CAPILANO SOILS (CP)

Location and Extent: Capilano soils occupy substantial areas on the uplands and along the lower mountain slopes in the western half of the map area. They are most prevalent between Gibsons and Sechelt on the Sunshine Coast. There are about 3180 ha of pure map units and a further 2710 ha of soil complexes dominated by Capilano soils. Complexes are mainly with Bose, Buntzen, Salish and Sechelt soils.

Topography and Elevation: Moderately to strongly sloping or gently to strongly rolling is the usual topography of Capilano soils. Slope gradients vary between 10 and 30 percent and elevations generally range between 30 and 200 m above sea level.

Parent Material and Texture: Parent materials of Capilano soils are deep (at least 2 m), coarse-textured, stony, glaciofluvial and deltaic deposits. Included also are deep, gravelly, marine lag deposits. Surface textures are mostly gravelly loamy sand, varying to gravelly sandy loam or lgravelly sand in a few areas. Stoniness is moderate to excessive. Subsurface and subsoil textures vary from stony gravel or gravelly sand to, sometimes, coarse sand. Strongly cemented layers are present between 40 and 100 cm depth.

Soil Moisture Characteristics: Capilano soils are well to rapidly drained. They are rapidly pervious and have low water holding capacity and slow surface runoff. The cemented subsoil slightly restricts permeability in the subsoil.

General Soil Description: Capilano soils have up to 15 cm of coniferous forest litter on the mineral soil surface, the lower part of which is black and well-decomposed. This is underlain by 2 to 5 cm of loose, gray, leached, sandy material which, in turn, is underlain by about 40 cm of very friable or loose, dark reddish brown to yellowish-red, gravelly or coarse sandy material. This grades below about 50 cm to a strongly cemented, hard, gravelly zone which varies from brown or strong brown to olive in colour and is about 50 cm thick. Below this, at about 120 cm, gradation to loose, unweathered olive or olive-gray gravel and sand occurs. Soil reaction ranges from extremely acid in the upper 50 cm to very strongly acid below that. Soil classification is ***Ortstein Humo-Ferric Podzol***.

Commonly Associated Soils: Bose, Buntzen, Shalish and Sechelt soils are often closely associated with Capilano soils. Buntzen soils differ from Capilano soils by having developed from moderately coarse to medium-textured glacial till. Sechelt soils are sandy in texture while Shalish soils have developed from fluvial fan deposits. Bose soils differ from Capilano soils by having either compact, cemented glacial till or clayey glaciomarine material in the subsoil.

Vegetation: Second-growth forests consisting mainly of coast Douglas-fir, western hemlock, western red cedar, red alder and vine maple are the usual vegetative cover. Cleared areas are used mainly for urban purposes. Rooting is unrestricted to about 50 cm depth but is partially limited by cemented soil conditions below that.

General Land Use Comments: (1) Capilano soils are mainly limited for agricultural use by droughtiness and stoniness, although adverse topography and low fertility also are often limiting. Adequate fertilization and irrigation are required for good production of any crop. Stone picking is also usually required. (2) Urban development is a well suited use of Capilano soils although adverse topography may sometimes be restricting. Although septic tanks function efficiently for sewage effluent disposal, incomplete filtration of the effluent may occur due to the coarse subsoil textures, and ground water contamination is possible. Capilano soils also provide good sources of aggregate. (3) Forest production is moderately good, although low water holding capacity leads to droughty conditions during periods of low rainfall. Data from a few plots indicate productivity of coast Douglas-fir to be about 9 to 12 m^3/ha/yr.

4

CAPILANO

DATE OF SURVEY: 69 SURVEYOR: HAL KELOWNA: B.C.M.A. & R.A.B.
SAMPLING PURPOSE: SEMI-DETAILED SURVEY

LOCATION		CLASSIFICATION		SLOPE	
LATITUDE(N):	49 19 50				
LONGITUDE(W):	123 00 53	ORTSTEIN HUMO-FERRIC PODZOL(1978)		%	5.0
PRECISION (SEC):	05			ASPECT (DEG):	180
ELEVATION (M):	120	STATUS: VARIANT SOIL			

PARENT MATERIAL & LANDFORM

UPPER STRATIGRAPHIC UNIT

COMM. CLASTIC 1: GRAVELLY
GENETIC MAT.: FLUVIAL
SURFACE EXPRES.: LEVEL
DESCRIPTOR 1: GLACIAL

DRAINAGE: WELL DRAINED
RUNOFF: SLOW
PERVIOUSNESS: RAPID

ADDITIONAL NOTES

SITE LOCATION: NORTH OF CEMETERY ON RD TO SEYMOUR DAM: NORTH VANCOUVER.
THIS PROFILE IS A DURIC HUMO-FERRIC PODZOL. VARIANT H HORIZON IS MATTED (FIBRI-HUMIMOR).

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PROFILE DESCRIPTION

HORIZON	THICKNESS DEPTH(CM)	HORIZON BOUNDARY	COLOUR 1	COLOUR 2	TEXTURE	STRUCTURE 1
LF	13- 8	ABRUPT				
H	8- 0	ABRUPT	5.0YR2.0/1.0 MATRIX MOIST		ORGANIC	
A E	0- 4	ABRUPT	5.0YR5.0/1.0 MATRIX MOIST		COARSE SAND	SINGLE GRAIN
B HF	4- 8	ABRUPT	5.0YR4.0/6.0 MATRIX MOIST	2.5YR3.0/3.0 MATRIX MOIST	COARSE SAND	WEAK FINE SUBANGULAR BLOCKY
B F1	8- 27	GRADUAL	5.0YR4.0/6.0 MATRIX MOIST	5.0YR5.0/6.0 MATRIX MOIST	COARSE SAND	WEAK FINE TO MEDIUM SUBANGULAR BLOCKY
B F2	27- 42	GRADUAL	7.5YR5.0/6.0 MATRIX MOIST		COARSE SAND	WEAK MEDIUM SUBANGULAR BLOCKY
B C1	42- 75	DIFFUSE	7.5YR5.0/5.0 MATRIX MOIST		SAND VERY GRAVELLY	MODERATE TO STRONG COARSE SUBANGULAR BLOCKY
B C2	75-100	DIFFUSE	7.5YR5.0/5.0 MATRIX MOIST		SAND VERY GRAVELLY	MODERATE TO STRONG COARSE SUBANGULAR BLOCKY
BC	100-135	ABRUPT	5.0Y5.0/3.0 MATRIX MOIST		SAND GRAVELLY	SINGLE GRAIN
	-				COARSE SAND	SINGLE GRAIN
	-				SAND VERY GRAVELLY	SINGLE GRAIN
	-	GRADUAL			SAND VERY GRAVELLY	

HORIZON	THICKNESS DEPTH(CM)	CONSISTENCE	ROOTS 1	CEMENTATION AGENT/DESCRIP.
LF	13- 8		PLENTIFUL	
H	8- 0	FRIABLE	ABUNDANT	
A E	0- 4	VERY FRIABLE	ABUNDANT	
B HF	4- 8	VERY FRIABLE	ABUNDANT	
B F1	8- 27	VERY FRIABLE	ABUNDANT	
B F2	27- 42	VERY FRIABLE	PLENTIFUL	WEAKLY CEMENTED CONTINUOUS
B C1	42- 75	VERY FIRM	FEW	STRONGLY CEMENTED CONTINUOUS
B C2	75-100	VERY FIRM	FEW	STRONGLY CEMENTED CONTINUOUS
BC	100-135	LOOSE	FEW	
	-	LOOSE	FEW	
	-		FEW	
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PHYSICAL & CHEMICAL DATA

HORIZON-DEPTH(CM.)		PH 1 SAMPLE STATE	METHOD	VALUE	PH 2 SAMPLE STATE	METHOD	VALUE	ORGANIC CARBON %	NITROGEN %
LF	13- 8	2	2	4.3	2	4	3.7	38.80	1.14
H	8- 0	2	2	4.0	2	4	3.1	48.14	.98
A E	0- 4	2	1	4.1	2	4	3.2	1.33	.05
B HF	4- 8	2	1	4.6	2	4	4.1	10.09	.26
B F1	8- 27	2	1	5.0	2	4	4.4	4.40	.15
B F2	27- 42	2	1	5.6	2	4	5.1	1.04	.05
B C1	42- 75	2	1	5.7	2	4	5.3	.75	.05
B C2	75-100	2	1	5.7	2	4	5.5	.87	.04
BC	100-135	2	1	5.7	2	4	5.6		.01
	-	2	1	5.7	2	4	5.4		
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HORIZON-DEPTH(CM.)		EXCHANGEABLE CATIONS BUFF.(ME/100G) CA	MG	NA	K	C. E. C. DETERMINED	EXTRACTABLE FE(%) METHOD	RESULT	METHOD	RESULT
LF	13- 8	7.40	1.82	.36	1.44	74.9				
H	8- 0	3.93	.91	.15	.55					
A E	0- 4	.31	.10	.05	.06	9.1	1	.1		
B HF	4- 8	.20	.09	.05	.04	23.5	1	2.0		
B F1	8- 27	.20	.06	.03	.03	13.7	1	.8	3	.1
B F2	27- 42	.20	.06	.07	.03	10.5	1	.5	3	.1
B C1	42- 75	.19	.06	.04	.02	6.0	1	.4		
B C2	75-100	.19	.06	.05	.01	3.2	1	.2		
BC	100-135						1	.1		
	-						1	.1		
	-						1	.2		
	-						1	.2		

HORIZON-DEPTH(CM.)		EXTRACTABLE AL(%) METHOD	RESULT	METHOD	RESULT	P1 PPM.	P2 PPM.	S PPM.	CU PPM.	ZN PPM.	COARSE FRAGMENTS % VOL
LF	13- 8					41.7	70.2	44.0	41.4	59.8	
H	8- 0					29.0	32.5	32.0	19.4	56.2	
A E	0- 4	1	.2			10.7	16.6	2.5	2.3	9.9	
B HF	4- 8	1	2.9			108.7	189.1	55.0	9.7	33.6	
B F1	8- 27	1	2.7	3	.5	47.4	125.9	91.8	10.9	42.1	25
B F2	27- 42	1	1.9	3	.4	34.7	103.6	79.3	12.2	50.8	25
B C1	42- 75	1	1.8	3	.2	23.2	78.5	39.0	13.3	41.8	75
B C2	75-100	1	1.8	3	.2	20.2	78.2	35.5	14.7	37.6	75
BC	100-135	1	.6	3	.1				14.9	31.5	50
	-	1	.5	3	.1				14.4	24.7	80
	-	1	.7						14.3	29.4	80
	-	1	.3						15.0	30.1	80