Appendix A. The elements, their lowest limits of detection, or LLD (wt.%), the crystal diffractometer used and counting times for EPMA analyses

Element	1-σ LLD (wt.%)	Crystal	Counting time (s)
Si	0.040	TAP [A]	20 sec Peak, 5 sec Background
Al	0.027	TAP	20 sec Peak, 5 sec Background
Mg	0.055	TAP	20 sec Peak, 5 sec Background
Na	0.050	TAP	20 sec Peak, 5 sec Background

[A] TAP, Thallium Acid Phthalate.

Appendix B. Comparison of major XRD peaks of saponite synthesized in this study with those of the saponite 15 Å standard (PDF-00-013-0086)*

Mg-saponite Standard, PDF-00-020-0964			Saponite, Synthesized in this study		
hkl	d-spacing, Å	Intensity	hkl	d-spacing, Å	Intensity**
(100)	4.57	50	(100)	4.572	166
(004)	3.67	60	(004)	3.666	214
(111)	2.58	20	(111)	2.577	242
(006)	2.42	20	(006)	2.421	217
(007)	2.09	30	(007)	2.089	82
(300)	1.53	90	(300)	1.534	111
(221)	1.32	40	(221)	1.322	76

*The major peaks with intensity ≥20 in the standard are compared with those in the synthetic saponite. The significant numbers presented for d-spacing of the synthesized saponite are one more than those presented in the PDF database for comparison. It is obvious that the synthesized saponite has the identical d-spacings when its significant numbers are rounded as the same significant numbers as the PDF database does.

** Experimental relative intensity