SOILS
of the
ROCKY BROOK SOUTH AREA
WESTERN NEWFOUNDLAND

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Newfoundland Soil Survey
Internal Report

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SUMMARY

The Rocky Brook South Survey area is located in Western Newfoundland, approximately 6 km north of the community of Deer Lake, and east of the Viking Highway. The area is primarily located on the east side of Rocky Brook and encompasses 1280 acres (517 ha), Figure 1.

The climate of the area is well suited for the range of crops grown in the province. However, late spring and early frost occurrences are common and should be considered if low frost-tolerant crops are grown.

The soils in the Rocky Brook South area have formed on glacial till and waterlain deposits derived from sedimentary rock of local origin, but also include igneous rock from the Long Range Mountains. Organic soils have formed on moderately decomposed sphagnum moss and sedges material and on moderately decomposed material derived mainly from alders.

INTRODUCTION

The Rocky Brook South project was initiated in response to the increasing need for soils information required for the adequate planning of the agricultural resources in the area. The main emphasis was placed on the potential for forage production.

Field work was initiated in 1994 and completed that same year. Field work consisted of unit checking and boundary verification, with the greatest emphasis placed on lands adjacent to the existing agricultural land holdings.

HOW TO USE THE SOILS MAP

To use the map and legend, first locate the area on the map to be studied. The delineation(s) or polygon(s) in which the area falls will have a soil polygon number. This number is listed in the extended legend (Appendix I) in which information on specific soil attributes (texture, slope, stoniness, soil name, etc.) can be obtained. The forage suitability map is a derived map in which the specific forage ratings for each polygon has been indicated. The acreage of each polygon and its forage suitability rating are also listed in the extended legend.

GENERAL DESCRIPTION OF THE AREA

Location and extent

The Rocky Brook South is located just north of the community of Deer Lake. The area is bounded on the west by the Viking Highway, and to the east by the Corner Brook Pulp and Paper boundary (Fig. 1). The total area covers approximately 1280 acres (517 ha) of land.

Surficial geology

The surficial geology of the area primarily consists of hummocky glacial till derived from carboniferous sedimentary rock, consisting of mainly grey shale and siltstone, grey limestone, red siltstone and sandstone with minor inclusions of igneous rock. Shallow organic deposits occur in the swales between the till hummocks, with some larger organic deposits occurring on the eastern boundary of the survey area.

Vegetation

The survey area is located within the Boreal Forest zone. The vegetation, is commonly balsam fir, black spruce and white birch with an understorey of fern and bunch berry. Poorly drained soils support speckled alder, mountain maple and some yellow birch, with an understorey of horsetail and clintonia.

Climate

The Rocky Brook South survey area is located north of Deer Lake (Fig. 1) and occurs at elevations between 50 m and 75 m amsl. The nearest meteorological recording station is at Deer

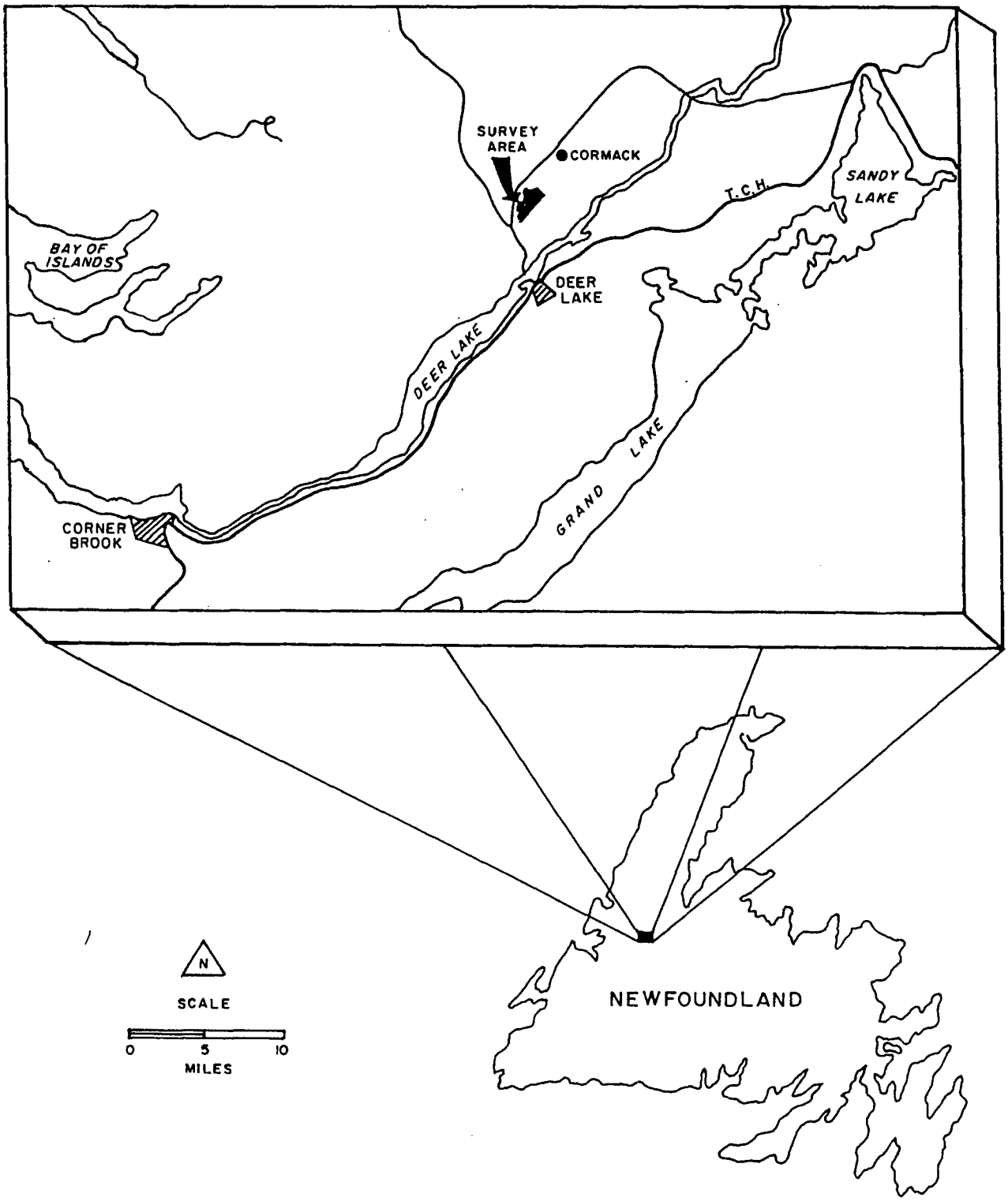

Fig 1. Location of Survey Area.

Lake Airport (22 m amsl) which is only 20 kilometres to the east. As most of the survey area falls above the 50 m amsl mark, the climate data at the Deer Lake Airport should be indicative of the local climate conditions in the project area. The average frost free period for the Deer Lake Airport is 97 days and has an average growing degree days accumulation of 1240 at 5°C. The area experiences an average annual precipitation of 1133 mm. Throughout the months of May to September the survey area receives between 400 to 450 mm of precipitation. This amount of rainfall combined with the relatively good moisture-holding capacity of most of the soils, due in part to the finer texture, usually ensures that moisture is always available to the plant.

Soil mapping methodology

Soil mapping was accomplished with the use of 1:12500 and 5,000 scale colour air photos and 1:15000 scale black and white airphotos. Soil units were delineated on the photos using changes in vegetation, parent material, topography and drainage to separate the different polygons. These units were verified by ground truthing during the field season. The soil names used in this report have been taken from "Soils of the Cormack-Deer Lake area, 1983", and applied to the soil polygons as closely as possible.

Map reliability is highest towards the south and west while the lowest reliability is towards the Corner Brook Pulp and Paper cutline towards the east. However, considering the limited time frame to complete this report, the overall objectives have been fulfilled. The soils and derived maps are adequate for general farm lot layout. If specific soils information is required, additional work via the On Farm Mapping program could be of assistance.

MAJOR CHARACTERISTICS OF THE MAPPED SOILS

ADIES POND SOIL (ADP):

The Adies Pond soils have been classified as Gleyed Humo-Ferric Podzols. These soils have developed on very stony, sandy loam glacial till derived from red sandstone, red siltstone, granite and granitic gneiss. The soils usually occur on upper to mid-slopes. The vegetation cover consists of balsam fir and minor white birch. The ground cover consists of feather moss and plume mosses, bunch berry and clintonia. Stoniness ranges from slight to exceedingly. Drainage is generally moderately well.

ALLUVIUM SOIL (ALV):

The Alluvium soils have not been given any specific soil classification, because of their wide range of drainage classes. Drainage is usually well to imperfect but areas of poor to very poor drainage do occur. These soils are susceptible to flooding especially during the spring. The Alluvium soil occur along the Rocky Brook area. Soil textures range from fine sand to bouldery and cobbly sand.

CORMACK SOIL (CMK):

The Cormack soils have been classified as Orthic Humo-Ferric Podzols. The soils have developed on gentle hummocks to undulating glacial till derived from grey to green shale and sandstone. They are found on the upper slopes of moderately well to well drained terrain. The vegetation consists of balsam fir intermixed with white birch and a ground cover of plume mosses and bunch berry. The Cormack soils have generally a well developed Bf horizon (30-35 cm in depth) and

range in texture from very fine sandy loam to loam. Stoniness ranges from slight to moderate throughout the soil, however, large stones and boulders usually occur on the soil surface and are primarily subrounded granitics.

MCISAACS BROOK SOIL (MCB):

The McIsaacs Brook organic soils occur throughout the survey area. These soils have been classified as Typic Mesisols to Terric Humic-Mesisols. Drainage is very poor, with free standing water near or at the surface for most of the year. The vegetation cover consists of sphagnum mosses, sedges, rushes, reeds and wintergreen. In some areas scrubby black spruce occur in association with leather leaf, Labrador tea, clintonia and kalmia.

MISTAKEN POINT SOIL (MKP):

Mistaken Point organic soils are classified as Typic Humisols usually found in low areas along brooks on gently undulating terrain. These soils have poor surface drainage in part because of the thick organic layer on the surface whereas internally they are very poorly drained because of a high water table, high water retention, and low permeability of the highly decomposed organic matter. Vegetation cover is alder, with some mountain maple and scattered balsam fir and white birch on the drier sites. The understorey consists of ferns, horsetails, raw parsnips, clintonia, plume mosses, grasses and sedges.

NORTH BROOK SOIL (NHO):

The North Brook soil are usually Rego Gleysols (peaty phase). These soils have developed on grey to green shale and soft sandstone with minor granite. These soils usually occur at the base

of slopes and valley bottoms in association with shallow organic deposits. The vegetation cover is predominantly alder, larch, yellow birch and black spruce, with a ground cover of horsetail and clintonia.

ORGANIC SOIL (ORG):

For the purpose of this report all soils which meet the Canadian Soil Classification System criteria for organic soils have been grouped into one soil class called organic. Organics are generally 0.5 to 1.0 meter deep. However, additional field work is required to determine the type and extent of the organic deposits within the survey area. Drainage is very poor and decomposition ranges from von Post 4 to von Post 7.

ROCKLAND (RX):

Greater than 75% exposed bedrock.

WHITE'S RIVER ROAD SOIL (WRR):

The White's River Road soil was not mapped by Button (1983). However, the occurrence of this imperfectly drained member of the Cormack catena was frequent enough within this survey area to justify it's creation. The White's River Road soil has been classified as a Gleyed Humo-Ferric Podzol and has developed on grey to greenish grey loamy morainal deposits derived from shale and slate. These soils usually occur on the lower part of mid-slope and in slightly depressional land. The vegetation cover consists of black spruce, balsam fir and minor white birch.

SOIL SUITABILITY FOR AGRICULTURE

The mineral soils of the survey area have been evaluated, according to their capability for supporting forage crops. The organic soils have not been rated because of insufficient soils information and the lack of an adequate rating system.

The soil suitability rating system used, is taken from Jan van de Hulst (1985) which is suited for Newfoundland conditions. The criteria used to rate the soils for forage production are outlined in Table 1. Four degrees of soil suitability are used:

Good - The map unit is suitable for a particular use. The soils of the map unit are relatively free of problems or limitations, or if they exist, they can be easily overcome.

Fair - The map unit is marginally suitable for a particular use. The soils of the map unit have problems or limitations which can be overcome with good management and careful design. Input costs should be carefully assessed.

Poor - The map unit is poorly suited for a particular use. The soils of the map unit have problems or limitations which are severe enough to make use questionable, because of costs of overcoming them or of continuing problems expected with such use.

Unsuitable - The map unit is unsuitable for a particular use. The soils of the map unit have problems or limitations which are so severe, that the input required to utilize the soil is too great to justify the effort under existing conditions.

The degree of suitability (good, fair, poor or unsuitable) is determined by the most restrictive or severe rating assigned to any of the listed soil properties. For example, if the degree of suitability for a given crop is "good" for all but one soil property, and that one soil property is "poor", then the overall rating of the soil for that given use is "poor". However, the severity of the restriction of individual soil properties can have an accumulative effect which can downgrade the degree of suitability of a map unit. This depends on the severity of the combination of several restrictive soil properties. The decision to downgrade the degree of suitability of a map unit is arbitrary and left up to the discretion of the interpreter. Caution: It is incorrect to assume that each of the major soil properties influencing use has an equal effect. Class limits for the degree of limitation of individual soil properties were established taking this into account and thus, in fact, weighing each property separately.

There were 7.0 acres (2.8 ha) of soils classified as Not Rated in this Cormack South report. These polygons are composed primarily of river bed deposits and were not rated because of their proximity to the river and inclusion in the stream buffer zone.

Table 2 is a summary of the forage suitability ratings along with the number of hectares and the total percentage of the survey area for each suitability rating.

Table 1. Soil suitability for forage crops.

	DEGREE OF SUITABILITY			
MAJOR SOIL PROPERTIES INFLUENCING USES	GOOD	FAIR	POOR	UNSUITABLE
DEPTH TO BEDROCK	>100 cm	50-100 cm	20-50 cm	<20 cm
DEPTH TO CONSTRICTING LAYER	>50 cm	25-50 cm	<25 cm	
AVAILABLE MOISTURE	Not affected by doughtiness	Drought occurs in some areas	Drought occurs almost every day	
DRAINAGE	Well to Moderately well	Imperfect	Poor and imperfect with seepage	Very poor
TOPOGRAPHY	0-9%(A-D)*	9-15%(E)(d)*	15-30%(F)*	>30%(G-J)*
ROCK OUTCROPS AND LARGE BOULDERS (>250 CM DIAMETER) % SURFACE COVERAGE	<2(0)*	2-10(I)*	10-25(II)*	>25(III,IV, V)*
SURFACE STONES AND COBBLES (7.5-250 CM DIAMETER) % SURFACE COVERAGE	<3(0-2)*	3-15(3)*	15-50(4)*	>50(5)*
GRAVEL (0.2-7.5 CM DIAMETER) % BY VOLUME	<50	<50	50-80	>80

If more than 2 restrictive soil properties occur in the fair or poor degree the rating will be downgraded by one class.

* Class range codes according to "Canadian System of Soil Classification, 1978" are between brackets.

Table 2. Forage Suitability Ratings for Rocky Brook South

Soil Suitability Rating For Forage	Area		Percent of Area	No. of Polygon For Each Rating
	Acres	Hectares		
Good	15.8	6.7	1%	2
Fair	443.8	179.6	34.6%	38
Poor	86.3	34.9	6.8%	6
Unsuitable	456.9	184.9	35.8%	36
Not Rated	278.4	112.7	21.8%	11
Total	1281.2	517.0	100%	93

CONCLUSION

The Cormack South report was initiated for the purpose of establishing mineral soil suitability for forage crops. Of the total area outlined for the study area, 540 acres (218.2 ha) are rated useable for forage production, which is 42% of the study area.

The remaining 58% is rated as either poor or unsuitable for forage production and these ratings total 724.7 acres (292.4 ha). All organic deposit have been included in the unsuitable suitability class. The reason for this group is based on the study mandate to classify mineral soil for forage production. If specific soil information is required on organic soil suitability additional field work will be required.

The remaining area of 7.0 acres (2.8 ha) has not been rated.

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Appendix I

Soils legend for the Rocky Brook South area including forage suitability ratings and area counts for each polygon.

AREA (ac.)	SOIL UNIT	SOIL CODE	BEDROCK BOULDERS %	STONES %	COBBLE %	DRAINAGE	SEEPAGE	SLOPE CLASS	TEXTURE (0-15cm)	TEXTURE (15-30cm)	LAND USE	FORAGE RATING
86.08	1	ORG				VERY POOR		NEARLY LEVEL	ORGANIC	ORGANIC		NOT RATED
134.54	2	ORG				VERY POOR		VGENTLE SLOPE	ORGANIC	ORGANIC		NOT RATED
10.14	3	ORG				VERY POOR		NEARLY LEVEL	ORGANIC	ORGANIC		NOT RATED
3.67	4	NHO				POOR	T	VGENTLE SLOPE	ORGANIC	ORGANIC	FORESTED	UNSUITABLE
4.67	5	ORG				VERY POOR		VGENTLE SLOPE	ORGANIC	ORGANIC		NOT RATED
9.94	6	ORG				VERY POOR		VGENTLE SLOPE	ORGANIC	ORGANIC		NOT RATED
7.46	7	ORG				VERY POOR		VGENTLE SLOPE	ORGANIC	ORGANIC	SCRUB VEG	NOT RATED
3.82	8	BAR				POOR	F	VGENTLE SLOPE			BARRENS	UNSUITABLE
4.00	9	BAR				POOR	T	VGENTLE SLOPE	ORGANIC	ORGANIC		UNSUITABLE
4.21	10	NHO				POOR	T	VGENTLE SLOPE	ORGANIC	ORGANIC		UNSUITABLE
8.92	11	CMK	1	12	10	MOD WELL		VGENTLE SLOPE	LOAM	LOAM	CUT OVER	FAIR
5.71	12	NHO		15	15	POOR	T	VGENTLE SLOPE	ORGANIC	SILT LOAM	FORESTED	UNSUITABLE
5.15	13	NHO	1	20	15	POOR		VGENTLE SLOPE	ORGANIC	ORGANIC	FORESTED	UNSUITABLE
2.77	14	CMK		10	10	MOD WELL	F	MODERATE SLOPE	LOAM	LOAM	CUT OVER	FAIR
12.72	15	CMK	1	15	10	MOD WELL	F	VGENTLE SLOPE	LOAM	LOAM	CUT OVER	FAIR
18.53	16	ORG				VERY POOR		LEVEL SLOPE	ORGANIC	ORGANIC		NOT RATED
3.45	17	CMK	1	10	20	MOD WELL	F	MODERATE SLOPE	LOAM	LOAM	FORESTED	FAIR
4.81	18	MCB				VERY POOR		VGENTLE SLOPE	ORGANIC	ORGANIC	SCRUB VEG	UNSUITABLE
5.22	19	CMK	1	15	10	MOD WELL	F	VGENTLE SLOPE	LOAM	LOAM	CUT OVER	FAIR
5.34	20	NHO	1	15	10	IMPERFECT		VGENTLE SLOPE	LOAM	LOAM	FORESTED	UNSUITABLE
0.93	21	NHO	1	15	15	POOR		VGENTLE SLOPE	ORGANIC	ORGANIC	FORESTED	UNSUITABLE
15.90	22	MKP				POOR		VGENTLE SLOPE	ORGANIC	SILT LOAM	SCRUB VEG	UNSUITABLE
10.88	23	MKP				POOR	T	VGENTLE SLOPE	ORGANIC	SILT LOAM	SCRUB VEG	UNSUITABLE
5.97	24	ADP	2	20	25	IMPERFECT	T	VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	CUT OVER	POOR
3.12	25	CMK	1	10	15	MOD WELL	F	VGENTLE SLOPE			CUT OVER	FAIR
26.25	26	CMK	1	10	15	MOD WELL		VGENTLE SLOPE	LOAM	LOAM	CUT OVER	FAIR
2.58	27	CMK		10	10	MOD WELL	F	VGENTLE SLOPE	LOAM	LOAM	CUT OVER	FAIR
6.18	28	CMK		15	10	MOD WELL	F	STRONG SLOPE	LOAM	LOAM	FORESTED	POOR
15.43	29	CMK	1	10	15	MOD WELL	F	VGENTLE SLOPE	LOAM	LOAM	CUT OVER	FAIR
2.06	30	NHO				POOR	T	VGENTLE SLOPE	ORGANIC	SILT LOAM	FORESTED	UNSUITABLE
9.39	31	MCB				POOR		VGENTLE SLOPE	ORGANIC	ORGANIC	SCRUB VEG	UNSUITABLE
3.16	32	ADP	1	15	15	MOD WELL	F	GENTLE SLOPE	LOAM	SILT LOAM	CUT OVER	FAIR
18.57	33	MKP				VERY POOR	T	VGENTLE SLOPE	ORGANIC	ORGANIC	SCRUB VEG	UNSUITABLE
7.04	34	ADP	1	10	15	IMPERFECT		VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	FORESTED	FAIR
3.12	35	NHO	1	15	20	POOR		VGENTLE SLOPE	ORGANIC	ORGANIC	SCRUB VEG	UNSUITABLE
5.68	36	WRR	1	10	15	IMPERFECT		VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	CUT OVER	FAIR
51.60	37	MKP				POOR		VGENTLE SLOPE	ORGANIC	ORGANIC	SCRUB VEG	UNSUITABLE
2.47	38	CMK	0 1	10	15	MOD WELL		VGENTLE SLOPE	LOAM	LOAM		FAIR
15.02	39	ADP	1	15	15	IMPERFECT		VGENTLE SLOPE		VERY FINE SAND LOAM	FORESTED	POOR
79.09	40	ADP	1	10	15	MOD WELL		VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	CUT OVER	FAIR
12.40	41	CMK						LEVEL SLOPE				FAIR
6.35	42	CMK		10	15	MOD WELL		VGENTLE SLOPE	LOAM	LOAM	CUT OVER	FAIR
5.83	43	CMK	1	10	15			VGENTLE SLOPE	LOAM	LOAM		FAIR
20.18	44	WRR	1	15	10			VGENTLE SLOPE	VERY FINE SAND	LOAM	CUT OVER	POOR
20.01	45	MKP				POOR	T	VGENTLE SLOPE	ORGANIC	ORGANIC	SCRUB VEG	UNSUITABLE
3.33	46	CMK	1	10	15	MOD WELL	F	VGENTLE SLOPE	LOAM	LOAM	CUT OVER	FAIR
2.03	47	CMK	1	10	10	MOD WELL	F	VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	CUT OVER	FAIR
2.95	48	CMK		10	15	MOD WELL	F	VGENTLE SLOPE	LOAM	LOAM	CUT OVER	FAIR
9.63	49	WRR	1	10	15	MOD WELL		VGENTLE SLOPE	LOAM	LOAM	CUT OVER	FAIR
3.03	50	CMK	1	10	15	MOD WELL	F	VGENTLE SLOPE	LOAM	VERY FINE SAND LOAM	FORESTED	FAIR

NOTE: SEE REPORT FOR DETAILS ON THE ABBREVIATIONS USED IN THIS LEGEND

2.76	51	NHO	1	15	15	POOR		VGENTLE SLOPE	ORGANIC	ORGANIC	FORESTED	UNSUITABLE
7.76	52	WATER										WATER
0.69	53	WATER										WATER
4.54	54	WRR		15	15	IMPERFECT		MOD. SLOPE	LOAM	LOAM		POOR
20.63	55	CMK		10	10	MOD WELL		VGENTLE SLOPE	LOAM	LOAM	CUT OVER	FAIR
23.65	56	NHO	1	15	15	POOR	T	VGENTLE SLOPE	ORGANIC	ORGANIC	SCRUB VEG	UNSUITABLE
40.47	57	NHO	1	15	15	POOR		VGENTLE SLOPE	ORGANIC	ORGANIC	FORESTED	UNSUITABLE
3.58	58	RX	1			MOD WELL		V.STRONG SLOPE			FORESTED	UNSUITABLE
4.68	59	ALV				IMPERFECT		LEVEL SLOPE				NOT RATED
0.97	60	NHO	1	15	15	POOR	T	VGENTLE SLOPE	ORGANIC	ORGANIC	SCRUB VEG	UNSUITABLE
0.36	61	ALV	40					V.STRONG SLOPE			FORESTED	NOT RATED
0.88	62	ALV		0	0			VGENTLE SLOPE				NOT RATED
6.95	63	CMK		5	7	MOD WELL	F	VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	ABANDONED	GOOD
1.82	64	WRR		10	10	IMPERFECT	F	VGENTLE SLOPE				FAIR
2.26	65	CMK		10	10	MOD WELL	F	MODERATE SLOPE	LOAM	LOAM	CUT OVER	FAIR
44.87	66	NHO				VERY POOR	F	VGENTLE SLOPE	ORGANIC	ORGANIC	SCRUB VEG	UNSUITABLE
27.52	67	ADP	1	15	10	IMPERFECT		VGENTLE SLOPE	SANDY LOAM	SANDY LOAM	CUT OVER	POOR
0.35	68	WATER										WATER
0.43	69	WATER										WATER
19.70	70	CMK	1	8	12	MOD WELL	F	VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	CUT OVER	FAIR
28.50	71	CMK	1	10	12	MOD WELL	F	VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	CUT OVER	FAIR
6.06	72	NHO	1	10	20	POOR	T	VGENTLE SLOPE	ORGANIC	LOAM		UNSUITABLE
0.16	73	WATER										WATER
10.66	74	CMK	1	12	15	MOD WELL		VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM		FAIR
21.63	75	CMK	1	10	12	MOD WELL		VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	CUT OVER	FAIR
10.21	76	MKP				POOR		VGENTLE SLOPE	ORGANIC	ORGANIC		UNSUITABLE
123.04	77	MKP	1			VERY POOR	T	VGENTLE SLOPE	ORGANIC	ORGANIC	SCRUB VEG	UNSUITABLE
1.09	78	CMK	1	10		MOD WELL		VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	CUT OVER	FAIR
1.30	79	CMK	1	10	10	MOD WELL	F	VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	CUT OVER	FAIR
2.54	80	WRR	1	10	10	IMPERFECT	F	GENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	CUT OVER	FAIR
11.46	81	WRR	1	10	15	MOD WELL	F	VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	CUT OVER	POOR
13.18	82	CMK	1	10	15	MOD WELL	F	VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	CUT OVER	FAIR
2.11	83	CMK		5	15	MOD WELL	F	VGENTLE SLOPE			FORESTED	FAIR
8.89	84	CMK		3	7	MOD WELL		VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	ABANDONED	GOOD
9.28	85	NHO				POOR	T	VGENTLE SLOPE	ORGANIC	LOAM	SCRUB VEG	UNSUITABLE
4.51	86	NHO				POOR	T	VGENTLE SLOPE	ORGANIC		SCRUB VEG	UNSUITABLE
1.08	87	ALV						LEVEL SLOPE			SCRUB VEG	NOT RATED
79.51	88	ADP	1	10		MOD WELL	F	VGENTLE SLOPE	SANDY LOAM	SANDY LOAM	CUT OVER	FAIR
3.50	89	CMK	1	10		MOD WELL	F	VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM		FAIR
3.93	90	BAR						VGENTLE SLOPE	ORGANIC		BARRENS	UNSUITABLE
7.48	91	CMK	1	10	12	MOD WELL	F	VGENTLE SLOPE	VERY FINE SAND	LOAM VERY FINE SAND LOAM	CUT OVER	FAIR
4.43	92	CMK				MOD WELL		LEVEL SLOPE				FAIR
0.44	93	WATER										WATER

NOTE: SEE REPORT FOR DETAILS ON THE ABBREVIATIONS USED IN THIS LEGEND

Appendix II

Explanation of Headers and Abbreviations

Used in the Soil Legend

EXPLANATION OF THE HEADERS USED IN THE EXTENDED LEGEND

DRAINAGE:

2 - Rapidly drained
3 - Well drained
4 - Moderately well drained
5 - Imperfectly drained
6 - Poorly drained
7 - Very poorly drained

SEEPAGE: T - True, F - False

STONINESS: Stones 25 to 60 cm in diameter or if flat 38 to 60 cm long - % of surface covered by stones.

Class	% Surface Covered	Distance (meters)
0 Nonstony	<0.01	>25
1 Slightly stony	0.01-0.1	8-25
2 Moderately stony	0.1-3	1-8
3 Very stony	3-15	0.5-1
4 Exceedingly stony	15-50	0.1-0.5
5 Excessively stony	>50	<0.1

ROCKINESS: % of surface occupied by exposed bedrock.

Class	% Surface Covered	Distance (meters)
0 Nonrocky	<2	>100
1 Slightly rocky	2-10	35-100
2 Moderately rocky	10-25	10-35
3 Very rocky	25-50	3.5-10
4 Exceedingly rocky	50-90	<3.5
5 Excessively rocky	>90	

BOULDERS: Rock fragments more than 60 cm in diameter or if flat more than 60 cm long - % of surface covered by boulders.

Class	% Surface Covered	Distance (meters) when >60 cm	>120 cm
0 Nonbouldery	<0.01	>60	>120
1 Slightly bouldery	0.01-0.1	20-60	37-120
2 Moderately bouldery	0.1-3	3-20	6-37
3 Very bouldery	3-15	1-3	2-6
4 Exceedingly bouldery	15-50	0.2-1	0.5-2
5 Excessively bouldery	>50	<0.2	<0.5

COBBLES: Rock fragments 7.5 to 25 cm in diameter or if flat 15 to 38 cm long. Cobbles are expressed as % by volume of the total soil in the upper 25 cm of mineral soil.

Class	Cobbles % by volume (7.5-25 cm)	Coarse gravel & cobbles % by volume (2.5-25 cm)
0 Noncobbly	<0.01%	<5%
1 Slightly cobbly	0.01-1%	6-10%
2 Moderately cobbly	2-5%	11-20%
3 Very cobbly	6-15%	21-40%
4 Exceedingly cobbly	16-30%	41-60%
5 Excessively cobbly	>30%	>61%

SLOPE TYPE: S - Simple, C - Complex

SLOPE CLASS

level	0-0.5%
nearly level	0.5-2.5%
very gently sloping	2-5%
gently sloping	6-9%
moderately sloping	10-15%
strongly sloping	16-30%
very strongly sloping	31-45%
extremely sloping	46-70%
steeply sloping	71-100%
very steeply sloping	>100%

TEXTURE

TEXTURAL CLASSES

1 coarse sand
2 sand
3 fine sand
4 very fine sand
5 loamy coarse sand
6 loamy sand
7 loamy fine sand
9 coarse sandy loam
10 sandy loam
11 fine sandy loam
14 silt loam
15 silt
16 sandy clay loam
19 clay loam
20 silty clay loam
21 sandy clay
22 silty clay
23 clay
13 loam
25 organic