TELEGRAPH CREEK AREA

soil and agricultural capability inventory

Province of British Columbia
Ministry of the Environment

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RESOURCE ANALYSIS BRANCH

SOIL AND AGRICULTURAL CAPABILITY INVENTORY OF THE TELEGRAPH CREEK AREA

by
P.F. Epp
and
M.A. Fenger

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Ministry of the Environment

Resources Analysis Branch
Parliament Buildings
Victoria
British Columbia
V8V 1X4

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ADDENDUM

Subsequent to the printing of this report, several minor revisions have been made to the enclosed Soil Capability for Agriculture maps. As a result, there is a discrepancy between the updated maps and the information contained in the Climate Section of this report (page 3). Also, in Table 1 (page 19) the area and percentage of Capability Class 5 should be 10,100 ha or 37.4 percent under the non-irrigated rating and 9650 ha or 35.6 percent under the irrigated rating and the area and percentage of class 6 should be 10,000 ha or 37.2 percent under both non-irrigated and irrigated ratings. The rationale for the revisions is as follows.

There is a shortage of climatic data in the area and what is available is located at the lower elevation range (about 165 metres a.s.l.). In an attempt to overcome this deficiency, mobile temperature sensing measurements were recorded at higher elevations during September of 1977. These measurements were used to determine the influence of cold air drainage over various landforms in general and over local topography in particular. These influences were then statistically related to the long-term climatological data available at Telegraph Creek to determine the Climate Capability for Agriculture classes within the study area. There is, however, a degree of uncertainty in using a small quantity of short-term climatic data gathered by the mobile equipment to predict long-term conditions at higher elevations within the study area. More precise and reliable estimates cannot be obtained until a full scale climatological network is established.

It appears that the climate ratings derived by this procedure are overly severe between about 350 and 600 metres a.s.l., considering the range of crops which were observed growing in the area and the long hours of sunshine experienced on south facing aspects at this northern latitude. Therefore, as a result of on-site observations and discussions with regional personnel, it was decided to revise several map units which originally (using the statistically derived climate ratings) were mapped as Class 6. These have now been upgraded to Class 5 and the revisions have been made on the enclosed maps.

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INTRODUCTION

The soils inventory and agricultural capability study of the Telegraph Creek area was carried out in order to meet the request of the Land Management Branch for detailed soils information in the Telegraph Creek-Glenora area. Emphasis was placed on mapping the soils and surficial materials in the areas which were generally identified as having agricultural capability of class 4 or higher when examined earlier at a reconnaisance level[1]. The existing soil capability ratings for agriculture were then verified, revised and modified according to the new soils information and recent climatic data provided by the Climatology Section, Resource Analysis Branch.

Field observations of soils and landforms were made in August 1977. Black and white 40 chain (1:31,680) aerial photographs were used for mapping and field investigations were made by road and river boat access. The information gathered is summarized in this report and is presented on 1:50 000 scale soil and agricultural capability maps, available from Map Library, Resource Analysis Branch, Victoria. Also shown on these maps are some of the recreational and archaeological features of the area which were noted during the course of this inventory and which are briefly described in this report. The individual soil field site descriptions and chemical analyses of samples gathered during the course of the inventory will be stored in the Provincial Soils Data Bank, Resource Analysis Branch, Victoria and will be available from this source.

LOCATION AND EXTENT

The inventory area is located (Fig. 1) in the north-west quarter of National Topographic Series Map 104G in the northwest part of British Columbia. The area inventoried extends along the Stikine River from its junction with the Chutine River in the west to Eight Mile Creek northeast of Telegraph Creek, a

[1] Unpublished Soil Capability for Agriculture maps for 104G 11, 12, 13 and 14, available from Map Library, Resource Analysis Branch, Ministry of the Environment, Victoria.

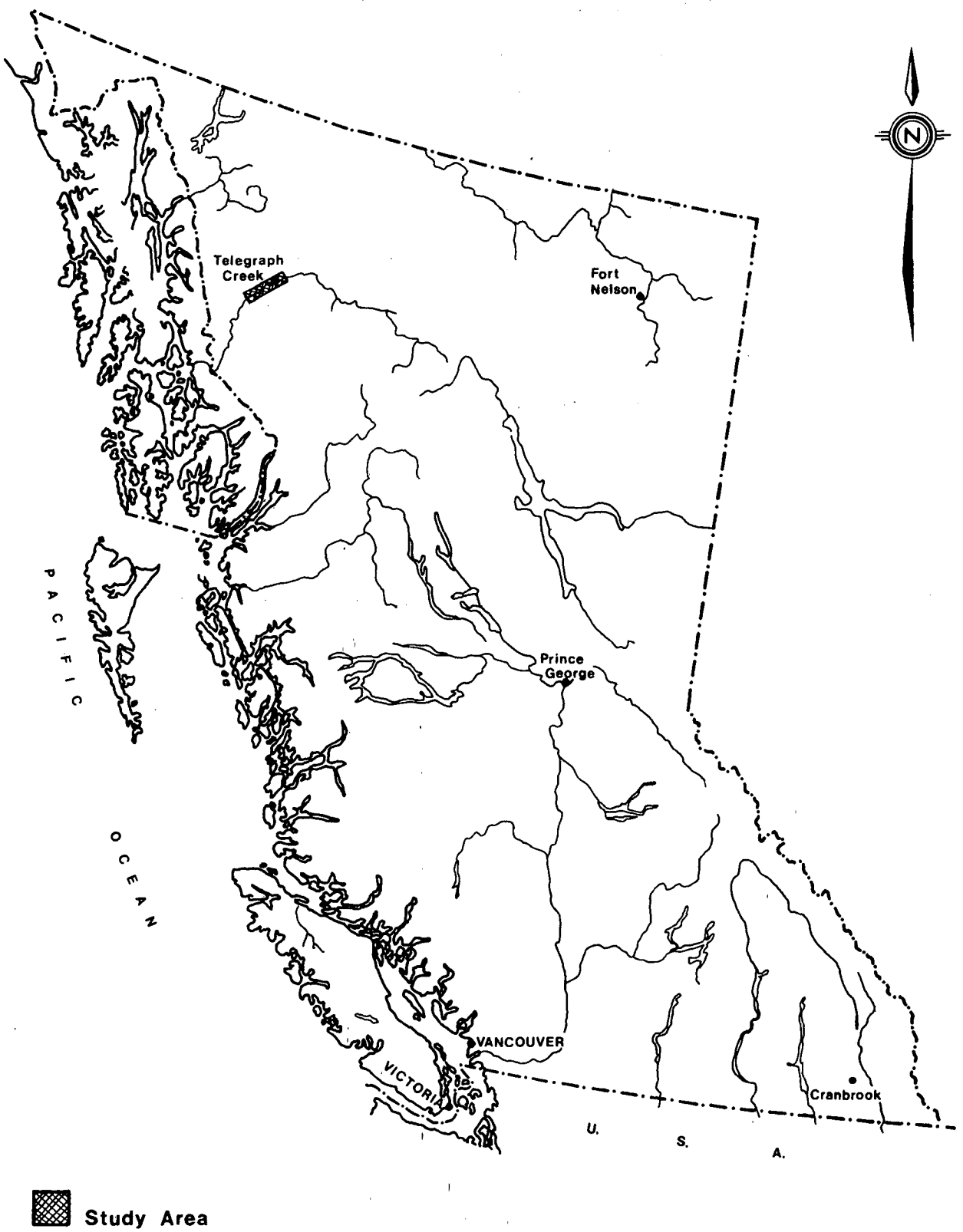

Fig. 1 Location Map of the Telegraph Creek Area

distance of about 60 km. The inventory concentrates on the fluvial deposits along the Stikine River but also includes the plateau-like areas above the fluvial terraces. Rough mountainous terrain and steeply sloping areas were generally excluded due to their generally low capability for agriculture. (Plate 1). A total area of about 270 km^2 or 27,000 hectares was mapped.

CLIMATE[1]

Long term climatic data collected at Telegraph Creek, indicate mean July maximum and minimum temperatures of 22.6°C and 8.9°C respectively. Similarly, mean January temperatures are -11.6°C and -19.3°C. Extreme temperatures of 35°C and -42°C have been observed.

The average annual precipitation at the same site is 320 mm, with 126 mm falling in the May to September period. (Canada Department of Transport, 1968). It is estimated that the average annual precipitation increases to 500 mm, 300 m above the valley floor. As the average May to September potential evapotranspiration near the valley bottom is 407 mm, the climatic capability for agriculture, at low elevations, is likely to be as low as class 5 under dry land conditions.

Telegraph Creek is characterized by an average freeze free period (0°C) of 101 days (ranges from 76 to 123 days; standard deviation of 14 days), and an average freeze-free period (-2°C) of 153 days (ranges from 122 to 182 days; standard deviation of 18 days). The average annual growing degree day total above 5°C is 1276. (Resource Analysis Branch -1). The combined influence of the freeze free period and growing degree day totals reflect the climatic capability for agriculture of class 2 (Resource Analysis Branch -2) when irrigated, which occurs along the Stikine and lower Chutine valleys below 260 metres a.s.l. The annual accumulation of growing degree days decreases with increasing elevation, and the climatic capability for agriculture, consequently decreases to class 3 between 260 and 350 meters a.s.l. to class 5 between 350 and 440 or

[1]CLIMATE Section by R. Marsh, Climatology Section, Resource Analysis Branch.

Plate 1 A typical landscape along the Stikine River west of Telegraph Creek. Note the fluvial terrace scarp in the lower right, the fluvial floodplains in the lower left, the fluvial terraces in the center, the ice-contact fluvial and morainal deposits in the upper left and the rough mountainous terrain (unsurveyed) in the upper right corner of the plate.

Plate 2 A typical landscape along the Stikine River east of Telegraph Creek. Note the erosional scarps bordering the Stikine River, the fluvial terraces above the scarps, the morainal deposits above the terraces and the rough mountainous terrain (unsurveyed) at the top of the plate.

500 metres a.s.l. (depending on slope position relative to cold air drainage) and to generally class 6 above 500 metres. Although the freeze free period also decreases with increasing elevation, insufficient accumualtion of heat generally appears to be the major limiting factor to climatic capabilities for agriculture.

SOIL MAPPING UNIT DESCRIPTIONS AND SOIL CAPABILITY FOR AGRICULTURE

Soil Mapping Units on Fluvial Floodplains

Soil mapping units Fl-1 to Fl-6 represent the soils on fluvial floodplains. They are mostly found along the Stikine River west of Telegraph Creek (Plate 1 and Fig. 2) and they occupy an area of about 1660 ha.

The parent materials of the soils on the fluvial floodplains generally consist of well sorted, stratified, sandy or silty materials with gravel occurring at depths of greater than 1 metre. An exception is mapping unit Fl-1 which has gravel to the soil surface. The coarse fragment contents, with the exception of Fl-1, are generally low (less than 5%) in the upper 100 cm of most soils. These soils are nonstony to slightly stony and the topography varies from level to gently undulating (0 to 2% slopes). Channel scars are evident on some map units.

The majority of the imperfectly to well drained soils are classified as Gleyed Cumulic Regolsols or Cumulic Regosols. They show very little soil development, but have a layered appeareance due to the periodic addition of new fluvial material on the existing soil surface by flooding. Mottling often occurs in the lower horizons. The horizons (layers) are usually brown or grayish brown with little or no structure and have textures that may vary from silt loam to sandy loam among horizons. The soil reaction of these Regosolic soils tends to be slightly acidic or neutral (pH 6.1 to 7.0) with no evidence of free carbonates.

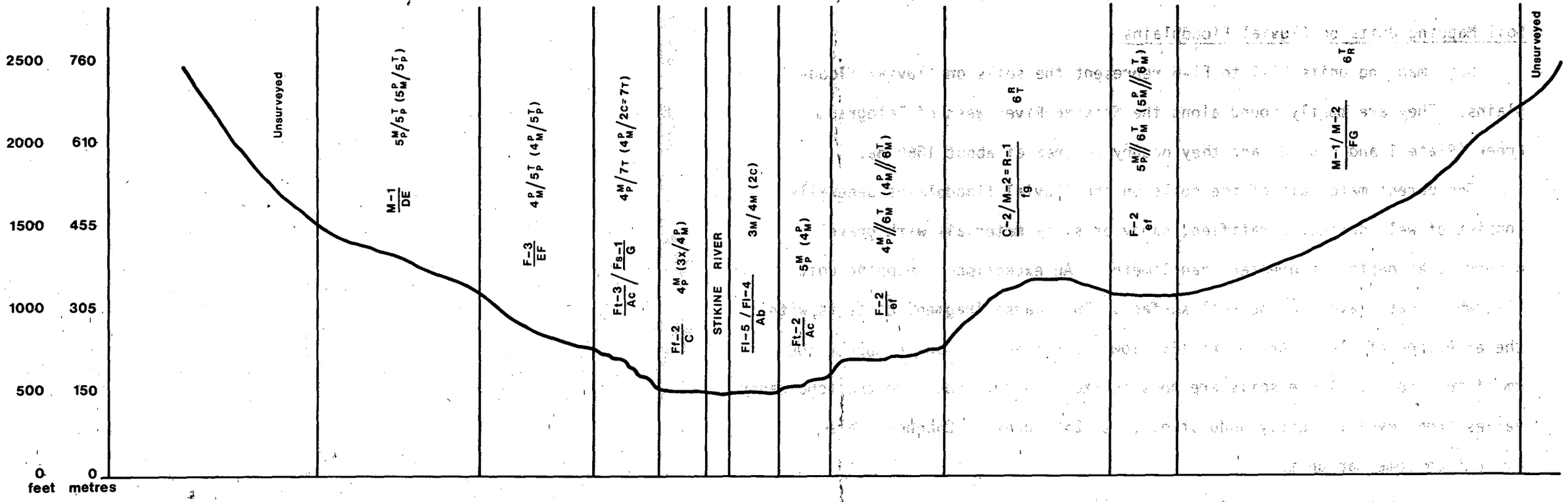

Figure 2 Cross-section of Stikine River Valley about 4.5 km west of Glenora showing a typical topographic sequence of several Soil Mapping Units and associated Soil Capabilities for Agriculture

For an explanation of the symbols used in this diagram, refer to the legend attached to the maps available from Map Library, Resource Analysis Branch, Victoria.

Eutric Brunisol soils are also found on the rarely flooded portions of the floodplains which are identified as mapping units Fl-4 and Fl-5. These soils are characterized by a 5 to 10 cm thick reddish yellow or yellowish brown Bm horizon at the soil surface which is slightly more acidic (pH 5.5 to 6.5) than the underlying materials and has weak subangular blocky structure. This horizon is formed as a result of soil modification by soil forming processes acting over a number of years. Its inclusion in the soil profile indicates a relatively long period (100+ years) of uninterrupted soil formation during the history of these soils. The horizons beneath the Bm horizons generally resemble those of the associated Regosolic soils.

Gleysolic soils are common on the low lying floodplain areas (mapping unit Fl-6). These soils differ from the Regosolic soils in that they are poorly or very poorly drained and have mottles and gleying at, or near the soil surface. High water tables and flooding are common.

All of the soil mapping units on the fluvial floodplains (with the exception of Fl-1) are well vegetated with cottonwood and trembling aspen stands and red osier dogwood thickets.

Mapping units Fl-1 to Fl-6 all occur within the area of class 2 climate capability for agriculture. Map units Fl-1 and Fl-6 also have severe soil limitations for agriculture due to flooding and/or high watertables and are rated 7^{I}_{P}[1] or 7^{I}_{W}. Map units Fl-2 and Fl-3 are higher above the river level, but are still subject to flooding and include areas with high water tables. These units are rated as a complex of 3x (or 4M) and 5^{I}_{W}. Mapping units Fl-4 and Fl-5 are well drained and usually do not flood but do have some limitations due to low moisture holding capacity. They are rated as 4M and 3M respectively under non-irrigated conditions, and 2C if irrigated.

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[1] See map legend for definitions of soil capability for agriculture classes and subclasses.

Soil Mapping Units on Fluvial Terraces

Soil mapping units Ft-1 to Ft-5 represent the soils on the fluvial terraces. These units occupy an area of about 3220 ha and generally occur along the Stikine River. (Plates 1 and 2 and Fig. 2 and 3).

The soil parent materials consist of a variable (0 to over 100 cm) sandy or silty capping overlying well sorted gravel. The coarse fragment contents range from less than 2% in the surface capping to between 30 and 90% in the gravelly subsoil. The stoniness ranges from nonstony or slightly stony on Ft-5 to moderately or very stony on Ft-1. The topography is level to undulating (0 to 5% slopes) on the terraces with very steeply sloping (60%) scarps separating the terrace levels.

Orthic Eutric Brunisols are the dominant soils on these mapping units, but Eluviated Eutric Brunisols are also common. These well to rapidly drained soils are characterized by reddish yellow or yellowish brown upper horizons (Bm) with an average thickness of about 20 cm (range from 5 to 40 cm). The Eluviated Eutric Brunisols also have a thin (usually less than 5 cm thick) gray colored leached (Ae) horizon present over the Bm horizons. These surface horizons are medium to slightly acid (pH 5.6 to 6.5). The Bm horizons have weak, fine subangular blocky structure while the Ae is weak, fine platy. The soil parent materials are weakly acid to neutral (pH 6.1 to 7.1). There is a general increase in pH values from west to east within the inventory area and occassional bands of calcium carbonate were observed in these soils at depths of 2 to 3 metres, east of Telegraph Creek.

The vegetation typically has a lodgepole pine and/or trembling aspen overstory with shrubs such as juniper, cranberry, and soapberry being common.

The fluvial terraces occur between 10 and 100 metres above river level and generally fall within the area of class 2 climate capability for agriculture.

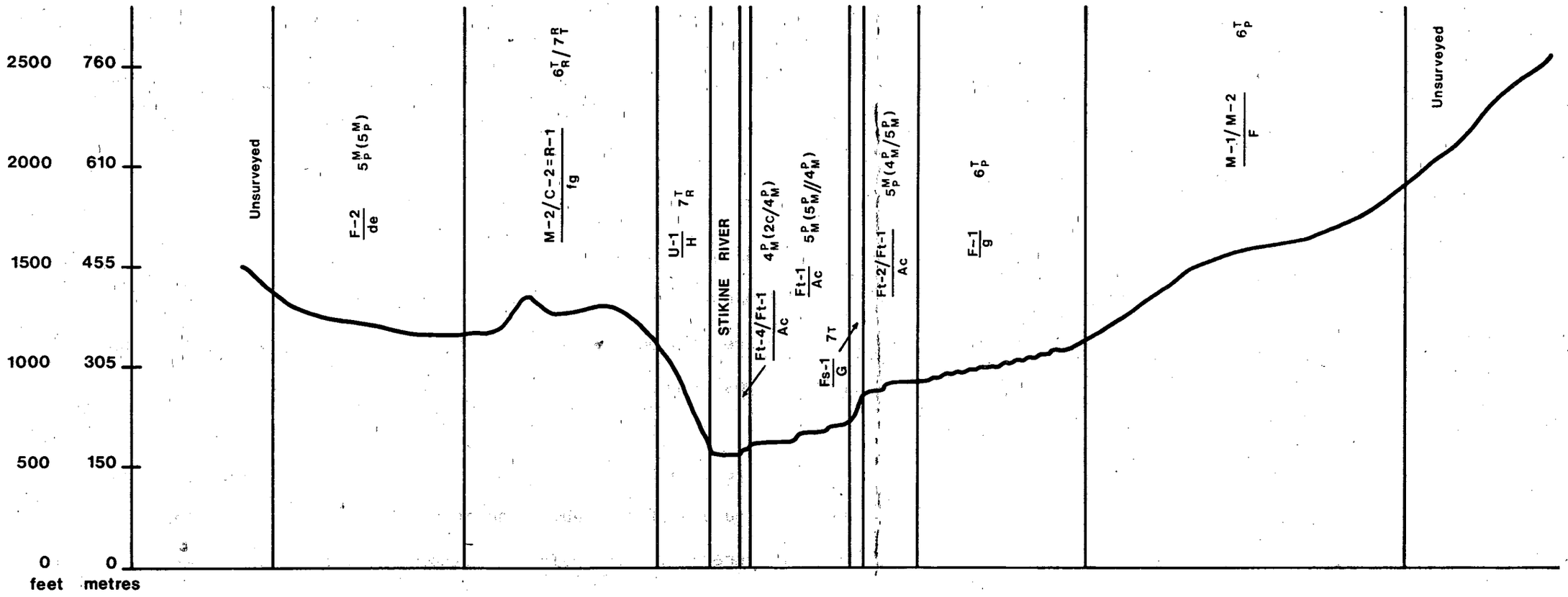

Figure 3 Cross-section of Stikine River Valley about 3.5 km west of Telegraph Creek showing a typical topographic sequence of several Soil Mapping Units and associated Soil Capabilities for Agriculture

For an explanation of the symbols used in this diagram, refer to the legend attached to the maps available from Map Library, Resource Analysis Branch, Victoria.

Exceptions are the upper terraces east of Telegraph Creek which are in the area of class 3 climate capability for agriculture. Mapping unit Ft-1, Ft-2, and Ft-3 also have limitations due to stoniness and low moisture holding capacity and are rated 5^{M}_{p}, 5^{M}_{p}, and 4^{M}_{p} respectively, if not irrigated. These ratings generally change to 5^{P}_{M}, 4^{P}_{M}, and a complex of 4^{P}_{M} and 2C (or 3C) respectively when irrigated. Mapping units Ft-4 and Ft-5 are rated as 4M and 3M respectively under non-irrigated conditions and as 2C (or 3C) when irrigated. It should be noted that areas of steep scarps (generally identified on the maps) with very severe topographic limitations for agriculture (7T) may occur as inclusions within these soil mapping units where they are too small to be delineated individually.

Soil Mapping Units on Fluvial Fans

Soil mapping units Ff-1 to Ff-4 represent the soils on fluvial fans which occupy an area of about 1200 ha within the inventory area. These mapping units are most common at low elevations along the Stikine River (Fig. 2), but they do occur at all elevations within the inventory area.

The parent materials of the soils on these mapping units are variable due to the nature of the deposition of fluvial fans. Finer materials (silt loam) are generally found near the fan margins and coarser materials (gravel or gravelly loamy sand) are found near the fan apex, with a gradation in between. There is, however, considerable variation among fans due to differences in stream size and gradient. The soils on mapping unit Ff-1 are gravelly stony and are subject to inundation by shifting stream channels. Those soils on mapping unit Ff-3 have sandy loam textures throughout and are apparently stable. The stoniness varies from nonstony to moderately stony on mapping units Ff-2, Ff-3, and Ff-4 and from very to excessively stony on Ff-1. The topography is usually gently to moderately sloping (2 to 9% slopes) but strongly and steeply

sloping (10 to 30%) slopes also occur.

The majority of these well to imperfectly drained soils are classified as Cumulic Regosols or Gleyed Cumulic Regosols. They show very little soil development, but may have a mottled appearance due to seasonally high water tables and/or a layered appearance due to the periodic additions of new fluvial materials over the existing soil surface by flooding. The horizons (layers) are usually brown or grayish brown colored with little or no structure, and have textures that may vary from silt loam to gravelly loamy sand among horizons. The soil reaction tends to be slightly acidic or neutral (pH 6.1 to 7.0) with no evidence of free carbonates.

Eutric Brunisolic soils also occur on well stabilized portions of fans and are recognized in soil mapping unit Ff-3. These soils are characterized by a 5 to 10 cm thick (thicker on Ff-3) reddish yellow or yellowish brown Bm horizon at the soil surface which is slightly more acidic (pH 5.5 to 6.5) than the underlying materials and has weak subangular blocky structure. This horizon is formed as a result of soil modification by soil forming processes acting over a number of years. Its inclusion in the soil profile indicates relatively long periods of soil stability between material additions by flooding. The horizons beneath the Bm horizons resemble those of the associated Regosolic soils.

Gleysolic soils are common near the margins of mapping unit Ff-4 where ponding (possibly due to beaver dams) keeps the water tables high. These soils differ from the associated Regosolic soils in that they are poorly or very poorly drained and have mottles and gleying at or near the soil surface.

The vegetative cover varies considerably with the nature of the individual fluvial fans, but in general, is a fairly heavy growth of deciduous and coniferous vegetation.

The climatic capability for agriculture varies from class 2 to class 5

on the fluvial fans depending upon their elevation. In addition, mapping unit Ff-1 has severe limitations due to stoniness and periodic inundation and so is rated as 7^{I}_{p} for agriculture. Mapping unit Ff-2 has variable limitations due to a low moisture holding capacity and stoniness, and is rated as 4^{M}_{p} under non-irrigated conditions and as a complex of 4^{p}_{M} and 3X with irrigation. Ff-3 has limitations due to adverse topography and low moisture holding capacity and is rated as 5^{T}_{M} if not irrigated and as 4T when irrigated. Ff-4 has variable limitations due to low moisture holding capacity, stoniness, and high water tables. This unit is often rated as a complex of 4^{M}_{p} and 6W without irrigation and as a complex of 3X, 4^{P}_{M}, and 6W when irrigated.

Soil Mapping Units on Steep Fluvial Deposits

Soil mapping unit Fs-1 represents the soils on the steep scarps associated with fluvial terraces which are large enough to delineate individually. A total area of about 105 ha is occupied by this mapping unit. The very steeply sloping (50-60% slopes) topography of this unit results in soil capability for agriculture ratings of 7T.

Soil Mapping Units on Glacio-Fluvial Deposits

Soil mapping units F-1 to F-3 represent the soils on the ice - contact fluvial deposits which are found above the fluvial terraces along the Stikine River (Plate 1 and Fig. 2 and 3). A total area of about 7100 ha is occupied by these mapping units.

The soil parent materials consist of well to poorly sorted mixtures of gravel, sand, and silt with some stratification. The coarse fragment contents are usually 10 to 20% near the soil surface and increase to 30 or 40% in the subsoil. The soils on these units are moderately to very stony and topography ranges from gently rolling to hilly (5-60% slopes).

The soils are usually well to rapidly drained and are classified as Orthic or Eluviated Eutric Brunisols. These soils are characterized by a reddish yellow

or yellowish brown upper horizon (Bm) with an average thickness of about 20 cm (ranges from 10 to 35 cm). The Degraded Eutric Brunisols also have thin (usually less than 5 cm thick) gray colored, leached (Ae) horizons. These surface horizons are usually medium to slightly acid (pH 5.6 to 6.5) and have weak fine subangular blocky and weak fine platy structures respectively. The soil parent materials are weakly acid to neutral (pH 6.1-7.0).

The vegetative cover is relatively light due to moisture limitations and consists of trembling aspen with lodgepole pine and spruce in the overstory and shrubs like soapberry and juniper present at ground level.

These soil mapping units usually occur between 100 and 200 metres above river level. At these elevations, the climatic capability for agriculture ranges from class 3 to class 5. Stoniness, adverse topography, and low moisture holding capacity are additional limitations associated with these mapping units. This results in soil capability for agriculture ratings such as 5^{P}_{M}, 5^{T}_{P}, and $6\ ^{T}_{P}$. The majority of the ratings do not change with irrigation.

Soil Mapping Units on Lacustrine Deposits

Soil mapping unit L-1 represents the soils on lacustrine deposits which occupy an area of about 21 ha in association with upper fluvial terraces east of Telegraph Creek.

The soil parent material consist of bedded silts and clays which are more than 1 metre thick, but which may overlie gravels at depth. The coarse fragment contents are less than 1% in the upper metre of soil and there are no stones on the soil surface. The topography is level to undulating (0 to 5%).

These well drained soils are classified as Brunisolic Gray Luvisols. They are characterized by the presence of a well developed Bt (clay accumulation) horizons which underly yellowish brown Bm horizons. The brown Bt horizon has an increase in clay content when compared to both the overlying and underlying

horizons and has moderate, medium block structure. The texture and structure of the Bt horizon restricts the movement of water through the soil, resulting in low permeability and moderately high water holding capacity. Puddling and other trafficability problems may develop if these soils are used when wet. The reaction of these soils is neutral (pH 6.5 to 7.0).

The vegetative cover is relatively light with stands of trembling aspen, lodgepole pine and spruce, and with shrubs such as soapberry and juniper.

This soil mapping unit occurs in an area where the number of growing degree days restricts the climate for agriculture to class 3, but where the high potential evapotranspiration rate further restricts the climate for agriculture to class 4 when the soil is not irrigated. This results in soil capability for agiculture rating of 4C under non-irrigated conditions and 3C when irrigated.

Soil Mapping Units on Morainal Deposits

Soil mapping units M-1 to M-3 represent the soils on morainal (glacial till) deposits which occupy an area of about 9750 ha at higher elevations throughout the inventory area (Plates 1 and 2 and Fig. 2 and 3).

The soil parent materials consist of silty or silty clay, compact till with inclusions of gravel, cobbles and stones. A variable, thin (less than 35 cm thick) silty eolian capping may be present over the till in some areas. The coarse fragment contents are relatively low (about 5%) within the eolian capping, but increase to 15 to 30% within the till. The soils on these units vary from slightly to very stony and the topography ranges from moderately to extremely sloping or hilly (5 to 65% slopes).

These soils are generally well drained and are mostly classified as Orthic or Eluviated Eutric Brunisols. They are characterized by reddish yellow or yellowish brown upper horizons (Bm) with an average thickness of 20cm (range from 10 to 35 cm). The Degraded Eutric Brunisols also have a thin (usually less than 5 cm thick) leached (Ae) horizon at the surface. These surface horizons are usually medium to slightly acid (pH 5.6 to 6.5) and have

weak fine subangular blocky and weak fine platy structures respectively. The soil parent materials are weakly acid to neutral (pH 6.1 to 7.0).

Brunisolic Gray Luvisolic soils also have a significant occurrance on the morainal deposits. These soils are characterized by the presence of Bt (clay accumulation) horizons. The brown colored Bt horizons have an increased clay content when compared to the overlying and underlying horizons and have moderate, medium blocky structures. The pH's of these soils are similar to those of the associated Brunisolic soils.

The vegetation found on these units varies with fire history, but trembling aspen and Engelmann spruce stands are common with some alpine fir at higher elevations.

These mapping units are commonly found on the plateau like areas at elevations of 150 metres or more above river level. At these elevations, the climatic capability for agriculture varies from class 3 to class 6. Adverse topography, stoniness, and rockiness are additional limitations associated with these mapping units. The resulting soil capability for agriculture ratings are 5^{T}_{p}, 6^{T}_{p}, or 6^{T}_{R}.

Soil Mapping Units on Colluvial Deposits

Soil mapping units C-1 and C-2 represent the soils on colluvial deposits which occupy an area of about 1300 ha within the inventory area (Fig. 2 and 3). The colluvial deposits are usually found as a thin veneer over bedrock and are often associated with bedrock outcroppings. The topography is usually very steeply sloping or hilly with slopes of 30 to 60%. This results in soil capability for agriculture ratings of 6^{T}_{R}, 6^{R}_{T}, or 7^{R}_{T}.

Soil Mapping Units on Undifferentiated Steep Terrain

Soil mapping unit U-1 represents the soils on the steep erosional scarps bordering portions of the Stikine River and some of its tributaries (Plate 2 and Fig. 3). An area of about 1400 ha is occupied by this mapping unit within the inventory area. The materials consist of fluvial and/or morainal deposits

over bedrock with erosion actively taking place. This soil mapping unit has a very low soil capability for agriculture (7T or 7^{T}_{R}) due to excessively steep slopes (60%+) and unstable soils which are associated with it.

Soil Mapping Units on Organic Deposits

Soil mapping unit O-1 represents the soils on organic deposits which occupy an area of about 215 ha within the inventory area. They are found on poorly drained portions of the fluvial floodplain and in scattered depressions among the fluvial ice-contact and morainal deposits. These soils are classified as Mesisols and Fibrisols. They have a variable thickness (greater than 60 cm) of partially decomposed and undecomposed organic materials and are very poorly drained. The topography is level to depressional. The high water tables associated with these soils result in soil capability for agriculture ratings of 7W.

Soil Mapping Units on Bedrock

Soil mapping unit R-1 represents the outcroppings of bedrock which occupy an area of about 700 ha within the inventory area (Fig. 2 and 3). The severe rockiness and adverse topography of this mapping unit result in soil capability for agriculture ratings of 6^{R}_{T} or 7^{R}_{T}.

SOIL FERTILITY

The chemical analyses available for the limited number of samples collected during the inventory indicate that in general, the soils of this area have a medium level of inherent fertility.

The pH values range from 6 to 7 over much of the survey area so that acidity and alkalinity problems are generally not encountered. Soils in the western portions of the study area may, however, benefit from additions of lime for some cropping practices. Nitrogen levels are low (usually less than 0.1%) but

the percentage of organic carbon is also low so that favorable C:N ratios of about 10 are generally maintained. Organic matter contents range from 1 to 3% for the surface horizons of most of the Brunisolic and Regosolic soils. These levels are generally low and organic additions (ie. manure) would improve water holding capacity and fertility. Cation exchange capacities of about 15 me/100 grams are common with high percent base saturation, except for the more acid western soils. The levels of calcium and magnesium are adequate and sodium levels are low so that no salinity problems are encountered. Potassium and phosphorus levels are medium to low.

RECREATION AND ARCHAEOLOGICAL FEATURES

Several recreational and archaeological features in the Telegraph Creek - Glenora area were noted and recorded during the course of the soil-landform field checking. The locations of these features are shown by on-site symbols on the 1:50 000 soil map and are described below. This feature mapping is not a complete inventory, but rather is intended to indicate that there are important recreational and archaeological features within the inventory area which should also be taken into account when making land-use decisions.

The features recorded on the map are as follows:

1. Dry City - Gold Rush townsite with several buildings remaining.
2. Bear City - Gold Rush townsite with several buildings remaining.
3. Telegraph Creek - Gold Rush townsite which is still inhabited.
4. Miniature House - Scaled down house built by Chinese immigrant at the turn of the century.
5. Sawmill Lake - Presently used as a swimming and picnicing area.
6. Six Mile (Dodjatin) Creek area - Petroglyph, Indian smoke houses, and fishing spot.
7. Four Mile (Winter) Creek area - Indian smoke houses and fishing spot.

8. Three Sisters Islands - Three jagged rock protrusions in the middle of the Stikine River.
9. Glenora - Gold Rush townsite with several cabins remaining.
10. Tent City - Site of Tent camp during Gold Rush Days.
11. Hudsons Bay Flat - Remains of old cabins and one-time brewery site.
12. Petroglyph. (Plate 3)
13. Ma Jacksons homesite - old cabins.

In addition to the above, there are views of the lower portions of the Grand Canyon of the Stikine in the eastern limits of the inventory area and long-distance views of the Boundary Ranges in the Coast Mountains from the western portions of the inventory area.

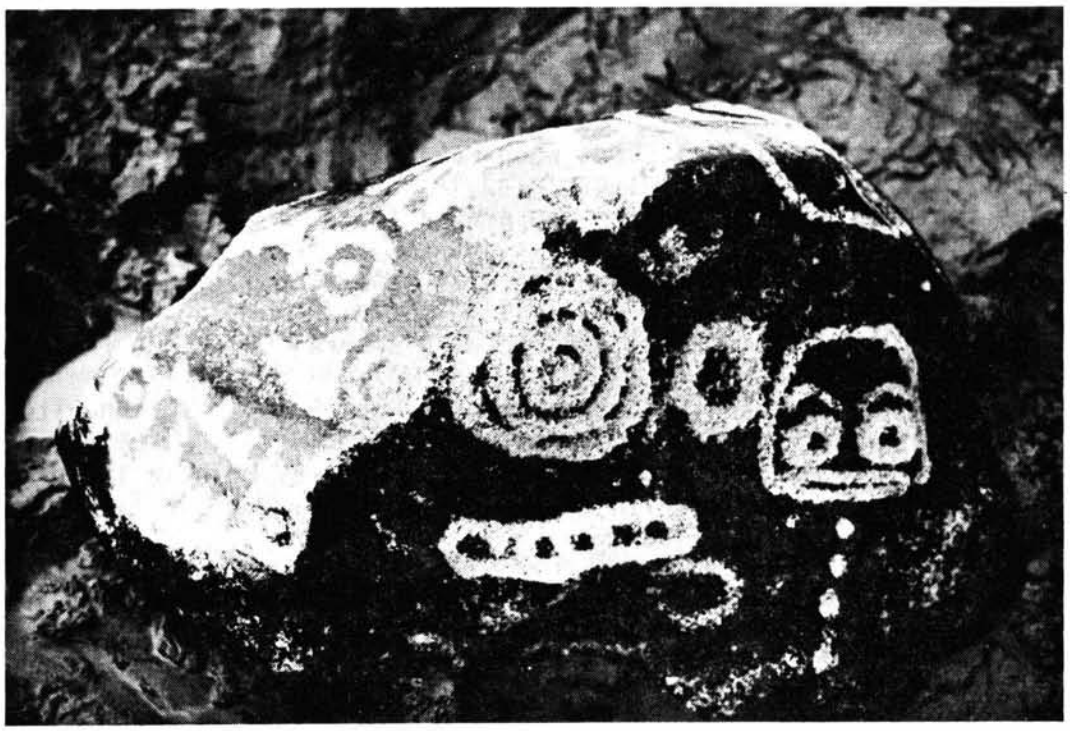

Plate 3 Petroglyph on the south bank of the Stikine River west of Glenora. Horizontal dimension is about 1 metre.

SUMMARY

Brunisolic soils are the most widespread in the survey area as they occur on the fluvial terraces, ice-contact deposits, and on most of the morainal materials. Regosolic soils are also common, occurring on the fluvial floodplains and fans. Luvisolic soils are found on the lacustrine deposits and on some of the finer textured morainal materials. Gleysolic and Organic soils are restricted to the wetter floodplain areas and scattered depressions in the ice-contact and morainal materials.

Climate is one of the major limiting factors for agriculture within the survey area. A class 2 climate is found at valley bottom, but the climatic capability decreases rapidly to class 5 at an elevation of 350 metres a.s.l. or about 200 metres above the valley floor. Stoniness, low moisture holding capacity, adverse topography, excessive soil moisture, and flooding hazard are other limitations which reduce the soil capability within the inventory area. The area and percentage of the inventory area occupied by each soil capability for agriculture class is given below in Table 1. A total of 4490 ha or 16.7%

TABLE 1

Area and Percentage of the Inventory Area Occupied by Each Soil Capability for Agriculture Class

Capability Class	Non-irrigated Rating		Irrigated Rating	
	Area (ha)	Percentage of total	Area (ha)	Percentage of total
2	-	-	1,150	4.3
3	870	3.2	1,130	4.2
4	3,170	11.7	2,210	8.2
5	6,620	24.6	6,170	22.8
6	13,500	50.0	13,500	50.0
7	2,840	10.5	2,840	10.5

of the inventory area may be considered arable (soil capability for agriculture, class 4 or better) under irrigated conditions, while 4040 ha to 14.9% of the inventory area is rated as class 4 or better under non-irrigated conditions. Most of the arable land is distributed in a narrow belt along the Stikine River. The majority of the arable land occurs in pockets ranging from 5 to 50 ha in size, although arable pieces of land as large as 270 ha do occur. Generally, the class 2 and 3 land areas are small and often occur as complexes with class 4 or 5 land. Access to much of the arable land is presently a problem. The existing road ends at Glenora, and there is no road at all on the south side of the Stikine River. This makes mechanized farming very difficult on a large proportion of the potentially arable land. The majority of the arable land has a medium inherent fertility, but will benefit from fertilizer additions if intensive farming is to be practiced.

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