



LEGEND

**1. Explanatory Notes**

This map delineates and describes the most important characteristics of the soils of the Separation Lake area, 2880 ha, and is Map No. 1 in a series of three maps of the area. The second map (Slope Ranges of the Separation Lake area) indicates the actual range of slopes in each map polygon in greater detail than is given by the slope classes on this map. The third map (Consumptive Use Irrigation Requirements of the Separation Lake area) shows the consumptive use irrigation requirements of the soils in the area that are suitable for irrigation.

The soils are mapped at a Survey Intensity level 2 and presented at a scale of 1:20 000. A soil survey report is not being written for this study. This expanded legend takes the place of a report.

Representative soils of the study area are morphologically described and several were sampled for physical and chemical analysis. Soil profile descriptions and laboratory analyses for these are available from the British Columbia Soil Information System.

**2. Examples of Map Symbols**

Most map polygons contain a symbol composed of a map unit in the numerator and a slope class in the denominator as shown below:

Map unit (see box 3)  
Slope Class (see box 4)

A few polygons contain a composite symbol, i.e., a symbol indicating the occurrence of two map units. Composite symbols are used where map units are so intermixed or occupy such small areas that they cannot be separated at the scale of mapping. Composite symbols are always written in decreasing order of abundance and the relative proportions of the polygon occupied by each are indicated by means of superscript numbers as shown below:

Map unit (see box 3)  
Relative proportions of map polygon occupied by each map unit  
Slope class (see box 4)

Some map polygons may contain up to 15% inclusions of contrasting soils or land types. These, however, are not indicated.

3. Map Unit Descriptions.								
MAP UNIT	TEXTURE and PARENT MATERIAL	COARSE FRAGMENT <sup>2</sup> CONTENT	STONINESS <sup>1</sup>	PERVIOUSNESS	DRAINAGE	CLASSIFICATION <sup>3</sup>	CHEMICAL CHARACTERISTICS <sup>4</sup>	COMMENTS
M1	5 to 20 cm of silt loam over gravelly loam or gravelly clay loam	10 to 20% in capping; 30 to 40% in till	slightly stony	moderate in upper part grading to slow below about 50 cm	well	Orthic Dark Brown	Neutral (pH 6.5 - 7.3) in upper 25 to 50 cm; mildly to moderately alkaline (pH 7.4 - 8.0) with free carbonates below. Non-saline (EC of 4 mS/cm unless irrigated).	Occurs on a variety of slopes up to 30%. Capping may be of colluvial or slopewash origin.
M2	20 to 50 cm of silt loam over gravelly loam or gravelly clay loam	10 to 20% in capping; 30 to 40% in till	nonstony to slightly stony	moderate in upper part grading to slow below about 50 cm	well	Orthic Dark Brown (some Orthic Black inclusions)	Neutral to mildly alkaline (pH 6.5 - 7.8) in upper 35 to 50 cm; moderately alkaline (pH 7.5-8.0) with free carbonates below. Non-saline (EC of 4 mS/cm unless irrigated).	Generally occurs on slopes of less than 30%. Capping may be of colluvial or lacustrine origin.
M3	Gravelly loam or gravelly clay loam	30 to 50%	moderately to very stony	moderate in upper part grading to slow below about 25 cm	well	Calcareous Dark Brown and Orthic Dark Brown	Free carbonates generally within 15 cm of soil surface. Non-saline (EC of 4 mS/cm).	Slopes are generally greater than 30%. Capping absence is probably due to past erosion.
M4	More than 50 cm of silt loam over gravelly loam or gravelly clay loam	Less than 10% in upper part; 30 to 40% in till	nonstony	moderate in upper part grading to slow below about 75 cm	moderately well	Rego Black: saline and calcareous phase	Free carbonates to soil surface. Salt crystals often evident below 25 cm.	Occurs in depression; subject to potential seepage if surrounding areas are irrigated. Capping is dominantly slopewash.
M5	5 to 20 cm of silt loam over gravelly loam or gravelly clay loam	30 to 50%	moderately to very stony	moderate	well	Orthic Dark Brown: lithic phase	Neutral (pH 6.4 - 7.3) in upper 35 to 50 cm; mildly to moderately alkaline (pH 7.4 - 8.0) with free carbonates below. Non-saline (EC of 4 mS/cm).	Dominantly 50 to 100 cm depth to bedrock with minor rock outcrops and shallower soils.
A1	10 to 100 cm of gravelly sandy loam fluvio-glacial deposits over gravelly loam or gravelly clay loam	40 to 60% in fluvio-glacial; 30 to 40% in till	moderately to very stony	rapid in fluvio-glacial; slow in till	well	Orthic Dark Brown	Neutral (pH 6.4 - 7.3) in upper 40 to 80 cm; mildly to moderately alkaline (pH 7.4 - 8.0) with free carbonates below. Non-saline (EC of 4 mS/cm unless irrigated).	Fluvio-glacial deposits average about 50 cm in thickness.
F1	Silt loam containing thin sandy loam (sandy) fluvial deposits.	Variable but dominantly less than 10%	nonstony	moderate	poor	Rego Hemic Gypsic: calcareous and calcareous phase	Free carbonates to soil surface.	Adjacent to active stream and subject to fluctuating high water tables. Buried old surfaces present.
F2	Gravelly sandy loam recent fluvial deposits.	Variable but dominantly 40 to 60%	moderately to very stony	rapid	moderately well	Rego Black: calcareous phase	Free carbonates to soil surface.	Near active streams; slightly higher landscape position than F1; subject to potential seepage if surrounding areas are irrigated.
G1	Gravelly sandy loam fluvio-glacial deposits.	40 to 60%	moderately to very stony	rapid	rapid	Orthic Dark Brown	Neutral (pH 6.4 - 7.3) in upper 30 to 50 cm; moderately alkaline (pH 7.4 - 8.0) with free carbonates below. Non-saline (EC of 4 mS/cm).	Topography is often hummocky with complex slopes. Lenses of finer material sometimes present.
G2	Very fine sandy loam fluvio-glacial deposits.	Less than 5%	nonstony	rapid to moderate	well	Orthic Dark Brown	Neutral (pH 6.4 - 7.3) in upper 30 to 50 cm; moderately alkaline (pH 7.4 - 8.0) with free carbonates below. Non-saline (EC of 4 mS/cm) unless irrigated.	Gently sloping areas; probably lithic in origin.
L1	More than 50 cm of silt loam over lacustrine deposits over gravelly loam or gravelly clay loam	Less than 2% in lacustrine; 30 to 40% in till	nonstony	moderate in upper 50 cm grading to slow below about 75 cm	well to moderately well	Orthic Dark Brown	Neutral to mildly alkaline (pH 6.5 - 7.8) in upper 35 to 50 cm; moderately alkaline (pH 7.5-8.0) with free carbonates below. Non-saline (EC of 4 mS/cm) unless irrigated.	Slopes usually less than 35%. Synthetic bedding evident in materials; lacustrine deposits average about 75 cm in thickness.
L2	Silt loam lacustrine deposits.	Less than 2%	nonstony	slow to moderate	imperfect to no percolation	Gleyed Rego Black: calcareous and saline phase	Salt crystals and free carbonates to soil surface.	Occurs near margins of saline lakes. Dominantly salt tolerant vegetation. Salt crystals evident in soil.

MISCELLANEOUS LAND TYPES	
MAP UNIT	DESCRIPTION
RO	Rock complex - mosaic of rock outcrops and soils less than 50 cm deep over bedrock
GP	Gravel Pit
W	Water - year round lakes
W1	Water - seasonal lakes; dry salt crust areas by summer's end

Footnotes:

- See also: Wainley et al., 1980.
- Coarse fragment content refers to the percentage by volume of coarse fragments greater than 2 mm in diameter in the soil. The coarse fragments are dominantly gravel sized (2 mm to 75 mm in diameter).
- See also: Canada Soil Survey Committee, 1978.
- pH values were measured in 0.01 M CaCl<sub>2</sub> solution.
- Some soils in the Separation Lake area have been irrigated with water from saline/calcareous lakes. These soils are currently weakly to moderately saline (E. C. 4 - 15 mS/cm) with greatest salt concentrations below 50 cm.

4. Slope Classes*			
Slope Class	Percent Slope	Terminology	
1	0 - 0.5	level	
2	0.5 - 2.5	nearly level	
3	2.5 - 5	very gentle slopes	
4	5 - 9	gentle slopes	
5	10 - 15	moderate slopes	
6	16 - 30	strong slopes	
7	31 - 45	very strong slopes	
8	46 - 70	extreme slopes	
9	71 - 100	steep slopes	
10	> 100	very steep slopes	

Where a range of slope classes occur in a map polygon the dominant slope class is listed first and a dash (-) separates the slope classes. Where a portion of the area has a different slope from most of the unit, a comma separates the slope classes and the dominant class is listed first.

Examples:

5-7 Slopes range from 10 to 45% within the area; 10 to 15% slopes dominate.

2,7 Most slopes range from 0.5 to 2.5%, a minor portion of the area has slopes between 31 and 45%.

\*From Canada Soil Survey Committee, 1978

5. Sources of Further Information	
1.	Canada Soil Survey Committee, Subcommittee on Soil Classification, 1978. The Canadian System of Soil Classification. Canada Department of Agriculture Publication 1466, Supply and Services, Ottawa, Ontario. 164 pp.
2.	Surveys and Resource Mapping Branch, Manuscript Soil - Landform maps for the Ashcroft Map Area (92 1). 1:50 000 scale. Planning and Resource Management Division Map Library, Victoria, British Columbia.
3.	Wainley, M., G. Itzig, T. Vold, D. Noon and J. van Barneveld, 1980. Describing Ecosystems in the Field. RAB Technical Paper 2, British Columbia Ministry of Environment, Victoria, British Columbia. 223 pp.

6. Credits	
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7. Other Maps in Study	
Map No. 2 - Slope Ranges of the Separation Lake Area.	
Map No. 3 - Consumptive Use Irrigation Requirements of the Separation Lake Area	
All maps and information stored in the British Columbia Soil Information System are available upon request from:	Map Library Planning and Resource Management Division Parliament Buildings Victoria, British Columbia, V8V 1X4.