

Appendix 1. Happy Valley field descriptions of soils from notes.

Relevé HV-01 Soil Profile Description

Location:	Fluvial Terrace		
Description by:	A. Gallant		
Sample Date:	7/18/94	Sample Time:	15:30
Classification:			
Parent Material:	Stabilized alluvium, sands and cobbles		
Geomorphic Surface:	Flat centered polygons		
Elevation:	900 ft	Slope:	0°
		Aspect:	Flat
Vegetation:	Dry Dryas integrifolia, Arctous rubra, Salix glauca, Lupinus arcticus dwarf shrub tundra		

Horizon:	Description:	
Oa	0-9 cm	Sample S-68
	Very dark brown (10 YR 2/2) silt. Weak, medium, subangular blocky breaking to moderate, fine, granular structure; 0% gravel; slightly sticky, slightly plastic consistence (wet); many very fine roots, common fine roots; abrupt, smooth boundary	
B	9-41 cm	Sample S-69
	Very dark brown to gray brown (10 YR 3/1.5) sandy loam. Weak, medium, subangular blocky breaking to moderate, very fine, granular structure; 10% gravel; slightly sticky, slightly plastic consistence (wet); common fine roots; cobbles up to 15 cm concentrated at top of layer, also interspersed throughout layer.	
C	41+ cm	no sample
	cobble layer. Notes: thaw is greater than 41 cm, but cobble layer prohibits further digging or probing.	

Relevé HV-02 Soil Profile Description

Location:	Second fluvial terrace nearer to road than runway		
Description by:	A. Gallant		
Sample Date:	7/18/94	Sample Time:	
Classification:			
Parent Material:	Alluvial sands, gravels, cobbles		
Geomorphic Surface:	Irregular microrelief		
Elevation:	900 ft	Slope:	0°
		Aspect:	Flat
Vegetation:	Dry Dryas integrifolia, Lupinus arcticus, Rhododendron lapponicum, Cetraria cucullata dwarf-shrub, forb tundra		

Horizon:	Description:	
Oa	0-6 cm	Sample S-70
	Black (10YR 2/1) Silt. Weak, fine, subangular blocky structure; 0% gravel; slightly sticky, slightly plastic consistence (wet); many very fine roots, common fine roots; abrupt, wavy boundary.	
B	6-26 cm	Sample S-71
	Very dark gray (10 YR 3/1) sandy loam. Moderate, medium, subangular blocky breaking to weak, fine, subangular blocky structure. <10% gravel; slightly sticky and slightly plastic consistence (wet); common fine roots, common medium roots; few cobbles (to 10 cm in diameter) in layer.	
C	26+ cm	cobble layer.

Relevé HV-03 Soil Profile Description

Location:	small pond, 100 m east of Dalton Highway, just north of Happy Valley camp		
Description by:	S. Walker		
Sample Date:	7/21/94	Sample Time:	
Classification:			
Parent Material:	Pond organic		
Geomorphic Surface:	Pond		
Elevation:	900 ft	Slope:	0°
		Aspect:	Flat
Vegetation:	Aquatic Comarum palustre, Sparganium hyperboreum, Calliergon giganteum forb marsh		

Horizon:	Description:	
Oi	0-40 cm	Sample S-72

	Black (10 YR 2/2) fibric material consisting of roots of Sparganium hyperboreum.	
C	40+ cm	No sample
	Rocky, cobbly horizon, stream channel.	

Relevé HV-04 Soil Profile Description

Location:	Floodplain, 150 m west of runway near Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/21/94	Sample Time:	
Classification:			
Parent Material:	Stabilized alluvium, sands and gravel		
Geomorphic Surface:	Gently rolling or irregular microrelief		
Elevation:	900 ft	Slope:	0°
		Aspect:	Flat
Vegetation:	Moist <i>Alnus viridis</i> , <i>Salix lanata</i> , <i>Equisetum arvense</i> , <i>Climaceum dendroides</i> low shrubland.		

Horizon:	Description:	
Oe	0-4 cm	Sample S-73
	Very dark grayish brown to very dark brown (10YR 2.5/2) hemic material composed of stems and decomposing leaves and very fine roots; abrupt, smooth, boundary.	
A1	4-14 cm	Sample S-74
	Very dark grayish brown to very dark brown silt loam. Weak, fine, granular structure. 0% gravel; slightly sticky and slightly plastic consistence; many very fine and fine roots, many medium roots, common coarse roots; abrupt, smooth boundary.	
A2	14-21 cm	Sample S-75
	Very dark brown (10 YR 2/2) loam. Weak, medium, granular structure. 0% gravel; slightly sticky and slightly plastic consistence; common very fine, fine, and medium roots; abrupt, smooth boundary.	
B	21-30 cm	Sample S-76
	Very dark grayish brown (10 YR 3/2) sandy loam. Weak, fine, subangular blocky structure. 0% gravel; slightly sticky and slightly plastic consistence; many very fine and fine roots, common medium roots; clear, wavy boundary. Notes: Indistinct banding of organic materials from flooding events apparent.	
C	30-38+ cm	Sample S-77

	Very dark grayish brown (10YR 3/2) loamy sand. Weak, medium, granular structure. 0% gravel; nonsticky and nonplastic consistence (wet); common very fine and fine roots.	
permafrost	38+	

 Relevé HV-05 Soil Profile Description

Location:	Floodplain on creek, very shrubby, 200 m west of runway, at bottom of hill below road.		
Description by:	A. Gallant and N. Auerbach		
Sample Date:	7/21/94	Sample Time:	15:30
Classification:			
Parent Material:	Stabilized alluvial sands and gravels		
Geomorphic Surface:	irregular microrelief		
Elevation:	900 ft	Slope:	0°
		Aspect:	Flat
Vegetation:	Moist <i>Alnus viridis</i> , <i>Salix lanata</i> , <i>Vaccinium uliginosum</i> , low shrubland.		

Horizon:		Description:	
Oi	0-4 cm	Sample S-78	
		Very dark grayish brown (10 YR 3/2) fibric material composed of litter (dead leaves) and roots (<i>Alnus viridens</i> , <i>Betula nana</i>); many fine and very fine roots, common medium roots; abrupt, smooth boundary.	
Oe	4-15 cm	Sample S-79	
		Black (10 YR 2/1) hemic material. 0% gravel, many fine and very roots, common medium roots; abrupt, smooth boundary.	
permafrost	15 cm		
A	15-20 cm	Sample S-86	
		Black (10 YR 2/1) silt. Undetermined structure (frozen soil). 0% gravel; nonsticky and nonplastic consistence (wet); common medium and coarse roots, undetermined concentration of very fine and fine roots because of frozen consistence, possibly many very fine roots; abrupt, smooth boundary.	
B	20-28+ cm	Sample S-81	
		Dark gray (10 YR 4/1) loam. Weak, fine, subangular blocky breaking to moderate, fine, granular structure. 0% gravel; slightly sticky and slightly plastic consistence (wet); undetermined concentration of roots because of frozen consistence; common, fine yellowish red (5 YR 5/8) mottles.	

Relevé HV-06 Soil Profile Description

Location:	Fluvial Terrace, 100m west of runway just east across Dalton Highway from HV camp		
Description by:	A. Gallant and N. Auerbach		
Sample Date:	7/21/94	Sample Time:	14:31
Classification:			
Parent Material:	Stabilized alluvium (sands and gravel)		
Geomorphic Surface:	featureless, less than 20 frost scars		
Elevation:	900 ft	Slope:	0°
		Aspect:	Flat
Vegetation:	Dry Dryas integrifolia, Lupinus arcticus, Stereocaulon alpinum, Tomentypnum nitens dwarf-shrub, forb tundra		

Horizon:		Description:	
surface moss	0-0.5 cm	No sample	
	Abrupt, smooth boundary.		
Oa1	0.5-2 cm	Sample S-82	
	Black (10YR 2/2). Less than 10% gravel; abrupt, smooth boundary. Many fine and very fine roots and cobbles to 14 cm in diameter.		
A	2-4 cm	Sample S-83	
	(10YR 2.5/1). 75% gravel, nonsticky and slightly plastic consistence (wet). Silty loam texture with abrupt, smooth boundary. Many fine and very fine roots and cobbles to 14 cm in diameter.		
Oa2	4-6 cm	Sample S-84	
	Black (10 YR 2/1). 75% gravel, nonsticky, non plastic consistence (wet). Abrupt, smooth boundary. Many fine and very fine roots and cobbles to 14 cm in diameter.		
B2	6-30+ cm	Sample S-85	
	Very dark gray (10YR 3/1). Weak, medium, granular structure with 75% gravel. Nonsticky, nonplastic consistence (wet); sandy loam texture with abrupt, smooth boundary. Common fine and very fine roots with cobbles to 21 cm in diameter.		
	30+ cm	very stony, didn't dig past this point, didn't reach permafrost	

Relevé HV-07 Soil Profile Description

Location:	Happy Valley, river bar		
Description by:	A. Gallant		
Sample Date:	7/18/94	Sample Time:	9:30
Classification:			
Parent Material:	Alluvial gravels and sand		
Geomorphic Surface:	Stony surface		
Elevation:	950 ft	Slope:	0°
Aspect:	Flat		
Vegetation:	Dry Epilobium latifolium, Hedysarum alpinum, Salix alaxensis forb barren		

Horizon:	Description:	
C	depth not measurable	Sample S-86
	Very dark gray-brown (2.5 YR 3/2). Gravel bar with cobbles up to 50 cm in diameter. Single grain structure; nonsticky, nonplastic consistence (wet). Sandy texture. Soil not described.	

Relevé HV-08 Soil Profile Description

Location:	Happy Valley, river bar		
Description by:	A. Gallant		
Sample Date:	7/18/94	Sample Time:	10:00
Classification:			
Parent Material:	Alluvial gravels and sand		
Geomorphic Surface:	Stony surface		
Elevation:	900 ft	Slope:	0°
Aspect:	Flat		
Vegetation:	Dry Castilleja caudata, Hedysarum alpinum forb barren		

Horizon:	Description:	
C	depth not measurable	Sample S-87
	Black (2.5 YR 2/2). Gravel bar with cobbles up to 50 cm in diameter. Single grain structure; nonsticky, nonplastic consistence (wet). Sandy texture. Soil not described.	

 Relevé HV-09 Soil Profile Description

Location:	Edge of pond by gravel pit		
Description by:	A. Gallant		
Sample Date:	7/18/94	Sample Time:	10:45
Classification:			
Parent Material:	Lacustrine organic deposits		
Geomorphic Surface:	Featureless		
Elevation:	950 ft	Slope:	0°
Aspect:	Flat		
Vegetation:	Wet Carex saxatilis, Carex aquatilis graminoid meadow		

Horizon:	Description:	
Oe	0-14 cm	Sample S-88
	Black (10 YR 2/1). Weak, medium, platy structure with 0% gravel. Nonsticky, nonplastic consistence (wet) with silky organic sand texture; abrupt, smooth boundary. 10% silt, 20% plant fibers after rubbing (sedge, roots, leaves)	
A1	14-25 cm	Sample S-89
	Very dark gray (10 YR 3/1). Massive structure with 0% gravel. Slightly sticky, nonplastic consistence (wet). Loamy sand texture with clear, smooth boundary. Many very fine roots.	
A2	25-47 cm	Sample S-90
	Black (5 YR 2.5/1). Weak, fine subangular blocky structure with 0% gravel. Slightly sticky, slightly plastic consistence (wet). Silty loam texture with many very fine roots. Permafrost boundary at 47 cm depth.	

Relevé HV-10 Soil Profile Description

Location:	Fluvial terrace near old campsite		
Description by:	A. Gallant		
Sample Date:	7/18/94	Sample Time:	12:00
Classification:			
Parent Material:	Stabilized Alluvium		
Geomorphic Surface:	Featureless		
Elevation:	950 ft	Slope:	0°
		Aspect:	Flat
Vegetation:	Dry Dryas integrifolia, Lupinus arcticus, Rhododendron lapponicum, Arctous rubra dwarf-shrub, forb tundra		

Horizon:	Description:	
Oi	0-2 cm	No sample
	Abrupt, smooth boundary; dead leaves, loose stems. Layer too thin to sample	
Oa	2-8 cm	Sample S-91
	Very dark brown (7.5 YR 2/2). Abrupt, wavy boundary; sapric organic with less than 2% fibers after rubbing.	
B1	8-18 cm	Sample S-92
	Mixed horizon with mottles and organic inclusions. Dark yellow-brown mottles (10 YR 4/6) from 0.5-1 cm, very dark gray-brown (10 YR 3/1.5) dominant matrix, black organic inclusions common 1-2 cm (10 YR 2/1). Weak, fine, subangular blocky structure with 0% gravel. Slightly sticky, slightly plastic consistence (wet); loam texture. Abrupt, smooth boundary; many fine roots.	
B2	18-30 cm	Sample S-93
	Very dark gray-brown (10 YR 3/2). Moderate, medium, subangular blocky structure breaking into moderate medium granular structure. Slightly sticky, slightly plastic consistence (wet). Loam texture with abrupt, smooth boundary; few very fine roots.	
B3	30-47 cm	Sample S-94
	Very dark gray (10 YR 3/1). Weak, medium subangular blocky structure. Nonsticky, nonplastic consistence (wet); sand texture.	
Cobble layer	47+ cm	No sample

Relevé HV-11 Soil Profile Description

Location:	Floodplain, dry scrub area		
Description by:	A. Gallant		
Sample Date:	7/18/94	Sample Time:	14:00
Classification:			
Parent Material:	Stabilized Alluvium (sands and gravels)		
Geomorphic Surface:	Gently rolling or irregular microrelief		
Elevation:	950 ft	Slope:	0°
		Aspect:	Flat
Vegetation:	Dry Salix alaxensis, Shepherdia canadensis, Arctous rubra tall shrubland		

Horizon:	Description:	
O	0-2 cm	No sample
	Very dark brown (10 YR 2/2). 0% gravel with abrupt, smooth boundary. Live moss, plant litter, many very fine roots, many fine roots, many medium roots.	
A	2-6 cm	Sample S-95
	Very dark gray (10 YR 3/1). Moderate, fine, granular structure with 0% gravel. Slightly sticky, slightly plastic consistence (wet). Sandy loam texture with abrupt, smooth boundary. Common fine roots, many very fine roots, common medium roots.	
C1	6-9 cm	No sample
	Black (5 YR 2.5/1.5). Single grain structure. Nonsticky, nonplastic consistence (wet). Sandy texture with abrupt, wavy boundary. Many very fine roots, common fine roots, common medium roots. Layer too thin to sample.	
C2	9-73 cm	Sample S-96
	Very dark gray-brown (2.5 YR 3/2). Weak, medium, subangular blocky structure breaks into moderate, fine granular. Slightly sticky, slightly plastic consistence (wet). Sandy loam texture with many very fine rocks, many fine roots, common medium roots, common coarse roots.	
Permafrost	73 cm	No sample

Relevé HV-12 Soil Profile Description

Location:	Water track on shoulder of bluff over looking Sag. river; 2 km south of HV camp		
Description by:	A. Gallant		
Sample Date:	7/19/94	Sample Time:	
Classification:			
Parent Material:	Undifferentiated hillslope colluvium		
Geomorphic Surface:	Well-developed hillslope water track		
Elevation:	1050 ft	Slope:	15° Aspect: E
Vegetation:	Wet Salix glauca, Petasites frigidus, Equisetum arvense low shrubland		

Horizon:	Description:	
Oe	0-21 cm	Sample S-97
	Black (10 YR 2/1). Massive structure with 0% gravel. Loam texture with abrupt, smooth boundary. Composed of sedge, sedge roots, willow roots with many very fine, fine, medium and coarse roots. Red mottles - few and large in Oe layer (7.5 YR 3/3)	
O/B	21-40+ cm	Sample S-98
O	Black (10 YR 2/1). Massive structure with 0% gravel. Slightly sticky, slightly plastic consistence (wet). Loam texture.	
B	Very dark gray-brown (10 YR 3/2). Massive structure with 0% gravel. Slightly sticky, slightly plastic consistence (wet). Silty loam texture.	
Permafrost	40 cm	No sample

Relevé HV-13 Soil Profile Description

Location:	Bluff overlooking Sag. river; 1/3 mile north of access road		
Description by:	A. Gallant		
Sample Date:	7/19/94	Sample Time:	
Classification:			
Parent Material:	Colluvium and glacial till		
Geomorphic Surface:	Gelifluction lobes		
Elevation:	1000 ft	Slope:	30°
		Aspect:	E
Vegetation:	Moist Arctous rubra, Salix glauca, Lupinus arcticus, Salix lanata, Hylocomium splendens forb, low shrubland		

Horizon:	Description:	
Oi	0-2 cm	No sample
Oe	2-8 cm	Sample S-100
	Black (10 YR 2/1)	
Oa/B	8-22 cm	Samples S-99, S-101, S-102
Oa	Black (10 YR 2/1). Weak, fine, subangular blocky structure with 50% gravel. Nonsticky, nonplastic consistence (wet). Silty texture with clear, wavy boundaries. Many fine roots, common very fine roots, few medium roots.	
B	Very dark gray-brown (10 YR 3/2). Weak, fine, subangular blocky structure with 50% gravel. Slightly sticky, slightly plastic consistence (wet). Silty loam texture with clear, wavy boundaries. Many fine roots, common very fine roots, few medium roots.	
B	22-40+ cm	No sample
	Very dark gray-brown (10 YR 3/2). Weak, fine, subangular blocky structure that breaks to weak, very fine, granular structure. 75% gravel; slightly sticky, slightly plastic consistence (wet). Silty loam texture.	

Relevé HV-14 Soil Profile Description

Location:	Floodplain of Sag. river, .3 miles north of access road		
Description by:	A. Gallant		
Sample Date:	7/19/94	Sample Time:	
Classification:			
Parent Material:	Active alluvial sands and gravels		
Geomorphic Surface:	stony surface		
Elevation:	950 ft	Slope:	0°
Aspect:	Flat		
Vegetation:	Dry Salix alaxensis, Castilleja caudata, Hedysarum alpinum low shrub, forbland		

Horizon:	Description:
C	Sample S-103 Very dark gray-brown (2.5 YR 3/2). Sample is surface sand. Surface is composed of sands, gravels, and cobbles up to 40 cm in diameter.

Relevé HV-15 Soil Profile Description

Location:	Bluff overlooking Sag. river north of access road, 2 km south of the Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/19/94	Sample Time:	
Classification:			
Parent Material:	Glacial till, undifferentiated. hillslope colluvium		
Geomorphic Surface:	Gelifluction lobes		
Elevation:	1000	Slope:	30°
Aspect:	E		
Vegetation:	Moist Arctous rubra, Salix glauca, Salix lanata, Abietinella abietina low shrubland		

Horizon:	Description:
Oi	0-2 cm Sample S-104
	Dark brown (7.5 YR 3/2). Abrupt, smooth boundary. Composed of moss (e.g. Abietinella abietina), many very fine and fine roots.
Oe	2-10 cm Sample S-105
	Dark red-brown (5 YR 2.5/1.5). Abrupt, smooth boundary. Composed of moss (e.g. Abietinella abietina), many very fine and fine roots.
Oa/B	10-37 cm Sample S-106
Oa	Black (10 YR 2/1). Weak, fine, subangular blocky structure with 25% gravel. Nonsticky, nonplastic consistence (wet). Silty texture.

B	Very dark gray-brown (10 YR 3/2). Weak, fine, subangular blocky structure with 25% gravel. Slightly sticky, plastic consistence (wet). Clay loam texture.	
B	37+ cm	Sample S-107
	Dark brown (10 YR 3/3). Weak, fine, subangular blocky structure. 25% gravel; slightly sticky, plastic consistence (wet). Clay loam texture; deeper soil description prevented by rocks.	

Relevé HV-16 Soil Profile Description

Location:	Rocky floodplain of Sag. river, north of access road, 2 km south of Happy Valley camp				
Description by:	A. Gallant				
Sample Date:	7/19/94		Sample Time:		
Classification:					
Parent Material:	Active alluvial sands and gravels				
Geomorphic Surface:	stony surface				
Elevation:	1000	Slope:	0°	Aspect:	Flat
Vegetation:	Dry Salix alaxensis, Castilleja caudata, Hedysarum alpinum forbland				

Horizon:		Description:	
C		Sample S-108	
	Very dark gray-brown (2.5 YR 3/2). Surface to unknown depth is sands, gravels and cobbles up to 30 cm in diameter. Sample taken of surface sands.		

Relevé HV-17 Soil Profile Description

Location:	Snowbed in bluff overlooking Sag. River, south of access road		
Description by:	A. Gallant		
Sample Date:	7/19/94	Sample Time:	
Classification:			
Parent Material:	Undifferentiated hillslope alluvium and glacial till		
Geomorphic Surface:	Gelifluction features		
Elevation:	950 ft	Slope:	30°
		Aspect:	E
Vegetation:	Moist Tomentypnum nitens, Dryas integrifolia, Lupinus arcticus , Cassiope tetragona, dwarf-shrub, forb tundra (snowbed)		

Horizon:	Description:	
Oi	0-2 cm	No sample
	Layer too thin to sample. Composed of moss Tomentypnum nitens.	
Oe	2-4 cm	No sample
	Very dark brown (7.5 YR 2/2). Nonsticky, nonplastic consistence (wet); abrupt, wavy boundary. Layer too thin to sample.	
Oa	4-9 cm	Sample S-109
	Black (10 YR 2/1). Moderate, fine, subangular blocky structure that breaks to moderate, fine, granular structure. Silty texture with clear, wavy boundary. Many very fine to fine roots.	
A/B	9-35 cm	Sample S-110 A and B horizons are mixing in this layer probably due to downslope movement. Rocks showing buildup of carbonates on undersides.
A	Very dark brown (10 YR 2/2). Weak, fine, subangular blocky structure that breaks to moderate, fine granular structure. 25% gravel. Slightly sticky, slightly plastic consistence (wet); sandy loam texture. Many fine to very fine roots.	
B	Brown (10 YR 4.5/3). Weak, very fine, subangular blocky structure that breaks to moderate, fine, granular structure. 25% gravel. Sticky, plastic consistence (wet); clay loam texture.	
C	35+ cm	Sample S-111
	Very dark gray-brown to brown (10 YR 2.5/2). Weak, medium, granular structure with greater than 75% gravel. Slightly sticky, slightly plastic consistence (wet); clay loam texture. Depth undetermined because there were too many rocks to dig further.	

Relevé HV-18 Soil Profile Description

Location:	Floodplain south of access road		
Description by:	A. Gallant		
Sample Date:	7/19/94	Sample Time:	
Classification:			
Parent Material:	Stabilized alluvium sand		
Geomorphic Surface:	Irregular microrelief		
Elevation:	950 ft	Slope:	0°
Aspect:	Flat		
Vegetation:	Moist Salix alaxensis, Salix lanata, Campyllum stellatum, Equisetum arvense, Hedysarum alpinum low shrubland		

Horizon:	Description:	
Oi	0-1 cm	No sample
	Layer too thin to sample, composed of moss (Campyllum stettatum)	
Oe	1-5 cm	No sample
	Very dark gray-brown to brown (10 YR 2.5/2). Abrupt, smooth boundary; primarily moss. Layer too thin to sample. Deposition of 1 cm thick layer of silt at the top of this layer (from flood) (10 YR 3/1).	
Bw	5-68 cm	Sample S-112
	(10 YR 3/1). Massive structure with 0% gravel. Slightly sticky, slightly plastic consistence (wet); sandy loam texture with many very fine to fine roots.	
Permafrost	68 cm	No sample

 Relevé HV-19 Soil Profile Description

Location:	East-facing river bluff of Sag. River; about 2 km south of Happy Valley Camp		
Description by:	A. Gallant		
Sample Date:	7/19/94	Sample Time:	
Classification:			
Parent Material:	Colluvium with glacial till		
Geomorphic Surface:	Gelifluction lobes		
Elevation:	950 ft	Slope:	30°
		Aspect:	E
Vegetation:	DrySalix glauca, Festuca altaica, Arctous rubra, shrubland		

Horizon:	Description:	
Oi	0-6 cm	No sample
	Clear, wavy boundary. Layer composed of dead leaves, woody stems, and dead mosses.	
Oa/A	6-44 cm	Sample S-113
	Because of downslope movement of materials, this layer is a mix of soils from two horizons. Many very fine, fine, medium and coarse roots.	
O	Dark red-brown (5 YR 2.5/2). Abrupt, wavy boundary. Too much organic material to classify structure and consistence.	
A	Very dark gray (10 YR 3/1). Weak, very fine, subangular blocky structure breaks to weak, very fine, granular structure; 25% gravel. Nonsticky, nonplastic consistence (wet) with loamy sand texture.	
C	44-76+ cm	Sample S-114
	Very dark gray-brown (10 YR 3/2). Weak, very fine, subangular blocky structure breaks to weak, very fine, granular structure; 75% gravel. Slightly sticky, slightly plastic consistence (wet) with sandy clay texture. Many very fine and fine roots. Rocks prevent any deeper soil description.	

Relevé HV-20 Soil Profile Description

Location:	Hillcrest of toposequence; about 1 km north of Happy Valley Camp		
Description by:	A. Gallant		
Sample Date:	7/20/94	Sample Time:	
Classification:			
Parent Material:			
Geomorphic Surface:	Featureless		
Elevation:	1000 ft	Slope:	2°
		Aspect:	N
Vegetation:	Moist , Hylocomium splendens, Eriophorum vaginatum, Betula nana, tussock-graminoid and dwarf-shrub tundra		

Horizon:	Description:	
Oi	0-6 cm	Sample S-115
	Yellow brown (10 YR 5/8). Abrupt, smooth boundary. Loose mat of mosses including Aulacomnium turgidum . Very fine sedge roots.	
Oe	6-14 cm	Sample S-116
	Dark brown (7.5 YR 3/4). Abrupt, smooth boundary. Composed of compressed mat of and sedge roots.	
Oa	14-26 cm	Sample S-117
	(10 YR 2/2). Abrupt, smooth boundary. Composed of decomposed mosses and sedge roots.	
Permafrost	26 cm	
Bs	26-28 cm	Sample S-118
	Very dark brown (10 YR 3/4). Massive structure with 0% gravel. Sticky, plastic consistence (wet). Silty clay loam texture with abrupt, smooth boundary. Has humic layer at top. Difficult to get pure sample without contamination from Bw layer.	
Bw	28+ cm	Sample S-119
	Dark gray-brown (2.5 YR 4/2). Massive structure with 0% gravel. Sticky, plastic consistence (wet). Silty clay loam texture. Hard to get sample without contamination from Bs layer.	

 Relevé HV-21 Soil Profile Description

Location:	Shoulder of toposequence; about 1 km north of Happy Valley Camp		
Description by:	A. Gallant		
Sample Date:	7/20/94	Sample Time:	11:15
Classification:			
Parent Material:	hillslope colluvium		
Geomorphic Surface:	featureless		
Elevation:	1000 ft	Slope:	7°
		Aspect:	N
Vegetation:	Moist Hylocomium splendens, Carex Bigelowii, Eriophorum vaginatum, Cassiope tetragona, Salix planifolia tussock-graminoid, dwarf- shrub tundra		

Horizon:	Description:	
Oi	0-4 cm	Sample S-120
	(10 YR 5/4). Abrupt, smooth boundary. Composed of a loose mat of Sphagnum and sedge roots.	
Oe	4-12 cm	Sample S-123
	Dark brown (7.5 YR 3/2). Abrupt, smooth boundary. Composed of decomposing Sphagnum and sedge roots.	
Oa	12-20 cm	Sample S-121
	Black (10 YR 2/1). Abrupt, smooth boundary. Composed of decomposing Sphagnum and sedge roots.	
Bw	20+ cm	Sample S-122
	Very dark gray-brown (10 YR 3/2). Massive structure with less than 10% gravel; 1 piece up to 2 cm in diameter. Sticky, plastic consistence (wet). Silty clay loam texture; common fine mottles in top 1 cm of layer (7.5 YR 4/6).	
permafrost	20 cm	

 Relevé HV-22 Soil Profile Description

Location:	Side slope of toposequence; about 1 km north of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/20/94	Sample Time:	
Classification:			
Parent Material:	Colluvium and till		
Geomorphic Surface:	Gelifluction lobes		
Elevation:	975 ft	Slope:	20°
		Aspect:	N
Vegetation:	Moist Cassiope tetragona, Dryas integrifolia, Salix glauca, Hylocomium splendens, Betula nana, Vaccinium uliginosum, Drepanocladus uncinatus, Ptilidium ciliare low and dwarf-shrub tundra.		

Horizon:	Description:	
Oe	0-2 cm	No sample
	Black (10 YR 2/2). Composed of slightly compressed leaf litter, mosses (Drepanocladus uncinatus, Ptilidium ciliare) and fine roots.	
Oa	2-7 cm	Sample S-124
	Black (5 YR 2.5/1.5). Less than 10% gravel. Highly decomposed.	
A	7-12 cm	Sample S-125
	Black (5 YR 2.5/1.5). Weak, fine, subangular blocky structure breaks into weak, very fine granular structure; less than 10% gravel. Slightly sticky, slightly plastic consistence (wet). Silty loam texture.	
B	12-42+ cm	Sample S-126
	Dark gray-brown (10 YR 4/2). Weak, fine, subangular blocky structure breaks into weak, very fine granular structure; 25% gravel. Sticky, plastic consistence (wet) with loam texture. Mottles are common and fine in size.	
Permafrost	86 cm	

 Relevé HV-23 Soil Profile Description

Location:	Footslope of north-facing toposequence, 1 km north of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/20/94	Sample Time:	13:45
Classification:			
Parent Material:	Hillslope colluvium		
Geomorphic Surface:	Gelifluction lobes		
Elevation:	950 ft	Slope:	5°
		Aspect:	N
Vegetation:	Moist Tomentypnum nitens, Dryas integrifolia, Salix glauca, Equisetum arvense horsetail, low shrubland		

Horizon:	Description:	
Oi	0-4 cm	Sample S-127
	(10 YR 2/2). Abrupt, smooth boundary; comprised of loose mat of moss, primarily Tomentypnum nitens and Equisetum arvense and roots.	
Oe	4-8 cm	Sample S-128
	Very dark brown (10 YR 2/1.5). Abrupt, smooth boundary; comprised of decomposing roots and mosses. About 25% fiber after rubbing.	
Oa	8-16 cm	Sample S-129
	Black (10 YR 2/1). Abrupt, smooth boundary; less than 5% fiber content after rubbing.	
Bw	16-40 cm	Sample S-130
	Dark gray-very dark gray (10 YR 4.5/1). Massive structure with 10% gravel. Where there are concentrations of organic matter the structure is moderate, fine and granular. Sticky, plastic consistence (wet); clay loam texture. Many very fine, common fine, few medium roots. Gravel and cobbles up to 10 cm in diameter concentrated in top of layer but spread throughout common, fine, distinct mottles. Mottles are yellowish-brown (10 YR 5/6).	
Permafrost	40 cm	

Relevé HV-24 Soil Profile Description

Location:	Toeslope of toposequence; about 1 km north of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/20/94	Sample Time:	
Classification:			
Parent Material:	Stabilized fine-textured alluvium		
Geomorphic Surface:	Floodplain		
Elevation:	950 ft	Slope:	0°
		Aspect:	Flat
Vegetation:	Moist Equisetum arvense , Salix lanata, Petasites frigidus, Dodecatheon frigidum, Climacium dendroides low shrubland (riparian)		

Horizon:		Description:	
Oe	0-5 cm	Sample S-131	
	Very dark gray (10 YR 3/1). 0% gravel; abrupt, smooth boundary. Composed of decomposing mosses (e.g. Climacium dendroides, Tomentypnum nitens, and very fine roots intermixed with silt.		
A	5-37 cm	Sample S-132	
	Very dark gray-brown (10 YR 3/2). Weak, medium, granular structure with 0% gravel. Slightly sticky and plastic consistence (wet). Sandy loam texture. Flooding events indicated by deposits of higher concentrations of organic materials; black (10 YR 2/3). Two distinct bands occur from 22-24 cm and 32-34 cm. Many very fine and fine roots, common medium roots.		
Permafrost	37 cm		

Relevé HV-25 Soil Profile Description

Location:	Shrubby floodplain, base of southern facing toposequence 1 km north of Happy Valley camp		
Description by:	N. Auerbach and A. Gallant		
Sample Date:	7/20/94	Sample Time:	16:15
Classification:			
Parent Material:	Stabilized fine-grained alluvium		
Geomorphic Surface:	Irregular microrelief		
Elevation:	950 ft	Slope:	<5°
		Aspect:	S
Vegetation:	Moist Salix planifolia , Betula nana, Petasites frigidus, Sphagnum squarrosum low shrubland (riparian)		

Horizon:		Description:	
Oe	0-8 cm	Sample S-133	

	(10 YR 2/1). 0% gravel; abrupt, smooth boundaries. Comprised of some moss and roots and woody debris from Salix and Betula. Many very fine, fine and medium roots; common coarse roots.	
A	8-21+ cm	Sample S-134
	(10 YR) 3.5/2). Weak, medium granular structure with 0% gravel. Slightly sticky, slightly plastic consistence (wet). Loam texture. Many very fine, fine and medium roots; common coarse roots.	
Permafrost	21 cm	

 Relevé HV-26 Soil Profile Description

Location:	Toposequence 1 km north of Happy Valley camp and about 400 m west of Haul road				
Description by:	A. Gallant				
Sample Date:	7/24/94		Sample Time:		
Classification:					
Parent Material:	Hillslope colluvium				
Geomorphic Surface:	Featureless				
Elevation:	1000 ft	Slope:	<5°	Aspect:	S
Vegetation:	Moist Eriophorum vaginatum, Betula nana, Ledum decumbens, Sphagnum girgensohnii tussock-graminoid, dwarf-shrub tundra				

Horizon:	Description:	
Oi1	0-14 cm	Sample S-135
	Dark yellow-brown (10 YR 4/6). 0% gravel; abrupt, smooth boundary. Top 7 cm consist mostly of live moss (Sphagnum).	
Oi2	14-20 cm	Sample S-136
	Black to very dark brown (10 YR 2/1.5). 0% gravel; abrupt, smooth boundary. Many fine to medium roots. Composed mainly of moss (e.g. Sphagnum) and secondarily of roots.	
Oe	20-28 cm	Sample S-137
	Very dark brown (10 YR 2/2). 0% gravel; abrupt, smooth boundary. Composed primarily of roots and secondarily of mosses. Many fine and medium roots. Coarse roots common.	
Permafrost	26 cm	
Bw	28+ cm	Sample S-138
	Very dark gray-brown to dark brown (10 YR 3/2.5). Massive structure with 0% gravel. Sticky, plastic consistence (wet); clay loam texture. Many very fine roots. About 50% ice.	

 Relevé HV-27 Soil Profile Description

Location:	Toposequence 1 km north of Happy Valley camp and about 400 m west of Haul road		
Description by:	A. Gallant		
Sample Date:	7/24/94	Sample Time:	
Classification:			
Parent Material:	Hillslope colluvium		
Geomorphic Surface:	Featureless		
Elevation:	1000 ft	Slope:	5°
		Aspect:	S
Vegetation:	Moist <i>Betula nana</i> , <i>Salix planifolia</i> , <i>Eriophorum vaginatum</i> , <i>Aulacomnium turgidum</i> dwarf-shrub tussock tundra		

Horizon:		Description:	
Oi1	0-8 cm	Sample S-139	
	Very dark brown (10 YR 2/3). 0% gravel. Top 2 cm consist of loose mat of live moss and Aulacomnium turgidum).		
Oi2	8-14 cm	Sample S-140	
	Dark yellow-brown (10 YR 2/4). 0% gravel. Composed mainly of fine and very fine roots. Many medium roots.		
Oe	14-21 cm	Sample S-141	
	Dark brown (10 YR 3/3). 0% gravel. Composed mainly of Sphagnum and Aulacomnium mosses. Many very fine and fine roots.		
Oa	21-29 cm	Sample S-142	
	Black (10 YR 2/1) 0% gravel. Abrupt, smooth boundary; many very fine and fine roots.		
Permafrost	23 cm		
Bw	29+ cm	Sample S-143	
	Gray (10 YR 5/1). Massive structure with 0% gravel. Clay loam texture. Many medium sized, yellow brown mottles (10 YR 5/8). Lenses of ice 1-2 mm thick occur within this frozen layer.		

Relevé HV-28 Soil Profile Description

Location:	Sideslope of toposequence; 1 km north of Happy Valley camp and about 400 m west of Haul road				
Description by:	A. Gallant				
Sample Date:	7/24/94		Sample Time:		
Classification:					
Parent Material:					
Geomorphic Surface:	Featureless				
Elevation:	1050 ft	Slope:	<5°	Aspect:	S
Vegetation:	Moist Eriophorum vaginatum, Betula nana, Salix planifolia , Hylocomium splendens, Aulacomnium turgidum dwarf-shrub tussock tundra				

Horizon:	Description:	
Oi	0-13 cm	Sample S-144
	Dark yellow-brown (10 YR 3/4). 0% gravel; abrupt, smooth boundary. Top 7 cm comprised of live moss layer (e.g. , Aulacomnium turgidum). Color and bulk density sample are from 7-13 cm depth; mainly composed of roots, many fine and very fine roots.	
Oe	13-19 cm	Sample S-145
	Black (10 YR 2/1). 0% gravel; abrupt, smooth boundary. Mostly composed of roots and sedge parts. Many very fine, fine roots and common coarse roots.	
Oa	19-25 cm	Sample S-146
	Black (10 YR 2/1). 0% gravel; abrupt, smooth boundary. Many very fine and fine roots.	
Bw	25+ cm	Sample S-147
	Dark gray-brown (10 YR 4/2). 0% gravel. Sticky, plastic consistence (wet). Silty clay loam texture. Layer includes strong brown, medium size mottles (7.5 YR 4/6). Common very fine roots.	
Permafrost	25 cm	

 Relevé HV-29 Soil Profile Description

Location:	Hillside toposequence; 1 km north of Happy Valley camp and about 400 m west of Haul road					
Description by:	A. Gallant					
Sample Date:	7/24/94			Sample Time:		
Classification:						
Parent Material:	Hillslope colluvium					
Geomorphic Surface:	Featureless					
Elevation:	1050 ft	Slope:	<5°	Aspect:	S	
Vegetation:	Moist Eriophorum vaginatum, Salix planifolia , Aulacomnium turgidum tussock-graminoid, dwarf-shrub tundra					

Horizon:	Description:	
Oi	0-10 cm	Sample S-148
	Brown-yellow (10 YR 6/6). 0% gravel; abrupt, smooth boundary. Composed mainly of Sphagnum.	
Oe	10-16 cm	Sample S-149
	Black (10 YR 2/1). 0% gravel; clear, smooth boundary. Composed mainly of roots, moss and deciduous leaves. Many very fine roots, medium roots common.	
Oa	16-19 cm	Sample S-150
	Very dark brown (10 YR 2/2). 0% gravel; abrupt, smooth boundary. Many very fine roots and medium roots, fine roots are common.	
Bw	19-26+ cm	Sample S-151
	Gray (10 YR 5/1). Massive structure with 0% gravel. Very sticky, very plastic consistence (wet); Silty clay texture. Many large dark yellow-brown mottles (10 YR 3/4). Many very fine roots and fine roots are common	
Permafrost	26 cm	

Relevé HV-30 Soil Profile Description

Location:	North hillslope crest of toposequence; 1 km north of Happy Valley camp and about 400 m west of Haul road				
Description by:	A. Gallant				
Sample Date:	7/24/94		Sample Time:		
Classification:					
Parent Material:	Hillslope colluvium and till				
Geomorphic Surface:	Featureless				
Elevation:	1000 ft	Slope:	0°	Aspect:	Flat
Vegetation:	Moist Carex Bigelowii, Eriophorum vaginatum, Betula nana, Dodecatheon frigidum, Hylocomium splendens, Arctagrostis latifolia tussock, graminoid, dwarf-shrub tundra				

Horizon:	Description:	
Oi1	0-10 cm	Sample S-152
	Black to very dark brown (10 YR 2/1.5). Abrupt, smooth boundary. Top 6 cm composed of moss (Aulacomnium turgidum), lichens and roots.	
Oi2	10-18 cm	Sample S-153
	Strong brown (7.5 YR 4/6). Abrupt, smooth boundary. Many very fine roots, fine roots common. Mainly composed of Sphagnum moss.	
Oa	18-21 cm	Sample S-154
	Black (10 YR 2/1). Abrupt, smooth boundary. Many very fine and medium roots. Fine roots common.	
Bw	21+ cm	Sample S-155
	Gray (10 YR 5/1). Massive structure with less than 10% gravel. Sticky, plastic consistence (wet). Silty clay loam texture	
Permafrost	21 cm	

Relevé HV-31 Soil Profile Description

Location:	Hillslope about 300 m west of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/26/94	Sample Time:	
Classification:			
Parent Material:	Hillslope colluvium		
Geomorphic Surface:			
Elevation:	1000 ft	Slope:	4°
		Aspect:	E
Vegetation:	Moist Carex Bigelowii, Tomentypnum nitens, Dryas integrifolia, Salix glauca, Cetraria cucullata sedge, dwarf-shrub tundra		

Horizon:	Description:	
Oi	0-10 cm	Sample S-156
	Strong brown (7.5 YR 4/6). 0% gravel; abrupt, smooth boundary. Composed mainly of mosses (Aulacomnium turgidum) but also leaves and roots. Top 1 cm is moss.	
Oa	10-19 cm	Sample S-157
	Black (10 YR 2/1). 0% gravel; abrupt, smooth boundary. Many very fine roots and coarse roots are common.	
Bw	19-36+ cm	Sample S-158
	Dark gray-brown (10 YR 4.5/2). For some patches gray (10 YR 5/1) is the original color of the layer before decomposition of organics and gravel (gravel oxidation responsible for mottles). Enough decomposition has occurred that predominant horizon color is (10 YR 4.5/2) as already listed. Less than 10% gravel; sticky plastic consistence (wet). Silty clay loam texture. Many very fine roots, cobbles up to 3 cm in diameter. Large, strong brown (7.5 YR 4/6) mottles are common. They are diffuse due to a mixing with surrounding material.	
Permafrost	36 cm	

Relevé HV-32 Soil Profile Description

Location:	Top of hill 500 m southwest of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/26/94	Sample Time:	
Classification:			
Parent Material:	Colluvium		
Geomorphic Surface:	Featureless		
Elevation:	1050 ft	Slope:	1°-2°
		Aspect:	W
Vegetation:	Moist Eriophorum vaginatum, Betula nana, Ledum decumbens, Sphagnum angustifolium tussock-graminoid dwarf-shrub tundra		

Horizon:	Description:	
Oi	0-11 cm	Sample S-159
	Dark yellow-brown (10 YR 4/5). 0% gravel; abrupt, smooth boundary. Composed mainly of Sphagnum. Top 6 cm is composed of live material; layer is a loose mat.	
Oe	11-25 cm	Sample S-160
	Black (10 YR 2/1). 0% gravel; abrupt, smooth boundary. Composed of roots and sedge parts, many very fine and fine roots. medium roots are common.	
Permafrost	23 cm	
Bw	25+ cm	Sample S-161
	Gray-brown to dark gray-brown (10 YR 4.5/2 and 2.5 YR 4.5/2). Can't determine structure due to frozen nature of soil and when thawed it is too wet. Between 10 and 25% gravel; sticky, plastic consistence (wet). Silty clay loam texture. Cobbles up to 20 cm in diameter, very fine roots. Dark yellow-brown mottles (10 YR 3/6).	

Relevé HV-33 Soil Profile Description

Location:	Water track transect about 500 m southwest of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/26/94	Sample Time:	
Classification:			
Parent Material:			
Geomorphic Surface:	Palso		
Elevation:	1050 ft	Slope:	0°
Aspect:	Flat		
Vegetation:	Moist <i>Betula nana</i> , <i>Rubus chamaemorus</i> , <i>Ledum decumbens</i> , dwarf-shrub, moss tundra.		

Horizon:	Description:	
Oi	0-9 cm	Sample S-162
	Dark yellow-brown (10 YR 3/4). 0% gravel; abrupt, smooth boundary. Composed mainly of mosses (<i>Sphagnum</i>). Loose mat; top 4 cm are live material.	
Oe1	9-14 cm	Sample S-163
	Dark brown (7.5 YR 4/4). 0% gravel; abrupt, smooth boundary. Many fine and very fine roots; common medium roots. Composed mainly of <i>Sphagnum</i> mosses, roots. More compression than Oi layer.	
Oe2	14-23 cm	Sample S-164
	Very dark brown to black (10 YR 2/1.5). 0% gravel. Composed mainly of sedge parts. Also roots and mosses. More compression than Oe1 layer; can peel this layer apart in sheets. Many very fine roots.	
Permafrost	23 cm	
Bw	23+ cm	Sample S-165
	(10 YR 3/2). Weak, fine, subangular blocky structure with 0% gravel. Sticky, plastic consistence (wet). Silty clay loam texture. Many very fine roots. No mottles.	

Relevé HV-34 Soil Profile Description

Location:	Water track transect about 500 m southwest of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/26/94	Sample Time:	
Classification:			
Parent Material:	Fine-grained alluvium		
Geomorphic Surface:	well-developed water track		
Elevation:	1025 ft	Slope:	<5° (about 1°) Aspect: NE
Vegetation:	Wet Eriophorum angustifolium, Betula nana, Sphagnum squarrosum graminoid, dwarf-shrub tundra		

Horizon:	Description:	
Oi	0-7 cm	Sample S-166
	Dark yellow-brown (10 YR 3/6). 0% gravel; abrupt, smooth boundary. Composed of Sphagnum moss.	
Oa1	7-14 cm	Sample S-167
	Dark brown (10 YR 3/3). 0% gravel; abrupt, smooth boundary. Many very fine and fine roots. Medium roots common. This layer is very silty, as if a flood event deposited silt all at once.	
Oa2	14-33 cm	Sample S-168
	Very dark brown (10 YR 2/2). 0% gravel; abrupt, smooth boundary. Many fine and very fine roots. Medium roots common.	
Bw	33-51+ cm	Sample S-169
	Dark brown (10 YR 3/3). Weak, very fine, granular structure with 0% gravel. Sticky, plastic consistence (wet). Silty clay loam texture. Many very fine roots and common fine roots.	
Permafrost	51 cm	

 Relevé HV-35 Soil Profile Description

Location:	Water track transect about 500 m south west of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/27/94	Sample Time:	
Classification:			
Parent Material:	Fine grained alluvium and organic material		
Geomorphic Surface:	High feature in a water track (Palsa?)		
Elevation:	1000 ft	Slope:	0°
		Aspect:	Flat
Vegetation:	Moist <i>Betula nana</i> , <i>Ledum decumbens</i> , <i>Rubus chamaemorus</i> , <i>Aulacomnium turgidum</i> dwarf-shrub tundra		

Horizon:	Description:	
Oi	0-5 cm	Sample S-170
	Brown to yellow-brown (10 YR 5/3.5). 0% gravel; abrupt, smooth boundary. Top 2 cm are live material. Composed mainly of mosses.	
Oe1	5-12 cm	Sample S-171
	Dark brown (7.5 YR 3/4). 0% gravel; abrupt, smooth boundary. Many very fine and fine roots; medium roots are common. Composed of roots and woody stem parts.	
Oe2	12-18 cm	Sample S-172
	Very dark brown (7.5 YR 2/4). 0% gravel; abrupt, smooth boundary. Many very fine roots, medium and fine roots are common. Composed of roots and woody stem materials. More silt in this layer than in Oe1.	
Oa	18-25 cm	Sample S-173
	Very dark brown (10 YR 2/2). 0% gravel; abrupt, smooth boundary. Almost enough mineral component to be an A horizon, but organics still dominate. Many very fine roots and fine roots are common.	
Bw	25-28+ cm	Sample S-174
	Dark gray-brown (10 YR 4/2). Weak, very fine, subangular blocky structure with 0% gravel. Sticky, plastic consistence (wet). Silty clay loam texture. Many very fine roots, no mottles.	
Permafrost	25 cm	

Relevé HV-36 Soil Profile Description

Location:	Water track transect about 500 m southwest of Happy Valley camp					
Description by:	A. Gallant					
Sample Date:	7/27/94			Sample Time:		
Classification:						
Parent Material:	Fine-grained alluvium and organic material from colluvial basin					
Geomorphic Surface:	Raised area (island) in water track					
Elevation:	1000 ft	Slope:	0°	Aspect:	Flat	
Vegetation:	Moist Salix planifolia, Sphagnum angustifolium, Sphagnumwarnstorffii low shrubland					

Horizon:	Description:	
Oi1	0-10 cm	Sample S-175
	Yellow-brown to dark yellow brown (10 YR 4.5/4). 0% gravel; abrupt, smooth boundary. Top 5 cm are live mosses (Sphagnum). Many very fine roots, medium and fine roots are common. Slightly compressed mat of Sphagnum and some roots.	
Oe1	10-15 cm	Sample S-176
	Very dark brown (10 YR 2/2). 0% gravel; abrupt, smooth boundary. Mainly composed of roots. Also has Sphagnum and sedge parts. Many very fine and fine roots. Medium roots common.	
Oi2	15-17 cm	Sample S-177
	Dark yellow brown (10 YR 3/6). 0% gravel; abrupt, smooth boundary. Sphagnum moss with many very fine and fine roots.	
Oe2	17-22 cm	Sample S-178
	Dark brown (10 YR 3/3). 0% gravel; abrupt, smooth boundary. Composed of roots and sedge parts. Many very fine roots, fine roots are common.	
A2	22-28+ cm	Sample S-179
	Very dark gray-brown (10 YR 3/2). Weak, very fine granular and subangular blocky structures present; 0% gravel. Sticky, plastic consistence (wet). Silty loam texture; many very fine roots, fine roots common.	
Permafrost	22 cm	

 Relevé HV-37 Soil Profile Description

Location:	Water track transect about 500 m southwest of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/27/94	Sample Time:	
Classification:			
Parent Material:	Fine grained alluvium and organic material		
Geomorphic Surface:	Water track		
Elevation:	1050 ft	Slope:	0°
Aspect:	Flat		
Vegetation:	Wet Carex aquatilis , Eriophorum angustifolium, Sphagnumsquarrosum, Sphagnum angustifolium , Salix planifolia , Betula nana graminoid, low- shrub tundra.		

Horizon:	Description:	
Oi	0-7 cm	Sample S-180
	Dark yellow-brown (10 YR 4/5). 0% gravel; abrupt, smooth boundary. Mainly Sphagnum moss. Top 4 cm are live material. Many very fine roots; fine and medium roots are common.	
Oe	7-16 cm	Sample S-181
	Dark brown (7.5 YR 3/3). 0% gravel; abrupt, smooth boundary. Mainly roots plus mosses, sedges and woody stems. Many very fine and fine roots; medium roots common.	
Oa	16-28 cm	Sample S-182
	Very dark brown (10 YR 2/2). 0% gravel; abrupt, smooth boundary. Many very fine roots. Fine roots common.	
Bw	28-55+ cm	Sample S-183
	Dark brown (10 YR 3/3). Weak, very fine granular and subangular blocky structures exhibited. 0% gravel. Sticky, plastic consistence (wet). Silty clay loam texture. Very fine roots common; no mottles.	
Permafrost	55 cm	

Relevé HV-38 Soil Profile Description

Location:	Water track transect about 500 m southwest of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/27/94	Sample Time:	
Classification:			
Parent Material:			
Geomorphic Surface:	"Island" (raised area in water track)		
Elevation:	1050 ft	Slope:	0°
		Aspect:	Flat
Vegetation:	Moist <i>Ledum palustre</i> ssp. <i>decumbens</i> , <i>Betula nana</i> , <i>Rubus chamaemorus</i> , <i>Aulacomnium turgidum</i> , <i>Sphagnum angustifolium</i> dwarf-shrub tundra		

Horizon:	Description:	
Oi1	0-7 cm	Sample S-184
	Dark yellow-brown (10 YR 4/4). 0% gravel; abrupt, smooth boundary. Top 2 cm are live material. Many very fine roots. Coarse roots are common, medium roots are very common. Composed of <i>Sphagnum</i> moss.	
Oi2	7-13 cm	Sample S-185
	Dark brown (10 YR 3/3). 0% gravel; abrupt, smooth boundary. Composed mainly of <i>Sphagnum</i> , but also of roots. Many very fine and fine roots. Coarse roots common as well as medium roots.	
Oe	13-18 cm	Sample S-186
	Very dark brown (10 YR 2/2). 0% gravel; abrupt, smooth boundary. Composed of roots and sedge parts. Many very fine and fine roots.	
Oa	18-24 cm	Sample S-187
	Black (10 YR 2/1). 0% gravel; abrupt, smooth boundary. Many very fine and fine roots.	
Permafrost	23 cm	
Bw	24+ cm	Sample S-188
	Very dark gray-brown (10 YR 3/2). Massive structure with 0% gravel. Sticky, very plastic consistence (wet). Clay loam texture. Few fine, brown to dark brown mottles (7.5 YR 4/4). Lots of sedge parts decomposing in this layer.	

 Relevé HV-39 Soil Profile Description

Location:	Water track transect about 500 m southwest of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/27/94	Sample Time:	
Classification:			
Parent Material:	Hillslope colluvium		
Geomorphic Surface:	Featureless		
Elevation:	1050 ft	Slope:	1°-2°
		Aspect:	E
Vegetation:	Moist Eriophorum vaginatum, Betula nana, , tussock-graminoid, dwarf-shrub tundra		

Horizon:	Description:	
Oi	0-11 cm	Sample S-189
	Dark yellow-brown (10 YR 3.5/6). 0% gravel; abrupt, smooth boundary. top 2 cm are live material. Composed mainly of a loose mat of Sphagnum. Very fine roots common.	
Oe	11-26 cm	Sample S-190
	Very dark brown (10 YR 2/2). 0% gravel; abrupt, smooth boundary. Mainly composed of sedge parts. Also roots and leaves. Many very fine roots, fine roots are common.	
Permafrost	25 cm	
Bw	26+ cm	Sample S-191
	Dark gray (10 YR 4/1). 0% gravel; sticky, very plastic consistence (wet). Clay loam texture. Many large, strong brown mottles (7.5 YR 4/6).	

 Relevé HV-40 Soil Profile Description

Location:	Water track transect about 600 m southwest of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/27/94	Sample Time:	
Classification:			
Parent Material:	Fine grained alluvium		
Geomorphic Surface:	Island (raised area) in water track		
Elevation:	1025	Slope:	<5° (1°-2°) Aspect: NE
Vegetation:	Betula nana, Ledum palustre ssp. decumbens		

Horizon:	Description:	
Oi	0-5 cm	Sample S-192
	Dark brown (7.5 YR 3/4). Top 1 cm is live material. Composed of moss and roots. Many very fine roots while medium and fine roots are common.	
Oe	5-9 cm	Sample S-193
	Very dark brown (10 YR 2/2). Composed of roots. Many very fine roots, fine roots are common while medium roots are many.	
Oa	9-12 cm	Sample S-194
	Dark brown (7.5 YR 3/4). Many very fine roots; fine roots are common.	
Oe2	12-20 cm	Sample S-195
	Very dark brown (10 YR 2/2). Composed of roots and sedge parts. Many very fine roots, fine roots are common.	
A2	20-33+ cm	Sample S-196
	Very dark gray-brown (10 YR 3/2). Massive but relatively loose (as opposed to dense) structure. Loam texture. Many large organic pieces throughout matrix of layer. Many very fine roots	
Permafrost	33 cm	
	Slightly sticky, plastic consistence (wet).	

 Relevé HV-41 Soil Profile Description

Location:	Hillslope about 400 m southwest of Happy Valley camp						
Description by:	A. Gallant						
Sample Date:	7/26/94			Sample Time:			
Classification:							
Parent Material:	Hillslope colluvium						
Geomorphic Surface:	Frost scars						
Elevation:	1000 ft		Slope:	<5°		Aspect:	E
Vegetation:	Dry Luzula arctica, Anthelia juratzkana barren						

Horizon:	Description:	
O	0-1 cm	No sample
	Layer too thin to sample.	
Bw	1-48+ cm	Sample S-197
	Gray to gray-brown (10 YR 5/1.5). Weak, very fine granular structure with less than 10% gravel. Sticky, plastic consistence (wet). Silty clay loam texture. Many medium, dark yellow-brown mottles (10 YR 4/6). Many very fine roots, fine roots are common. Cobbles to 2 cm in diameter. Structure of layer is moderate at the top few cm of the layer but weak throughout most of the layer.	
Permafrost	48 cm	

Relevé HV-42 Soil Profile Description

Location:	Hillslope about 300 m southwest of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/26/94	Sample Time:	
Classification:			
Parent Material:	Hillslope colluvium (and glacial outwash?)		
Geomorphic Surface:	Featureless		
Elevation:	1000 ft	Slope:	3°
		Aspect:	E
Vegetation:	Moist Eriophorum vaginatum, Salix glauca, Cassiope tetragona, Aulacomnium turgidum, Dicranum sp., Sphagnum warnstorffii tussock-graminoid, dwarf-shrub tundra		

Horizon:	Description:	
Oi	0-3 cm	Sample S-198
	Dark yellow-brown (10 YR 4/4). 0% gravel; abrupt, smooth boundary. Composed mainly of moss (e.g. Aulacomnium turgidum) and liverworts (e.g. Ptilidium ciliare).	
Oe	3-7 cm	Sample S-199
	Black (10 YR 2/1). 0% gravel; abrupt, smooth boundary. Many very fine and fine roots. Composed mainly of roots and mosses.	
Bw	7-60+ cm	Sample S-201
	Dark gray-brown (2.5 YR 4/2). Moderate, fine, granular structure with 10% gravel. Sticky, plastic consistence (wet). Silty clay loam texture. Many large mottles (5 YR 5/8). Sapric inclusion (10 YR 2/1.8) at about 15 cm depth (discontinuous, not a layer). Many very fine roots; fine and medium roots are common.	
Permafrost	60 cm	
NOTE:	Several soil pits around this site indicate much variability in soil stratigraphy. Variability includes: (1) an organic layer O ranging from 7 to 18 cm in thickness, (2) an Oa layer ranging from absent to 10 cm in thickness to discontinuous inclusions in the Bw layer (Sample S-200), and (3) a thaw depth ranging from 35 cm to 6 cm.	

 Relevé HV-43 Soil Profile Description

Location:	Small island with tall salix along creek about .5 km south of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/25/94	Sample Time:	17:00
Classification:			
Parent Material:	Stabilized alluvium		
Geomorphic Surface:	Featureless		
Elevation:	950 ft	Slope:	0°
Aspect:	Flat		
Vegetation:	Moist Salix alaxensis, Aconitum delphinifolium tall shrubland		

Horizon:	Description:	
Oe	0-5 cm	Sample S-202
	Very dark brown (10 YR 2/3). 0% gravel; abrupt, broken boundary. Many fine and very fine roots. Comprised of decomposed leaves and grasses.	
Oa	5-9 cm	Sample S-203
	Black (10 YR 2/1). 0% gravel; abrupt, broken boundary. Many fine and very fine roots. Appears to be just a pocket of Oa material - likely derived from rodent tunneling activity.	
A	5-20 cm	Sample S-204
	Dark brown (10 YR 3/3). Weak, very fine, subangular blocky structure with 0% gravel. Slightly sticky, slightly plastic consistence (wet). Sandy loam texture. Many fine and very fine roots, medium roots common.	
Rock Layer	20 cm	
	100% large rocks bigger than 15 cm.	

 Relevé HV-44 Soil Profile Description

Location:	Northwest-facing footslope; nonacidic tundra		
Description by:	A. Gallant		
Sample Date:	7/25/94	Sample Time:	
Classification:			
Parent Material:	Colluvium and alluvium		
Geomorphic Surface:	Turf hummocks		
Elevation:	950 ft	Slope:	5°
		Aspect:	NW
Vegetation:	Moist Dryas integrifolia, Lupinus arcticus, Equisetum arvense, Tomentypnum nitens forb, dwarf- shrub, moss tundra		

Horizon:	Description:	
Oi1	0-7 cm	No sample
	Yellow-brown (10 YR 5/6). 0% gravel; abrupt, broken boundary. Top 2 cm are live moss. Composed mainly of Tomentypnum nitens and Hylocomium splendens.	
Oi2	7-14 cm	Sample S-205
	Dark yellow-brown (10 YR 4/6). 0% gravel; abrupt, wavy boundary. Composed mainly of mosses. Discontinuous layer. Many medium and very fine roots.	
Oe	7-14 cm	Sample S-206
	Black (10 YR 2/1). 0% gravel; abrupt, wavy boundary. Composed mainly of sedge parts and mosses. Discontinuous layer. Many very fine, fine and medium roots.	
Oa	14-21 cm	Sample S-207
	Black (10 YR 2/1). 0% gravel. Many very fine, fine and medium roots.	
Bw	21-62 cm	Sample S-208
	Very dark gray-brown (2.5 YR 3/2). Weak, very fine, subangular blocky structure with 75% gravel. Very sticky, very plastic consistence (wet). Silt clay texture. Includes cobbles up to 48 cm in diameter. Many very fine roots. Common small to large mottles (.5 YR 5/6).	
Permafrost	62 cm	

Relevé HV-45 Soil Profile Description

Location:	West-facing footslope, nonacidic tundra; 15 m North of gridpoint 7671600N 426900E		
Description by:	A. Gallant		
Sample Date:	7/25/94	Sample Time:	
Classification:			
Parent Material:	Colluvium and alluvium		
Geomorphic Surface:	Turf hummocks		
Elevation:	950 ft	Slope:	5°
		Aspect:	W
Vegetation:	Moist Dryas integrifolia, Lupinus arcticus, Equisetum arvense, Tomentypnum nitens forb, dwarf- shrub, moss tundra		

Horizon:	Description:	
Oi	0-6 cm	Sample S-209
	Black (10 YR 2/1). 0% gravel; abrupt, wavy boundary. Top 2 cm are live mosses (Tomentypnum nitens, Hylocomium splendens, Aulacomnium turgidum). Many very fine and fine roots.	
Oa	6-10 cm	Sample S-210
	Black (10 YR 2/1). 0% gravel; abrupt, broken boundary. Many very fine and fine roots.	
Bw	10-59 cm	Sample S-211
	Dark to very dark gray-brown (2.5 YR 3.5/2). Massive structure with less than 10% gravel. Very sticky, very plastic consistence (wet). Clay texture. Few large, yellow-brown mottles (10 YR 5/6). Less than 5% of total soil volume is cobbles (up to 9 cm in diameter).	
Permafrost	59 cm	

Relevé HV-46 Soil Profile Description

Location:	Southern margin of small lake about 1 km west of Haul road and 1.5 km northwest of Happy Valley camp		
Description by:	S. Walker		
Sample Date:	7/22/94	Sample Time:	
Classification:			
Parent Material:	Lake or pond organic sand or silt		
Geomorphic Surface:	Lake		
Elevation:	1040 ft	Slope:	0°
		Aspect:	Flat
Vegetation:	Aquatic Menyanthes trifoliata forb marsh		

Horizon:		Description:	
Oi	0-42 cm	Sample S-212	
	Very dark brown (10 YR 2/2). 0% gravel. Fibric mat of fine and very fine roots. Perg. Cryofibrist.		
Permafrost	42 cm		

Relevé HV-47 Soil Profile Description

Location:	Southern margin of lake; 1 km west of Haul road and 1.5 km northwest of Happy Valley camp		
Description by:	S. Walker and A. Gallant		
Sample Date:	7/22/94	Sample Time:	
Classification:			
Parent Material:	Lacustrine organic deposits		
Geomorphic Surface:	Featureless		
Elevation:	1040 ft	Slope:	0°
Aspect:	Flat		
Vegetation:	Wet Carex rotundata, Carex chordorrhiza, Pedicularis sudetica, Sphagnum orientale, Drepanocladus revolvens graminoid tundra		

Horizon:	Description:	
Oi1	0-4 cm	Sample S-213
	Very dark brown to black (10 YR 2/1.5). 0% gravel; many fine and very fine roots. Composed of graminoid material and mosses (Drepanocladus revolvens, sphdri).	
Oi2	4-17 cm	Sample S-214
	Very dark brown (10 YR 2/2) 0% gravel. Many fine and very fine roots.	
Oe	17-40 cm	Sample S-215
	Very dark brown (10 YR 2/2) 0% gravel. Many very fine roots.	
Permafrost	40 cm	

Relevé HV-48 Soil Profile Description

Location:	Southern margin of lake; 1 km west of Haul road and 1.5 km northwest of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/22/94	Sample Time:	
Classification:			
Parent Material:	Lake or pond organic silt		
Geomorphic Surface:	Lake		
Elevation:	1040 ft	Slope:	0°
Aspect:	Flat		
Vegetation:	Aquatic Arctoa fulvella, Menyanthes trifoliata graminoid marsh		

Horizon:	Description:	
Oi	0-? cm	Sample S-216
	Very dark brown (10 YR 2/2). 0% gravel.	

Relevé HV-49 Soil Profile Description

Location:	Raised hummock area 1 km west of Haul road and 1.5 km northwest of Happy Valley camp				
Description by:	A. Gallant				
Sample Date:	7/22/94		Sample Time:		
Classification:					
Parent Material:	Basin colluvium and organic deposits				
Geomorphic Surface:	Wetland hummock				
Elevation:	1040 ft	Slope:	0°	Aspect:	Flat
Vegetation:	Wet Carex rotundata, Carex aquatilis , Andromeda polifolia, Rubus chamaemorus, Sphagnum imbricatum graminoid, dwarf-shrub, moss tundra				

Horizon:		Description:	
Oi	0-21 cm	Sample S-217	
	Dark yellow-brown (10 YR 3.5/4). 0% gravel. Composed of Sphagnum moss. Many very fine roots; medium roots are common. Top 10 cm are live plant mosses.		
Oe	21-? cm	Sample S-218	
	Black (10 YR 2/1). 0% gravel.		
Permafrost	21 cm		

Relevé HV-50 Soil Profile Description

Location:	Southern margin of lake; 1 km west of Haul road and 1.5 km northwest of Happy Valley camp. Raised hummock area.				
Description by:	A. Gallant and N. Auerbach				
Sample Date:	7/22/94			Sample Time:	13:20
Classification:					
Parent Material:	Basin colluvium and organic deposits				
Geomorphic Surface:	Wetland hummock				
Elevation:	1050 ft	Slope:	0°	Aspect:	Flat
Vegetation:	Wet Sphagnum imbricatum , Carex aquatilis , Betula nana, Andromeda polifolia moss graminoid, dwarf- shrub tundra				

Horizon:		Description:	
Oi1	0-20 cm	Sample S-219	
	First 10 cm of depth consists primarily of loose mat of . Next 10 cm are dark red-brown (5 YR 3/5); 0% gravel. Consists mostly of decomposing Sphagnum. Many fine, very fine and medium roots.		

Oi2	20-31+ cm	Sample S-220
	Very dark gray-brown (10 YR 3/2). 0% gravel; consists of Sphagnum and more roots than Oi1	

 Relevé HV-51 Soil Profile Description

Location:	Southern margin of lake; 1 km west of Haul road and 1.5 km northwest of Happy Valley camp		
Description by:	S. Walker, A. Gallant, N. Auerbach		
Sample Date:	7/22/94	Sample Time:	14:10
Classification:			
Parent Material:	Basin colluvium and organic deposits		
Geomorphic Surface:	Featureless		
Elevation:	1050 ft	Slope:	0°
		Aspect:	Flat
Vegetation:	Wet Carex chordorrhiza, Carex rotundata, Sphagnum orientale graminoid tundra		

Horizon:	Description:	
Oi1	0-3 cm	No sample
	Black (10 YR 2/2). 0% gravel; Loose mat of mosses and dead sedge leaves, mostly Sphagnum orientale.	
Oi2	3-44 cm	Sample S-221
	Dark brown (7.5 YR 3/2). 0% gravel. Fibric organic consisting of sedge roots and leaves.	

Relevé HV-52 Soil Profile Description

Location:			
Description by:	A. Gallant		
Sample Date:	7/22/94	Sample Time:	
Classification:			
Parent Material:	Hillslope colluvium		
Geomorphic Surface:	Well-developed water tracks		
Elevation:	1040 ft	Slope:	<5°
		Aspect:	NE
Vegetation:	Wet Carex rotundata, Betula nana, Salix fuscescens, light green Sphagnumgraminoid, dwarf- shrub, moss tundra		

Horizon:	Description:	
Oi	0-7 cm	No sample
	0% gravel; abrupt, smooth boundary. Composed of Sphagnum moss	
Oe1	7-14 cm	Sample S-222
	Very dark brown (7.5 YR 3/3). 0% gravel; abrupt, smooth boundary. Composed mainly of Sphagnum; many very fine roots.	
Oe2	14-22 cm	Sample S-223
	Very dark brown (10 YR 3/4). 0% gravel; abrupt, smooth boundary. Composed of roots and Sphagnum.	
Oa	22-27 cm	Sample S-224
	Black (10 YR 2/2). 0% gravel; abrupt, smooth boundary. Many very fine roots.	
C	27-47+ cm	Sample S-225
	Grayish-brown (2.5 YR 5/2). Massive structure with 0% gravel. Very sticky, very plastic consistence (wet). Clay texture. Common large mottles with 2 colors very dark gray (10 YR 3/1) and very dark grayish brown (10 YR 3/2).	
Permafrost	47 cm	

Relevé HV-53 Soil Profile Description

Location:	Hillslope water track about .5 km west of small lake and 1 km west of Haul road and 1.5 km west of Happy valley camp		
Description by:	A. Gallant		
Sample Date:	7/22/94	Sample Time:	
Classification:			
Parent Material:	Hillslope colluvium		
Geomorphic Surface:	Well developed hillslope		
Elevation:	1050 ft	Slope:	<5°
		Aspect:	NE
Vegetation:	Wet Carex aquatilis , Betula nana, Salix fuscescens, Sphagnum angustifolium graminoid, dwarf- shrub, moss tundra		

Horizon:		Description:	
Oi	0-11 cm	Sample S-226	
		Strong brown (7.5 YR 4/6). 0% gravel; abrupt, smooth boundary. Composed mainly of Sphagnum moss. Weak, platy structure due to compression of organic materials.	
Oe	11-21 cm	Sample S-227	
		Very dark brown (7.5 YR 2/4). 0% gravel; abrupt, smooth boundary. Weak, platy structure due to compression. Many very fine roots.	
Oa	21-27 cm	Sample S-228	
		Very dark gray-brown (10 YR 3/2). 0% gravel; abrupt, smooth boundary. Many very fine roots.	
C	27-42+ cm	Sample S-229	
		Gray-brown (2.5 YR 5/2). Massive structure with 0% gravel. Very sticky, very plastic consistence (wet); clay texture.	
Permafrost	42 cm		

Relevé HV-54 Soil Profile Description

Location:	.25 km west of small lake, 1 km west of Haul road, 1.5 km northwest of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/22/94	Sample Time:	
Classification:			
Parent Material:	Basin colluvium and organic deposits		
Geomorphic Surface:	Featureless		
Elevation:	1050 ft	Slope:	0°
		Aspect:	Flat
Vegetation:	Wet Carex rotundata, Carex chordorrhiza, Sphagnum orientale graminoid tundra		

Horizon:	Description:	
Oi1	0-3 cm	Sample S-230
	Black (10 YR 2/1). 0% gravel; abrupt, smooth boundary. Composed mainly of Sphagnum moss in a loose mat. Approximately 60% recognizable fiber after rubbing.	
Oi2	3-15 cm	Sample S-231
	Dark brown (10 YR 3/3). 0% gravel; abrupt, smooth boundary. Composed mainly of sedge roots and leaves in a compressed mat. Many fine and very fine roots. Approximately 20% recognizable fiber after rubbing.	
Oe	15-24 cm	Sample S-232
	Very dark brown (10 YR 2/2). 0% gravel; abrupt, smooth boundary. Many very fine roots. Compressed mat of sedge roots and leaves.	
Oa/A	24-32+ cm	Sample S-233
	Very dark brown (10 YR 2/2). 0% gravel. About 10% recognizable fiber after rubbing.	
Permafrost	32 cm	

 Relevé HV-55 Soil Profile Description

Location:	Raised hummock area .25 km west of small lake, 1 km west of Haul road, 1.5 km northwest of Happy Valley camp		
Description by:	A. Gallant		
Sample Date:	7/22/94	Sample Time:	
Classification:			
Parent Material:	Basin colluvium and organic deposits		
Geomorphic Surface:	Wetland hummocks		
Elevation:	1050 ft	Slope:	0°
		Aspect:	Flat
Vegetation:	Wet Sphagnum imbricatum, Carex aquatilis , Betula nana, Andromeda polifolia graminoid, dwarf-shrub, moss tundra		

Horizon:	Description:	
Oi1	0-9 cm	Sample S-234
	Dark brown (7.5 YR 3/4). 0% gravel; abrupt, smooth boundary. composed mainly of Sphagnum moss in a loose mat. Many very fine and fine roots; medium and coarse roots are common.	
Oi2	9-16 cm	Sample S-235
	Very dark brown (7.5 YR 2/4). 0% gravel; abrupt, smooth boundary. Composed mainly of Sphagnum moss. Somewhat compressed. Many fine and very fine roots, coarse roots common.	
Oi3	16-30+ cm	Sample S-236
	Dark yellow-brown (10 YR 3.5/6). 0% gravel. Composed mainly of Sphagnum moss and sedge. Many very fine and fine roots. Coarse roots common.	
Permafrost	30 cm	