	"	"	"	Generally good	"	Locally, source of borrow if crushed.	"
KJg	Graywacke	Generally massive graywacke; locally thin-bedded.	North flank of Cathedral & Twelvemile Mountains.	"	"	"	"	"	"	"	"
M	Mafic Igneous Rocks	Gabbro, diabase, basalt with some chert.	Along Slate Creek & south of South Fork of Koyukuk River; on Twelvemile & Cathedral Mountains.	Generally steep slopes; scant to no vegetation.	"	"	"	Moderate to good	"	"	"
Ml	Lisburne Group Dolomite & Limestone	Limestone & dolomite.	Along Kuyukluluk Creek north edge of map area.	Moderate to steep slopes; no vegetation.	"	"	"	"	"	"	"
MDk	Kayak Shale, Kanagut Conglomerate	Shale interbedded with limestone & conglomerate interbedded with slate.	Adjacent to Ml unit north edge of map.	Moderate to steep slopes; scant to no vegetation.	"	"	"	Good	"	"	"
Dg	Greenstone	Schistose hornblende diorite & pyroxene diorite sills & andesitic flows(?).	Isolated patch north of Snowden Creek & south of Linda Creek; thickness unknown.	"	"	"	"	Moderate to good	"	"	"
Ds	Slate, Phyllite, Siltstone	Slate, phyllite, & siltstone, & some interbedded fine-grained schistose sandstone.	Throughout map area north of Wiseman.	"	"	"	"	Good	"	"	"
Dst	Siliceous Siltstone	Siliceous siltstone	Extreme north part of map area.	"	"	"	"	"	"	"	"
Dsp	Chloritic Slate & Phyllite	Chloritic slate & phyllite; some chloritic siltstone & gritty sandstone.	North of Snowden Creek	"	"	"	"	"	"	"	"
Dqm	Quartz-Mica Schist	Quartz muscovite schist & schistose quartzite.	Between Twelvemile Creek & Linda Creek.	"	"	"	"	"	"	"	"
Dph	Phyllite	Phyllite, slate, & mica schist, slaty siltstone, schistose sandstone, & sandstone.	Along Twelvemile Creek & Rosie Creek.	"	"	"	"	"	"	"	"
Dsg	Siltstone & Grit	Slate, siltstone, & gritty sandstone with some conglomerate.	Midnight Dome north to Snowden Creek.	"	"	"	"	"	"	"	"
Dl	Limestone & Siltstone	Thin bedded micaceous silty limestone & siltstone, slate, phyllite & gritty sandstone.	Northern part of map area.	Moderate to steep slopes; no vegetation.	"	"	"	"	"	"	"
Dcm	Calcareous Schist & Marble	Schist & schistose marble locally interbedded with mica-schist & phyllite.	Between Quartz Creek & Connie Creek.	Generally steep slopes; no vegetation.	"	"	"	"	"	"	"
Dsk	Skaist Limestone	Massive schistose marble & massive to thinly bedded limestone; some dolomite.	Northern part of map area.	"	"	"	"	"	"	"	"