X-Ray Diffraction (XRD) Characterization of Soil/Clay Specimen

Prepared for

Susan Campbell

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Summary

The overall mineralogy of the glacial milk clay was found to be 39% muscovite (mica), 33% quartz, 17% chlorite, 8% feldspar and 3 to 4% kaolinite as determined by X-ray diffraction (XRD) on an air-dried powdered bulk sample as shown in Table 1 below. The XRD scan summary is included in the Appendix.

A slurry consisting of the glacial milk clay and deionized water was vigorously shaken in a sedimentation cylinder and then allowed to settle. The suspension was observed to persist for an extended period indicating significant clay content. The slurry pH was 8.85 SU.

Table 1. Mineralogy by bulk powder XRD (Wt. %).

Mineral	***Glacial Milk Clay***
Muscovite	39
Quartz	33
Chlorite	17
Feldspar	8
Kaolinite	3-4

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Appendix

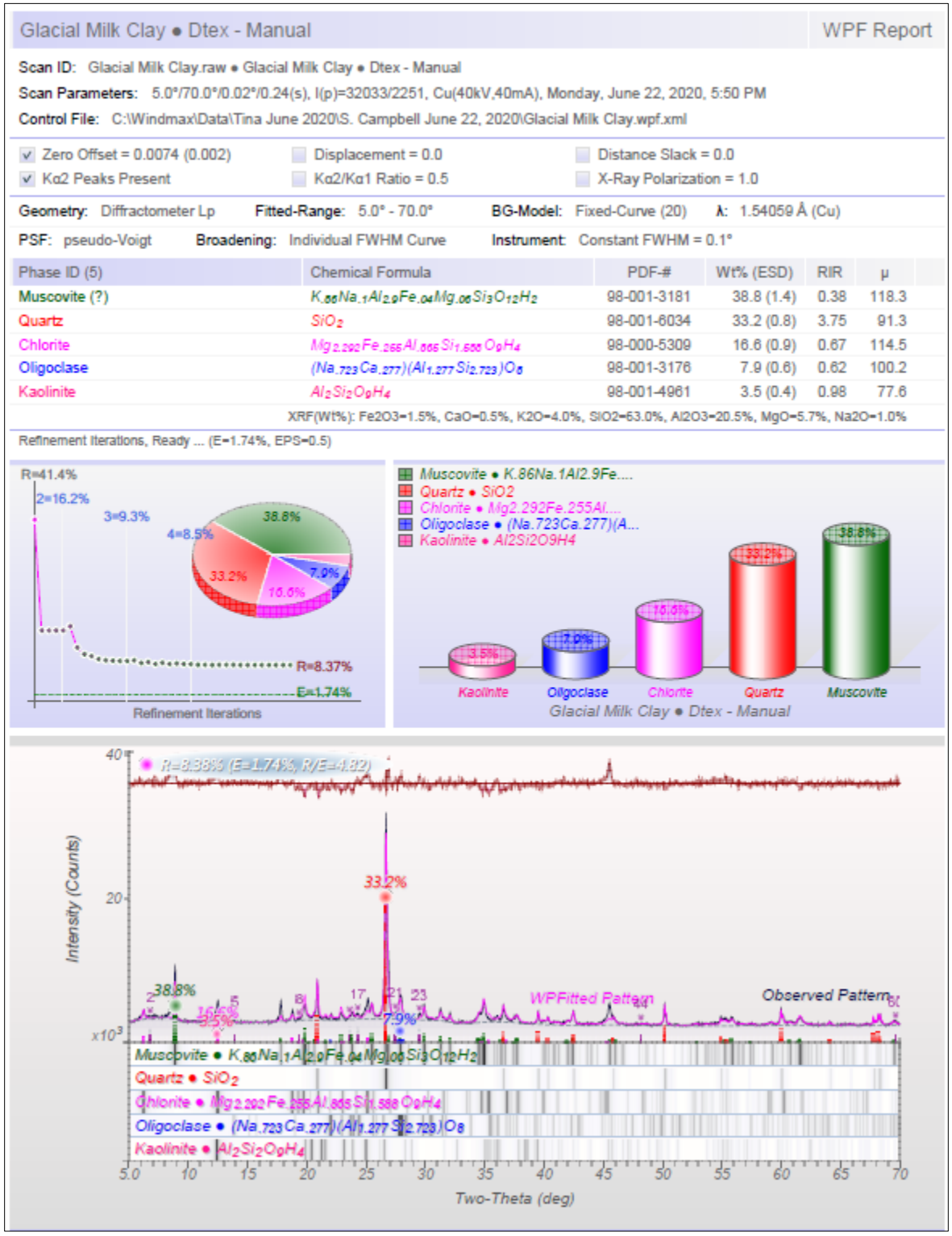

Figure 1. Bulk powder XRD scan and results for the glacial milk clay.