

APPENDIX III

Preliminary Report, on Soil and Subsoil, collected near Saskatoon or Service-berry lake at the west end of the Grande prairie, Lat., 55° 15', Long, 119° 13' Peace River District, by Prof. Frank T. Shutt.

Surface Soil.— A heavy clay loam, but containing a small percentage of fine sand black or very dark brownish-black, from presence of humus (vegetable matter). As received, in the air-dried condition, it was in lumps and powder, the former, while not readily friable, could not be considered refractory. It had all the appearances of a fertile loam, and one that would prove suitable for the majority of farm crops, provided it were deep enough.*

It was found to have a very slightly acid reaction. Tested for alkali, only traces of common salt were found, though careful search for injurious sodium and magnesium compounds was made. A qualitative examination for lime, showed that the soil was by no means deficient in this element. A partial analysis of the air-dried sample furnished the following data:

	Per cent.
Moisture	3.44
Organic and volatile matter	11.82
Nitrogen	.471

We have in these results ample and emphatic evidence as to the richness of this soil in humus compounds and nitrogen, equalling in these respects much of the fertile prairie soil of Manitoba and the Northwest Territories. Time has not allowed any determination of the potash and phosphoric acid, but judging from past experience with soils of a similar humus and nitrogen content, this soil in all probability is well supplied with these constituents.

Subsoil :—This, as received, was in hard, exceedingly refractory lumps, of a greyish colour. Though in appearance and texture it was of an undesirable nature for mixing with the surface soil, analysis

* Mr. Macoun states that the surface soil is but 3 to 5 inches thick, resting without any gradual transition on the heavy subsoil of clay.