ROUP/UNIT ¹	MATERIALS DESIGNATOR	TOPOGRAPHY, LANDFORM GENESIS ³	DRAINAGE, ACTIVE LAYER PROCESSES AND MICRORELIEF 4	SURFICIAL MATERIALS ⁵	GROUND 1CE ⁶	VEGETATION ⁷	SENSITIVITY ⁸	TRAFFICABILITY 9
3.8	<u>fsg</u>	Mainly fine grained residual and colluvial material, possibly some morainal, in which surface layers reworked by marine processes (numerous marine shells present) and subsequently subjected to mass wasting, chiefly solifluction. Overlying poorly consolidated fine-grained rock.	Drainage good to fair via numerous seepage lines and runnels, and short linear streams at 0.5-1 km interval tributary to strike-oriented main streams. Gullying on steeper slopes adjacent to rivers. Low amplitude solifluction lobes widespread. Scattered flowslides. Desiccation cracks general; marked hummocks locally (e.g. onflanks of gravel ridges). Ice-wedge polygon troughs over >50% of unit, troughs narrow and shallow. Wedges possibly more common but obscured by solifluction.	Silt and fine sand; lesser clay and coarse sand; 0-10% gravel, especially or surface. Colluvium, derived from residual and possibly morainal material. Thickness generally >2 m, over flat to gently dipping poorly lithified clastics mainly Kc shale. Local marine or estuarine deposits: as silty clay in valley bottoms, gravel and sand on divides. Thick silty gravel and sand deposits at S end of unit; individual deposits to >2 Km ² .	of unit, and possibly most of it. No other observations of excess ice; however values of 25-75% expected in upper 2 m.	* 10-20% <u>Salix arctica</u> - grass barrens. seepage lines, channels & troughs: sedge-grass wet meadow.	Magnitude Form 3 AbC	Roughness Traction 2 3/2
3.9	e,f RC +M+ M Kk-JKIR	Low-lying areas poorly drained, with organic deposits, and lakes to lkm area.	Drainage fair to poor; by seepage lines and runnels to low elevation flats and basins (25% of unit). Latter areas composed of (a) thaw ponds over icewedges; (b) low-centre polygons, with centres flooded or saturated; (c) lakes, either being enlarged from polygons or infilling. Solifluction flows locally on gentle slopes. Desiccation cracks generally developed into hummocks over most of unit. Ice-wedge troughs vary from low to high amplitude.	Silty clay, minor intermixed sand and stones, few thin bands of sandstone clasts, 0-50% sandstone lag gravel. Sand and silt locally dominant adjacent to unit 3.11. Mixture of residual material, probably glacially or marine reworked, 2 m thick The structure of the underlying flat to inclined K clastics is rarely evident on the surface. Thin (<50 cm) peat where drainage poor. Stream beds, especially those draining from uplands to E, chiefly sand and gravel.		* 20-40% Salix shrub-grass 60% moss-patina substantial amounts of sedge-5alix wet meadow on poorly drained materials. rare Salix-grass barrens on well drained materials.	3 AB	1 3/2
3.10	so, ≱ro RC	0-400' (0-120 m). Overall gentle to steep, commonly cliffed slopes, dissected by gullies. Undercut slopes common adjacent to streams. Mainly residual material, outcrop, colluvium in arenaceous partly indurated members of the KTe Formation. Adjacent to Eureka Sound, slopes formed by marine or glacial erosion, and transect a variety of well to poorly transect a variety of well to poorly consolidated steeply dipping beds.	Mass wasting: mainly rockfall and talus development.	Fine sand, silt, outcrop, rubble; residual material, outcrop and colluvium from well to poorly consolidated J, K, KTe clastics (chiefly KTe except adjacent to Eureka Sound).	No observations of excess ice. Probably <25%, mainly pore ice.	* much of area devoid of vegetation local <u>Salix</u> -grass barrens.	2 ac	3 3/2
3.11	KTE ≰, S, O RM	300-500' (90-150 m). Level, some gentle slopes. Mainly silty and sandy residual material with lesser outcrop, rubble. Local sand or gravel marine sediments. Developed on inclined beds of poorly consolidated clastics. mainly KTe. The beds have been planed, probably by an extended period of marine erosion, and are exposed in characteristic strike-aligned stripes, representing the varying lithologies.	seepage through coarse silt and sand sediments. Some surface seepage along ice-wedge troughs, along broad shallow depressions, and locally in gullies especially.	Mainly silt and fine sand residual material, discontinuous thin 'lag' grave Some strike-aligned bands (2-100 m wide) of silty clay, and of sandstone, coal and shale rubble. The surface planes inclined beds of poorly consolidated sandstone, siltstone minor coal and shale. Mainly KTE Formation, but unit includes dominantly arenaceous members of other cretaceous formations. Indurated sandstone and siltstone may occur 1-5 m below ground surface. Residual materials locally overlain by sand and gravel nearshore and beach sediments of unknown thicknes. Small poorly drained depressions with up to 50 cm of peat.	Ten holes drilled and cored in this unit. Cores from well drained sand and silt (friable	* 10-20% Salix-grass barrens. local areas devoid of vegetation. some Salix-shrub communities on moderately drained materia.	2 ab	1 3/1
3.12	sfg RC+M+M? KTE R gs Mb	50-400' (15-120 m). Gentle slopes, locally level, in low rolling topography. Moderate to steep slopes on N margin of unit, and adjacent to(the few) major streams. Sand silt, lesser clay; intermixed residual material, colluvium, morainal deposits. Local gravel and sand marine-worked deposits underlain mainly by KTe rocks. Contact with 3.8 poorly defined, however 3.12 is markedly coarser grained.	Drainage good to imperfect; via ice-wedge troughs, rills, lightly incised (< lm) streams. Seepage lines and runnels on moderate slopes. Solifluction lobes on moderate slopes. Eolian erosion likely on silty-sandy areas. Ice-wedge polygon troughs general; low to moderate amplitude.	Much silt and fine sand residual materia and colluvium derived mainly from underlying inclined KTe Formation. Some strike aligned outcrop similar to 3.11. Considerable areas of sand silt clay intermixed, or silty clay, of both residual or morainal origin (latter contains to 10% stones). Unit includes elongate deposits, to 1 km², of gravel and sand, possibly underlain at 1-2 m by sand, of unknown thickness. Surface of deposits marine reworked; origin possibly morainal or wholly marine.		* 5-20% Salix-Dryas-Grass barrens. local Dryas-Salix-Cassiope on some slopes with earth hummocks.	2 abc	1 3/2
3.13	frso RC	300-500' (90-150 m). Gentle, locally moderate slopes, scattered low cliffs. On low, rolling locally knobby, N-S oriented ridge. Underlain by N-S trending syncline, of variety of poorly gonsolidated KTe clastics. Surficial material chiefly residual and colluvial fine sand, silt, clay; sandstone and shale rubble. Minor differential erosion exposes ledges of indurated beds.	Drainage good to fair, via seepage lines, runnels; some gullies where rock outcrops. Mass wasting widespread - mainly soliflucation. Ice-wedge polygons over >75% of unit. Troughs vary from low to high amplitude.	Silt, sand, clay, rubble; intermixed or in discrete areas. Residual material and colluvium derived from underlying flat to inclined beds of mainly poorly lithified KTe clastics. Minor outcrop of indurated sandstone, siltstone, coal. Rubble areas of sandstone, siltstone, platy shale fragments, coal, sinter.	Ice-wedge network over > 75% unit. No other observations of excess ice, but values 25-100% expected, except where indurated rocks outcrop.	* <10% Salix-grass barrens. Some areas devoid of vegetation. local sedge-grass wet meadows on poorly drained materials	2 Abc .	2 3/2
3.14	fso CR, M	0-400' (0-120 m). Overall gentle to moderate slopes adjacent to some rivers, or to parts of coastal slope to Eureka Sound. Highly dissected by fine network of shallow to deeply incised rills, gullies. Mainly fine grained colluvial reworked residual material, some marine.	Drainage good to poor; gullies provide drainage, but soils cohesive. Mass wasting active: solifluction; flowslides on steeper slopes, especially on stream undercut banks.	Fine grained colluvial and residual materials, minor sand, gravel, rubble. Possible marine sediments at lower elevations.	Ice-wedge network evident over 25% of unit; actual distribu- tion possibly greater. Massive ice observed in flowslides, especially over Kc shale; distri- bution unknown. Other excess ice probably >50%.	* <10% <u>Salix</u> -grass barrens local aeolian modified communities.	3 Abc	3 3/2
3.15	\$,¢,S S	Gentle slopes in low rolling topography rising from Slidre River and head of Slidre Fiord. Extensive level areas above 90 m elevation. Moderate to steep slopes immediately adjacent to streams. Main drainage line (Slidre R) and main tributaries are incised to 40 m maximum. Surficial material is "Slidre River fill" (see also materials legend): interbedded sand to clay size sediments of marine, estuarine, deltaic and fluvial origin. Emplaced in the basin during higher sea level. Subsequent dissection exposes variety of materials. Underlying KTe clastics generally only exposed in deeper stream cuts, though some, outcrops elsewhere. Age of much of fill probably older than Holocene. Not proven, but suggested by: a) extent and thickness of fill in a basin with limited catchment, b) extensive marine planed surface at ca. 120 m, when radiocarbon dates suggest smooth uplift from 160 m maximum Holocene sea level. To the north and east, the limits of deposition of fill are fairly easily defined, coinciding with the 500' (150 m) contour. To the west and south, the contact with superficially similar washed residual KTe material is poorly defined. See also units 3.16, 17.	Drainage generally good, unconfined or via wedge troughs; some seepage lines on slopes subject to snowdrifting. Low density of streams; few originate within this unit. Ca. 5-10% of unit poorly drained, with ponding in wedge troughs. Rare lakes, to 0.5 km²; smaller lakes certainly due to thawing ground ice, especially wedges. Mass wasting confined generally to solifluction. Flow patterns common on air photos, though not evident on ground. Well developed hummocks over >50% of unit. Ice-wedge polygons over 50% unit. Troughs commonly wide, and shallow to deep (dimensions to 10 m x 2 m deep noted). May impede drainage and pond water on level areas. Low centre polygons on gentle to moderate sand slopes.	Interlaminated and interbedded, sometimes crossbedded, fine sand, silt, clay; minor carbonized wood, medium to coarse sand. Strata vary in the thickness from lamina, to beds >5 m thick. Total thickness of sediments probably greatest along Slidre R. axis of basin, where measured to >40 m. Surface material dependent on texture of bed exposed. Usually either fine sand and silt, or silt and clay, in relatively large units (Km²). Local areas of interbedded peat and sand largely of mid-Holocene age. Some shallow sedge/peat beds currently developing. Valley flats of streams originating within group 3, are chiefly sand and silt. Larger streams and rivers generally originate outside group 3., and have valley flats of boulders, gravel, sand and silt, with tendency for sand to be dominant in lower courses.	From the 30 holes cored in units 3.15 to 3.17, no satisfactory relationship was found between ice content, and topography or materials.	* 20-40% Salix-shrub-Alopecurus 50% moss-patina local poorly drained areas: sedge-willow wet meadows. local ecolian modified communities.	2 abc	2 3/2
3.16	\$,¢,s S, C, CR	100-400' (30-120 m). Moderate to steep slopes, commonly including cliffed segments. Finely gullied. Generally adjacent to main streams, and developed subsequent to stream incision into 'Slidre River fill' (see 3.15). Stream undercutting still active. Some areas of cuspate scarps to 30 m high, pitted by active and inactive flowslides or nivation hollows. Gentle to moderately inclined colluvial and fluvial fans present at slope base where valleys sufficiently wide. Underlying KTe rocks exposed at intervals.	Fine network of gullies and seepage lines. Snow-drifts and shade on N-facing slopes prolong snow-melt period; ground ice thawing also releases water through summer. Mass wasting active: solifluction; slope failures including retrogressive flowslides and rock slides.			* 20-40% Salix arctica (Dryas) - Alopecurus 30% moss patina local sedge-willow wet meadows.	. 3 Abc	3 3/2
	∮,≰,s S, <u>Ft</u> Fd	20-400' (6-120 m). Generally level, sometimes gently sloping; steep slopes where streams incised. Slidre Valley fill and recent fluvial terraces. Dominantly sand and silt size material on surface; subjected to eolian processes.	Drainage unconfined, or via wedge troughs to flat- floored wadii-like ephemoral channels at 0.1 to 1 km intervals. Small areas of solifluction lobes. Ice-wedge network over at least 50% of unit; troughs low amplitude. Eolian erosion of surface layers is active: e.g. remnant pillars, 1-2 m high, of bedded unconsolidated sediments; bevelling of surface displaying warped laminated beds adjacent to ice wedges.	See 3.15. Surface materials dominantly sand and silt, though insufficient subsurface data to indicate whether 'Slidre fill' below this unit is substantially coarser than elsewhere. Lag gravel deposits locally.	Ice wedges over 50% of unit. Other excess ice observed in 2 holes cored. Varied from 0-20% stratified ice in mainly sand; to 25-75% ice in mainly fines.	* <5% Salix arctica - grass barrens local eolian modified communities.	2 ab	2 3/1
3.18	sfg FTp, Fpt	50-400' (15-120 m). Fluvial valley flat and terraces, predominantly coarse material. Much of the sediment load originates outside group 3. Valley floors generally 0.25 to 1 km wide, with extensive level or gently inclined surfaces separated by bluffs 1-5 m high. One, sometimes two main channels. See also materials legend.	Generally well drained through coarse materials. Scattered areas of raised rim or low centre polygons on terraces impede drainage and cause ponding. Ice wedges on most inactive surfaces, with narrow to broad, shallow troughs.	Channel zone mainly sand, gravel, bouliers (sandstone). Terraces similar, but may have veneer of silt and sand.	Ice wedges in inactive deposits. No observations of other excess ice. Expected <25%.	* Channels: devoid of vegetation terraces; as in 3.16	1 b	2 2/1
3.19	s,si,g Fp, Ft, Fo	Valley flats, terraces, deltas, mainly sand. Sediment load originates within and without group 3. Channel zone and low terraces separated by bluffs 1-5 m high. Scattered beach ridges on inactive surfaces.	Well drained. Ice-wedge troughs general on inactive surfaces; low amplitude. Eolian processes, see 3.	Stratified fluvial sediments; chiefly sand, some silt, organic debris; discontinuous gravel cover in channel zone. In lower courses of streams close to Slidre Fiord, sand possibly underlain by marine or estuarine silt and clay at > 2 m depth.	Ice wedges on inactive surfaces. Other excess ice content of 0-10% observed in single hole cored to 5 m in Slidre River channel zone.	* channels devoid of vegetation terraces as in 3.16 local aeolian modified communities.	1 b	2 3/1
3.20	S <u>E</u> + Ff	20-100' (6-30 m) Level, to gentle concave slope. A sandy fluvial terrace, modified by eolian processes, and by extensive fluvial fans where streams from adjacent ridge adjust to low inclination of this unit.	Well drained; unconfined except for fans and associated channels. Eolian processes active over most of unit. Sand ripples to 50 cm high.	Small areas of sand fluvial fans and channel sediments.	No observations of ice. Wedges possibly present, but eolian action pre- vents surface expression (i.e. troughs).	* /eolian herb-grass barrens community local salix-grass barrens community	1 a	1 2/2

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4	MATERIALS DESIGNATOR	R ² TOPOGRAPHY, LANDFORM GENESIS ³ 400-1500' (120-460 m).	Drainage good to fair over 75% of group, via seepage		GROUND 1CE 6	VEGETATION ⁷	SENSITIVITY ⁸ Magnitude Form	TRAFFICABILITY 9 rm Roughness Traction
		Gentle, some moderate slopes on rolling surface; locally level or steep. Main drainage lines at 1-3 km intervals, with intervening relief rarely > 100 m. Streams incised below rolling surface on margins of group 3 (Slidre River	lines, wedge troughs, runnels; gullying rare. Drainage poor in topographic lows and level areas (ca. 25% of group) generally compounded by wedge troughs	Chiefly residual material, lesser colluvium, derived from underlying Cretaceous clastics; commonly reworked by glacial processes. Remnant of pre-Pleistocene gravels (See group	Few observations of	a) Well drained materials: 1. Some areas devoid of vegetation. 2. Saxifraga oppositifolia barrens is most common plan of sites (usually <5%). Salix arctica may or may not be present. Also present Oxyria, Papaver,	3-2 ABo	
		basin). Developed on medium to fine grained poorly consolidated Cretaceous clastics, chiefly of KTe Formation, which fill	4.4) often poor, as seepage continues through summer. Mass wasting not very active over most of group (4.1, 4.2, 4.5, 4.6). Solifluction lobes scattered	5). Much of group underlain by poorly consoidated friable sandstones and siltstones	s, cates massive ice un-	Cerastium alpinum, Festuca, Luzula, Erigeron compositae, Taraxacum sp., Draba sp. Braya sp.		
	The state of the s	the downwarp between resistant lithologies of Blacktop Ridge and Sawtooth Range. Within this basin, rocks are folded in a series of N-S trending anticlines and synclin though structure does not exercise close control over top	over inclined surfaces, however wedge troughs rarely disturbed, indicating processes slow or inactive. e, Mass wasting highly active in unit 4.4, and on moderate slopes of 4.3. Solifluction lobes are greatly	lesser shale, minor coal and conglome- rate of the KTe Formation, which weathers to fine sand and silt. Kc and Kk shale, outcropping near E and	probably general, with high values where drainage poor, and	b) moderately drained materials: Generally a <u>Salix-Dryas</u> dwarf shrub community (20-60%) with a <u>Carex rupestris</u> , <u>C.nardina</u> associat (2-5%). <u>Saxifraga oppositifolia</u> may also be found	ite	
	The state of the s	graphy other than at the E and W margins of the group (adjacent to the mountains) where basins and ridges follo the N-S strike. The group lies almost entirely above Holocene and earlier	w elongated downslope, and combine with similarly extended colluvial and fluvial fans. Tre-wedge polygon troughs over whole group, except	W margins of group, weathers to silt, clay, minor fine sand. Sand, gravel, boulders, may be incorporated, derived from pre-Pleistocene	below seepage lines and runnels.	as an important associate. Potentilla is present (Cassiope tetragona is locally abundant in snowbed areas & in cracks & sides of earth hummocks.	&	
		high sea levels. Landscape appears to have been formed by fluvial processes and mass wasting. Materials predominantly silt and fine sand, locally silt	where mass wasting active. Troughs commonly wide, low to high amplitude. Low centre polygons where drainage impeded, or locally near base of long slopes.	gravels by glacial transport, by colluviation (especially 4.4), or as lag deposits. Boulders chiefly sand-		Alopecurus, Festuca, Poa, & Kobresia occasionally present. Herbs of this community include Oxyria, Papaver, Lesquerella, Draba sp., Braya sp., Cerastium alpinum, Melandrium affine, Ranunculus nivalis	- Ls,	
		and clay, residual deposits, lesser colluvium. Substantia amount of intermixed gravel and boulders, particularly Ea of 84° meridian, indicates possible reworking by glacia processes, incorposated pre-Pleistocene gravels or other	st Active layer maximum thickness ca. 35-55 cm. Higher in well-drained gravels, lower where drainage impeded.	stone, minor granites. Content in surficial materials commonly >25% E of 84° meridian; less common to W, except where slopes capped by pre-Pleistocene		R. sulphureus, Saxifraga oppositifolia, S. nivalis, S. tricuspidata S. cemua, Pedicularis arctica, P. capitata, Senecio atropurpureus, Erigeron sp. Taraxacum sp. The lower stratum is a broken asso-	3,	
		coarse materials. Little bedrock outcrop, though structure often visable on air photos.		remnants. Thickness of unconsolidated materials generally > 2m. Scattered outcrop of better cemented beds (sandstone, silt-		ciation (10-50%) of a variety of mosses & patina, the former in/association with the shrubs usually. Cetraria sp. lichen (especially common in areas wit Cassiope, Thamnolia and Stereocaulon sp. present).	ith	/
:				stone) throughout group. Fluvial sediments generally coarse throughout group. Channel zones within		c) Poorly drained materials: Primarily sedge-grass wet meadows. Carex stans.		
				5 km of Sawtooth Range entirely boul- ders and gravel. Thin (< 50 cm) organic deposits organic		Eriophorum triste & E. Scheuchzeri are the dominant monocots (10-20%) with Alopecurus, Arctagrostis, Duponti, Juncus biglumis common, Salix arctica ma be present. Herbs include Polygonum Viviparum,		,
		¥ ·		deposits common where drainage poor; thicker mid-Holocene peat deposits along some minor stream channels.		Ranunculus hyperboreus, Eutrema Edwardsii, Saxifrag Hirculus & S. cernua, Equisetum variagatum may be present. The lower stratum is usually dense moss	ga	
4.1	f,≰g ^{K,K} cc, M?	500-900' (150-275 m),	Drainage impeded over ca. 25% unit, in topographic	Fine-grained residual and colluvial	See 4.	(to 90%) with few, if any lichens. Moderately drained materials (75% area):	3 AB ·	2 3/2
		Gently sloping to level, low rolling surface, with relief near Blacktop Ridge and Sawtooth Range trending N-S, following strike of beds rising at margins of downwarp.	lows and on level areas; ponding in wedge troughs. Some lakes appear to be infilling with sediment. Drainage fair elsewhere, via wedge troughs and seepage lines.	materials, probably glacially re- worked. Scattered remnants of pre- Pleistocene gravels. Underlain by chiefly fine-grained	·	* 20-40% Salix-Dryas+(Carex) 10-30% moss poorly drained materials:	,	
		Chiefly fine-grained residual, colluvial materials, pro- bably glacially reworked. Underlain by fine-grained clas- tics.	Solifluction not very active. - Ice-wedge polygon troughs over whole unit; wide, low to high amplitude; generally enlarged by ponding where	Cretaceous clastics, including large areas of poorly consolidated Kc Forma- tion shale Scattered outcrop of sand- stone and siltstone.	1 1 .	10-20% sedge (local <u>Salix</u>) wet meadows		
4.2	Kle	Basins to 2 km ² within unit poorly drained, some lakes. P 400-1000' (120-300 m).	drainage poor. Raised rim troughs in wettest areas.	Peat where drainage poor (see 4).	To and a solution	Walanta and a land and a land	2 ABc .	. 2 3/2
4.2	s1,s,g,b,o RC, M?, I	Gentle, some moderate slopes, locally steep; rolling to knobby.	Drainage fair over much of unit, via seepage lines, wedge troughs, runnels. Drainage over 5% unit poor; impeded by wedge troughs on gently sloping to flat areas.	See 4. Residual material, lesser colluvium; glacially reworked and incorporating coarse materials.		Moderately drained materials: * 20-40% Salix-Dryas +(Carex) 10-50% moss-patina	Z ABC .	2 3/2
/		Chiefly fine sand and silt residual material, lesser colluvium, overlying KTe, some Kh, Ki, clastics. Glaciall reworked and incorporates gravel and boulders (see 4.). Outliers of pre-Pleistocene gravels.	Solifluction lobes observed on longer and on steeper slopes, however wedge troughs only rarely disturbed. Ice-wedge polygon troughs general. See 4.	coarse materials.	Hole drilled and cored to 3 m through well-drained sand, silt,	poorly drained materials, ice wedge troughs, seepage slopes. Sedge-grass wet meadows local bryophytic communities on some seepage slopes.		
-	• .				boulders showed se- gregated ice lenses to 5 cm thick, though total ice content			
	e.				probably ca. 25% A hole drilled and cored to 3 m through			
					well-drained sand, silt boulders showed segre- gated ice lenses to 5 cm thick, though total	·		
3	si,s KTECR, RC	500-1000' (150-300 m).	Drainage fair, via close-spaced seepage lines,	See 4.	ice content probably ca. 25%	Moderately drained materials:	3 ABC	2 3/2
-		Gentle, some moderate slopes. Unit similar to 4.2, except mass wasting more active, and few coarse-grained materials	lightly-incised runnels, wedge troughs.	Residual material and colluvium; chiefly fine sand and silt		* 20-40% Salix-Dryas +(Sax. opp.) 40% moss-patina	J ABC	- 312
4.4	۲۶¢ د په د د د د د د د د د د د د د د د د د	400-800' (120-240 m).	Ice-wedge polygon troughs widespread. Drainage good to fair, locally poor; via close-	Chiefly fines, sand, colluvial and	Ice wedges over 50-75%	poorly drained materials: sedge-grass wet meadows Moderately drained materials:	3 AbC	2 3/2
	, , ₀ , - no _j on _j ol	Gently and moderately inclined rectalinear or slightly concave slopes to 2 km long. Flanking valleys cut into rolling areas of group 4, or pre-Pleistocene gravels	spaced runnels commonly 1-3 m deep, and seepage lines. Seepage continues into summer in centre of runnels. Mass wasting by anastamosing colluvial or fluvial fans	residual material derived from under- lying KTe clastics. Gravel and boulders to 50% content on upper slopes which are	unit, possibly even s more general if troughs	* 20-40% <u>Salix-Dryas</u> +(<u>Carex</u>) 20-40% moss-patina		
		of group 5, commonly on the margin of the considerably lower elevation Slidre River 'basin' (group 3). Chiefly fines and (or) sand, colluvial and residual material.	and solifluction flows. Dimensions 5-100 m wide, to 3 m high, to 1 km long in downslope direction; covering ca. 25-50% unit. Ice-wedge trougs over 50-75% unit.		Other excess ice, see	well drained materials: Sax. opp Salix, & Sax. opp herb barrens. Some areas devoid of vegetation. poorly drained materials: sedge-grass wet meadows	-	
		Mass wasting active.	Mass wasting by anastamosing colluvial or fluvial fans and solifluction flows. Dimensions of lobes anf flows	·				
			5-100 m wide, to 3 m high, to 1 km long in downslope direction; covering ca. 25-50% unit. Ice-wedge troughs over 50-75% unit.					
5	KTE-TH sgfo C+ R+P	900-1300' (275-400 m). Gentle, some moderate, slopes in rolling to hummocky	Drainage generally fair, via seepage lines and ice-wedge troughs. Good on gravel surfaces; poor in depressions (5-10% unit).	Heterogeneous mixture of sand, gravel, boulders, fines. Residual	See 4.	Moderately to well drained: * 20-40% Salix-Dryas+(Sax. opp)	2 abc	2 3/2 2/1
		terrain, with relief to 50 m. Sand, gravel, fines; colluvial, residual, possibly morainal material, overlying variety of Mesozoic clastics. Pre-	Mass wasting processes not very active. Ice-wedge polygon troughs general.	material and colluvium, possibly glacially reworked, derived from variety of Mesozoic clastics (from KTe in west, to %th in east adjacent	i de la companya de l	10-40% moss-patina poorly drained materials: sedge-grass wet meadows.		on gravel
		Pleistocene gravel remnants over 5-20% unit. Numerous lakes, 9.1 to 0.5 km ² in topographic lows.		to Sawtooth Range), and from pre- Pleistocene gravels. Bedrock rarely outcrops other than in stream cuts.				
				in stream cuts. Thick mid-Holocene peat deposits in channels throughout unit.				
4.6	s,g,b,f. Ff,Ft,Fp	700-1500' (210-460 m). Fluvial sediments, deposited where high energy streams from high relief, coarse grained terrain flow into the	Drainage of inactive surfaces generally good to fair, via subsurface seepage, wedge troughs, seepage lines. Drainage impeded and poor over ca. 25% of inactive	Fluvial sediments, derived chiefly from quartzitic sandstones of Sawtooth Range. Active channel zone	Ice wedges over inactive surfaces. No other observations	* Active channels & very well drained terrace edges devoid of vegetation. Moderately & poorly drained materials usually support Dryac-Sally dwarf, shrub communities and sedge-grass	d 1 in active channel zone	2 2/1 Difficulty: -channel bluffs
		relatively low relief of group 4. Where drainage parallels the Sawtooth Range, streams are possibly aligned by glacial metlwater channels. Landforms include low gradient fluvial fans, terraces and	surfaces. Ice-wedge troughs on inactive surfaces, and on higher elevation parts of channel zone.	mainly boulders, gravel, sand. Veneer (<lm) also="" be="" by="" colluvium<="" common="" finer="" inactive="" may="" of="" on="" overrun="" sediments="" surfaces.="" td="" these=""><td>of excess ice. Probably chiefly pore ice (to 30%) in coarse sediments.</td><td>Dryas-Salix dwarf shrub communities and sedge-grass wet meadows, respectively.</td><td>2 ab inactive sur- faces</td><td>-bouldery materials</td></lm)>	of excess ice. Probably chiefly pore ice (to 30%) in coarse sediments.	Dryas-Salix dwarf shrub communities and sedge-grass wet meadows, respectively.	2 ab inactive sur- faces	-bouldery materials
		plains. Active channel zone ca. 25-50% of unit, separated from terraces by bluffs 1-5 m high. Materials in channel zone chiefly gravel, boulders, minor		from adjacent units. Parts of unit adjacent to Blacktop Ridge, chiefly sand, fines, minor gravel.				
		sand, Finer sediment veneer common on terraces.	·	``				·
/UNIT ¹	MATERIALS DESIGNATOR ²	TOPOGRAPHY, LANDFORM GENESIS ³	DRAINAGE, ACTIVE LAYER PROCESSES AND MICRORELIEF	SURFICIAL MATERIALS ⁴	GROUND 1CE ⁵	vegetation ⁶	SENSITIVITY ⁷	TRAFFICABILITY 9
5	s,si,g,b, P,C, KG,K	Formerly a level to low rolling plateau of very thick to thin pre-Pleistocene gravelly deposits (see materials	Drainage generally poor and surface sediment strength weak during snowmelt. Even coarse gravels become waterlogged, except where dissection permits runoff	other lithologies), with silty or sandy	networks general.	a) Well drained sites: ridges, (knobs, crests of slopes). Vegetation sparse (<10%), usually Saxifraga onnocitifolia barrons. Sally arctics locally.	Magnitude Form 2 ab	Roughness Traction 1-3 2/2-1
-		legend) unconformably overlying KTe clastics. Subsequently dissected by fluvial processes, including glacial meltwater	and subsurface seepage. Drainage for remainder of summer controlled by materials and topography, i.e.:-	matrix. Includes strata of: fluvially deposited sand, silt, peat, wood:	Few other observations of excess ice. Low	oppositifolia barrens. Salix arctica locally		
		1. 7	-Gravel generally well drained via seepage, or wedge	deposits. Towards centre of more	ice content expected in well drained gravel,	present, occasionally. Other species present (<2%) include <u>Poa</u> sp. <u>Festuca</u> sp. <u>Papaver radicatum</u> <u>Cerastium arcticum</u> , When silty matrix is present		
		a) areas, up to 250 km ² , of the original surface (5.2, parts of 5.5); b) friable KTe clastics with scattered mesas or buttes capped by gravel (parts of 5.1, 5.3);	troughs; however depressions over 5-10% of the larger residuals are poorly drained, with sedge runs, ponding in low centre polygons, some thermokarst lakes, palsen.	deposits. Towards centre of more extensive deposits (.1 to 1 km in from margin) often a thin cover of predominantly fine grained material, a result		present, occasionally. Other species present (<2%) include Poa sp. Festuca sp. Papaver radicatum		
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A lower stratum is absent. b) Moderately drained areas: (plateaus & areas with gentle slopes). Vegetation is dominated by a swarf shrub communities Salix arctica & Bryas integrifolia (20-40%). Often found in runnels & polygonal depressions where moisture is more abundant & there is some protection from wind. Potentilla arctica is sometimes present (1-2%) Monocots: Poa arctica, Alopecurus sp., Luzula sp., Carex rupestris & C. nardina present (1-5%). Herbs include Papaver radicatum, Saxifraga oppositifolia, S. tricuspidata, S. flagellaris, S. caespitosa, S. cernua, Oxyria digna, Lesquerella arctica, Braya sp Draba sp., Pedicularis arctica, P. sudetica, Ranunculus nivalis, Taraxacum sp., Cerastium sp., Stellaria sp., Melandrium apetalum all usually 12%. Lower stratum primarily 10-40% moss closely associated with the shrubs. 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	g, \$. 5 P si,s,g,b, C+P+ RC	a) areas, up to 250 km², of the original surface (5.2, parts of 5.5); b) friable KTe clastics with scattered mesas or buttes capped by gravel (parts of 5.1, 5.3); c) gentle, locally moderate to steep slopes, covering > 50% of group 5 with colluvium derived from KTe clastics or pre-Pleistocene gravel. Below 150 m, group appears to have been washed during high sea level stands, and to include gravel or sand deltas adjusted to the maximum stands. 'Gravels' include lesser sand and (or) silt; fines may be dominant at the surface and to 50 cm depth, either a result of weathering, or due to glacial reworking. Elsewhere, sand and silt dominant; again possibly glacially reworked. Organic deposits locally (5% of group), in depressions on gravel plateau, and in bottoms of valleys or basins elsewhere in the group. Large deposits are mapped separately on the materials underlay. Unit mainly extensive pre-Pleistocene gravels (see 5), plus isolated mesa or butte-like landforms. Similar gravel deposits incorporated in units 5.2, 5.3, 5.5. Drainage lines shallow gradient, flat floored, to 100 m wide, usually shallow in depth but may be incised to 20 m. Many of the largest are abandoned glacial meltwater chamnels, and are poorly drained by present misfit streams. 400-1000' (120-300 m). Chiefly gentle slopes, lesser level areas, small areas of moderate or steep slopes. pissected pre-Pleistocene gravel surface, commonly eroded to underlying bedrock (see 5.). Main valleys shallow, 0.5-2 km spacing; numerous minor valleys and depressions, isolating gravel residuals. Local relief generally (50m. Mainly colluvium: sand and silt, with gravel adjacent to residuals. Some residuals Kical relief generally (50m. Mainly colluvium: sand and silt, with gravel adjacent to residuals. Some residuals Kical relief generally (50m. Mainly colluvium: sand and silt, with gravel adjacent to residuals. Some residuals to gently sloping, edged by moderate to steep slopes. Some residuals eroded to knobs	troughs; however depressions over 5-10% of the larger residuals are poorly drained, with sedge runs, ponding in low centre polygons, some thermokarst lakes, palsen. -Colluvium mantled slope drainage good to fair, with close-spaced seepage lines or shallow runnels; gullying rare. Solifluction lobes and minor taluson moderate and steep slopes; little disturbance of wedge troughs by solifluction on gentle slopes. Nain stream valleys usually fairly well drained, as channels incised 1-5 m (due to falling Holocene sea level?). Minor valleys, and abandoned meltwater channels, poorly drained, with ponding and thermokarst lakes. Ice-wedge trough networks general, with low to high amplitude troughs. Low centre/raised rins where drainage poor. Desiccation cracks general; developed to hummocks over much of group, including gravels. Active layer maximum thickness: >60 cm on well drained gravel and sand; 30-50 cm over much of sand and silt colluvium; 10-30 cm in poorly drained depressions. See 5, for pre-Pleistocene gravels.	deposits. Towards centre of more extensive deposits (.1 to 1 km in from margin) often a thin cover of predominantly fine grained material, a result of either glacial or weathering processes. See also materials legend. Bedrock is folded KTe clastics, i.e. chiefly friable sandstone, siltstone, lesser shale, minor coal and conglomerates (See materials legend). However where the gravel cover has been stripped off, the strike-aligned bomding characteristic of KTe clastics is rarely evident, indicating a thick cover of colluvial, residual, and possibly morainal deposits, with only rare outcrop. Colluvium is chiefly sand and silt, with a discontinuous thin gravel cover. Gravel is dominant on upper slopes adjacent to gravel capping. Peat in poorly drained depressions. Thickness commonly only 5-20 cm over sand or silt colluvial or lacustrine sediments. Drained peat deposits to 3 m thick exposed by stream dissection in main valleys; probably of mid-Holocene age. Surface of the extensive plateau centred at 83°N: 79°40'E is chiefly a sand, gravel, fines mixture, possibly morainal. Chiefly colluvium (see 5.). Some residual KTe clastics, rare outcrop. Thick gravel residuals over 10-20% of unit. Thin peat over sand, silt, in valleys and depressions, ca. 5% unit.	in well drained gravel, though pore ice values could reach 30%. Colluvial deposits probably 0-50% excess ice. Poorly drained areas may have high ice content; palsen noted in shallow lakes. See 5	present, occasionally. Other species present (42% include Poa sp. Festuca sp. Papaver radicatum Cerastium arcticum, When silty matrix is present at the surface Braya & Draba sp., & Compositues. Taraxacum, Erigeron compositus, E. eriocephalus, Antennaria sp. are often found. Thannolla sp. is also present. A lower stratum is absent. b) Moderately drained areas: (plateaus & areas with gentle slopes). Vegetation is dominated by a swarf shrub communities Salix arctica & Dryas integrifolia (20-40%). Often found in runnels & polygonal depressions where moisture is more abundant & there is some protection from wind. Potentilla arctica is sometimes present (1-2%) Monocots: Poa arctica, Alopecurus sp., Luzula sp., Carex rupestris & C. nardina present (1-5%). Herbs include Papaver radicatum, Saxifraga oppositifolia, S. tricuspidata, S. flagellaris, S. caespitosa, S. cernua, Oxyria digyna, Lesquerella arctica, Braya sp Draba sp., Pedicularis arctica, P. sudetica, Ranuculus nivalis, Taraxacum sp., Gerastium sp., Stellaria sp., Melandrium apetalum all usually <1%. Lower stratum primarily 10-040% moss closely associated with the shrubs. 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	g, \$. s P si,s,g,b, C+P+ RC	a) areas, up to 250 km², of the original surface (5.2, parts of 5.5); b) friable KTe clastics with scattered mesas or buttes capped by gravel (parts of 5.1, 5.3); c) gentle, locally moderate to steep slopes, covering > 50% of group 5 with colluvium derived from KTe clastics or pre-Pleistocene gravel. Below 150 m, group appears to have been washed during high sea level stands, and to include gravel or sand deltas adjusted to the maximum stands. 'Gravels' include lesser sand and (or) silt; fines may be dominant at the surface and to 50 cm depth, either a result of weathering, or due to glacial reworking. Elsewhere, sand and silt dominant; again possibly glacially reworked. Organic deposits locally (5% of group), in depressions on gravel plateau, and in bottoms of valleys or basins elsewhere in the group. Large deposits are mapped separately on the materials underlay. 450-1500' (140-460 m) Level, to low rolling with gentle slopes. Moderate or steep slope segments locally on margins of unit, or flanking main drainage lines. Unit mainly extensive pre-Pleistocene gravels (see 5), plus isolated mesa or butte-like landforms. Similar gravel deposits incorporated in units 5.2, 5.3, 5.5. Drainage lines shallow gradient, flat floored, to 100 m wide, usually shallow in depth but may be incised to 20 m. Many of the largest are abandoned glacial meltwater channels, and are poorly drained by present misfit streams. 400-1000' (120-300 m). Chiefly gentle slopes, lesser level areas, small areas of moderate or steep slopes. Dissected pre-Pleistocene gravel surface, commonly eroded to underlying bedrock (see 5.). Main valleys shallow, 0.5-2 km spacing; numerous minor valleys and depressions, isolating gravel residuals. Local relief generally <50m. Mainly colluvium: sand and silt, with gravel adjacent to residuals. Some residuals KTe clastics, scattered outcrop. 400-600' (120-180 m). Belt of pre-Pleistocene gravel, dissected into particularly prominent mesa and butte landforms, divided by interconnecting valleys.	troughs; however depressions over 5-10% of the larger residuals are poorly drained, with sedge runs, ponding in low centre polygons, some thermokarst lakes, palsen. -Colluvium mantled slope drainage good to fair, with close-spaced seepage lines or shallow runnels; gullying rare. Solifluction lobes and minor taluson moderate and steep slopes; little disturbance of wedge troughs by solifluction on gentle slopes. Nain stream valleys usually fairly well drained, as channels incised 1-5 m (due to falling Holocene sea level?). Minor valleys, and abandoned meltwater channels, poorly drained, with ponding and thermokarst lakes. Ice-wedge trough networks general, with low to high amplitude troughs. Low centre/raised rins where drainage poor. Desiccation cracks general; developed to hummocks over much of group, including gravels. 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