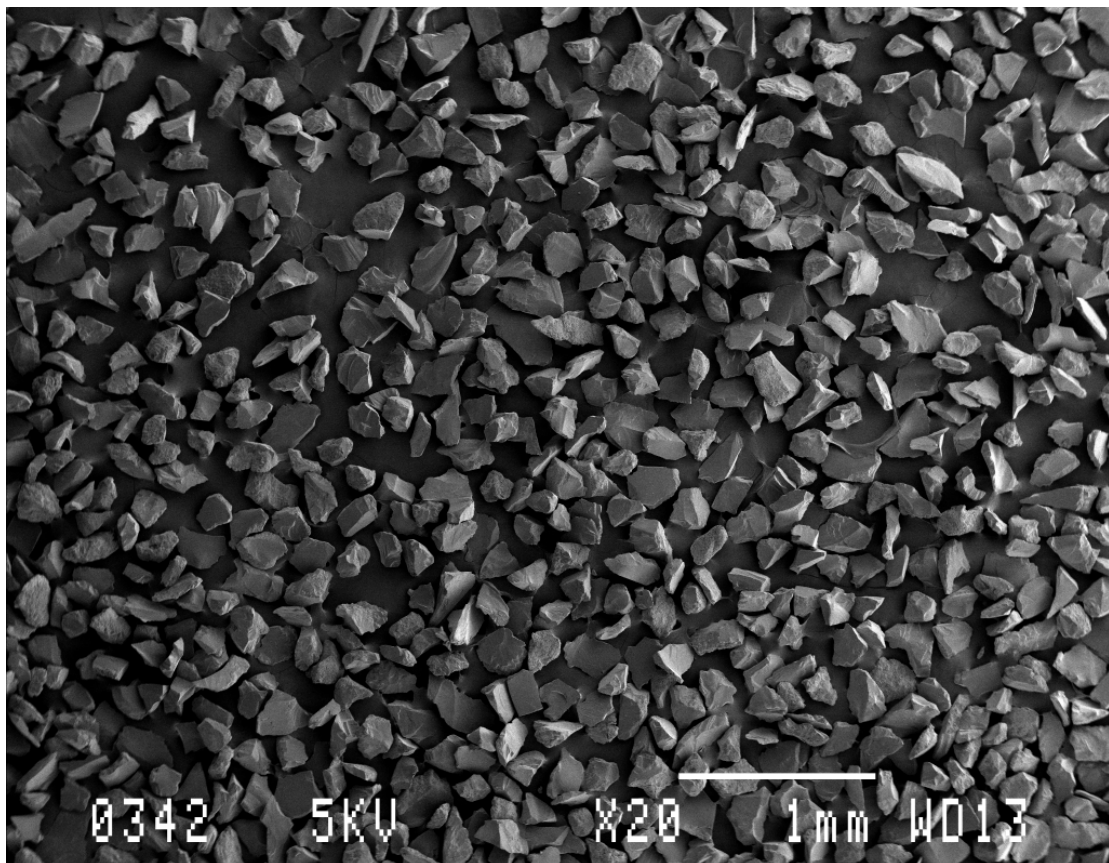
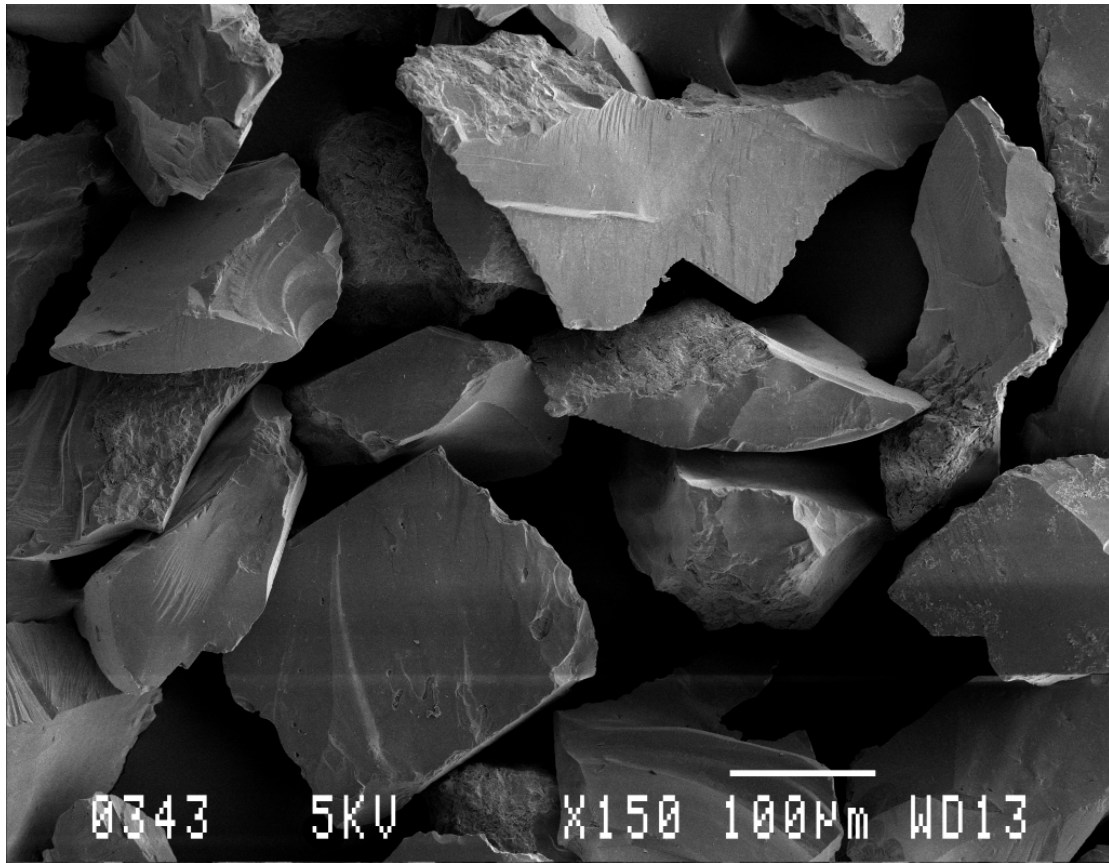


## **APPENDIX A**

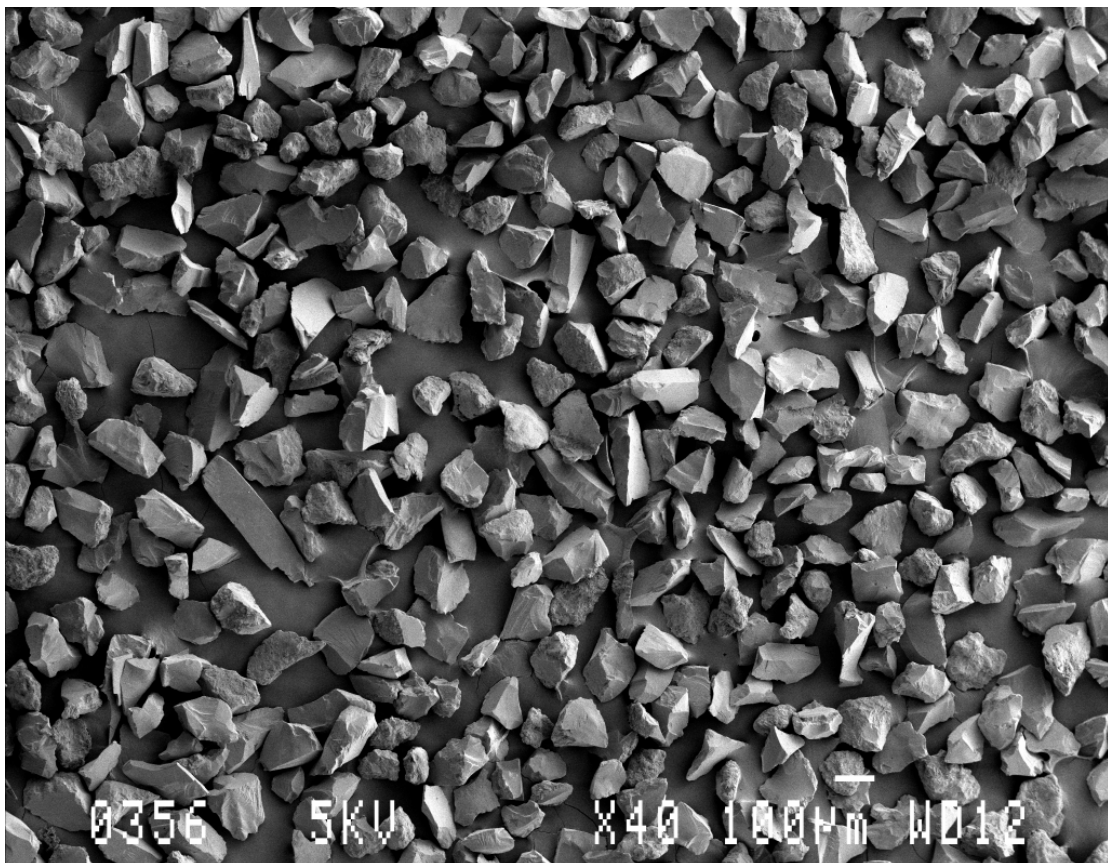
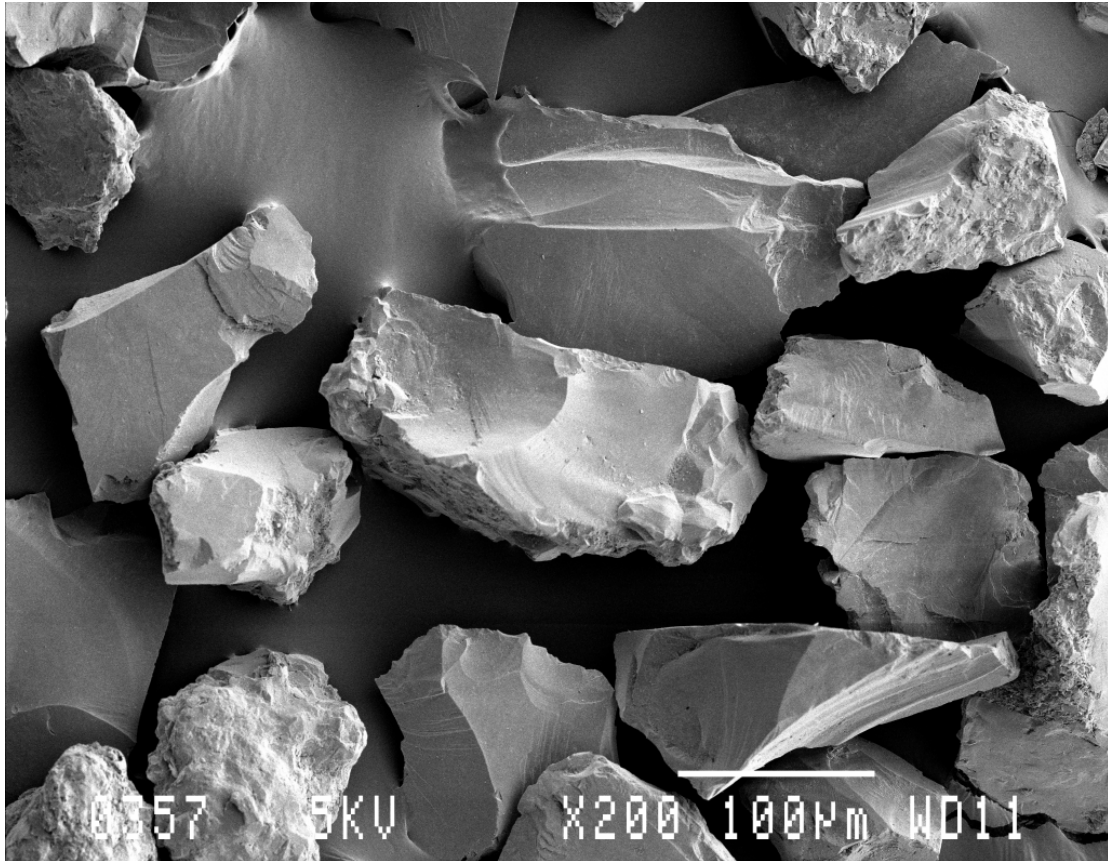
# **SCANNING ELECTRON MICROGRAPHS AND QUANTITATIVE ANALYSIS OF SOIL SPECIMEN**

Material retained on 150  $\mu\text{m}$  sieve.



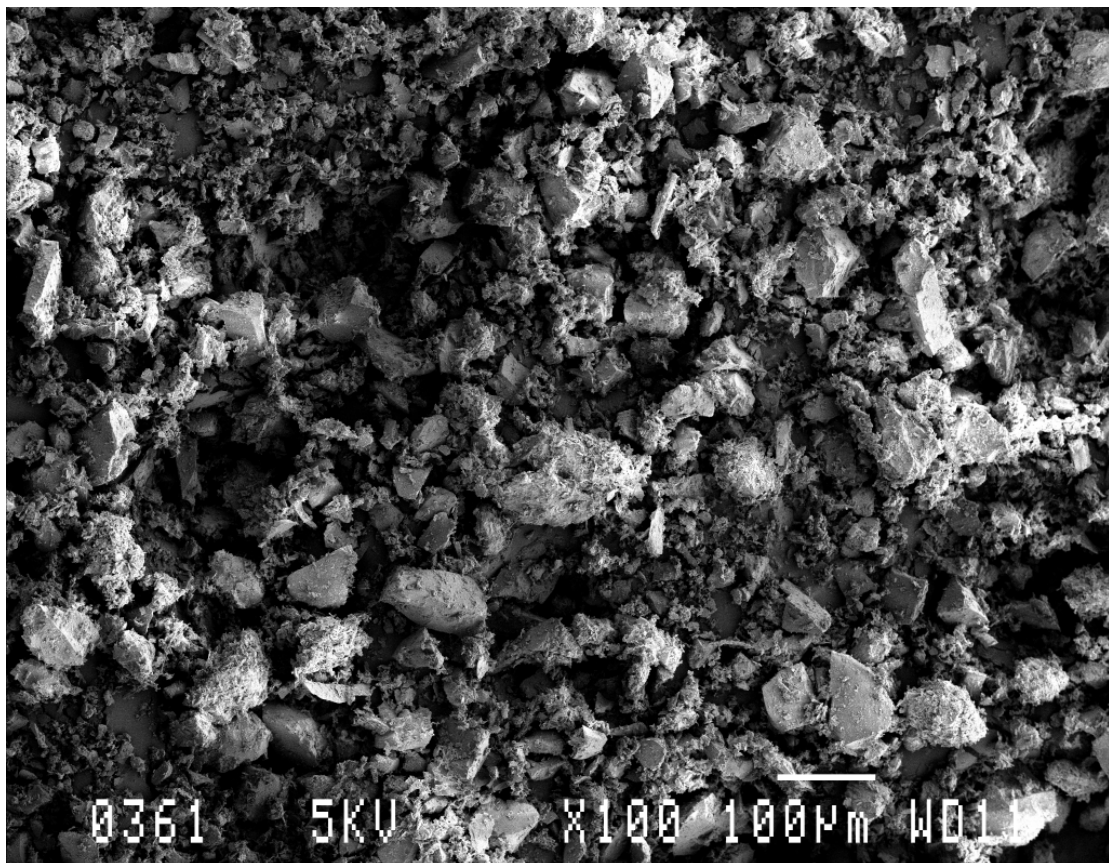
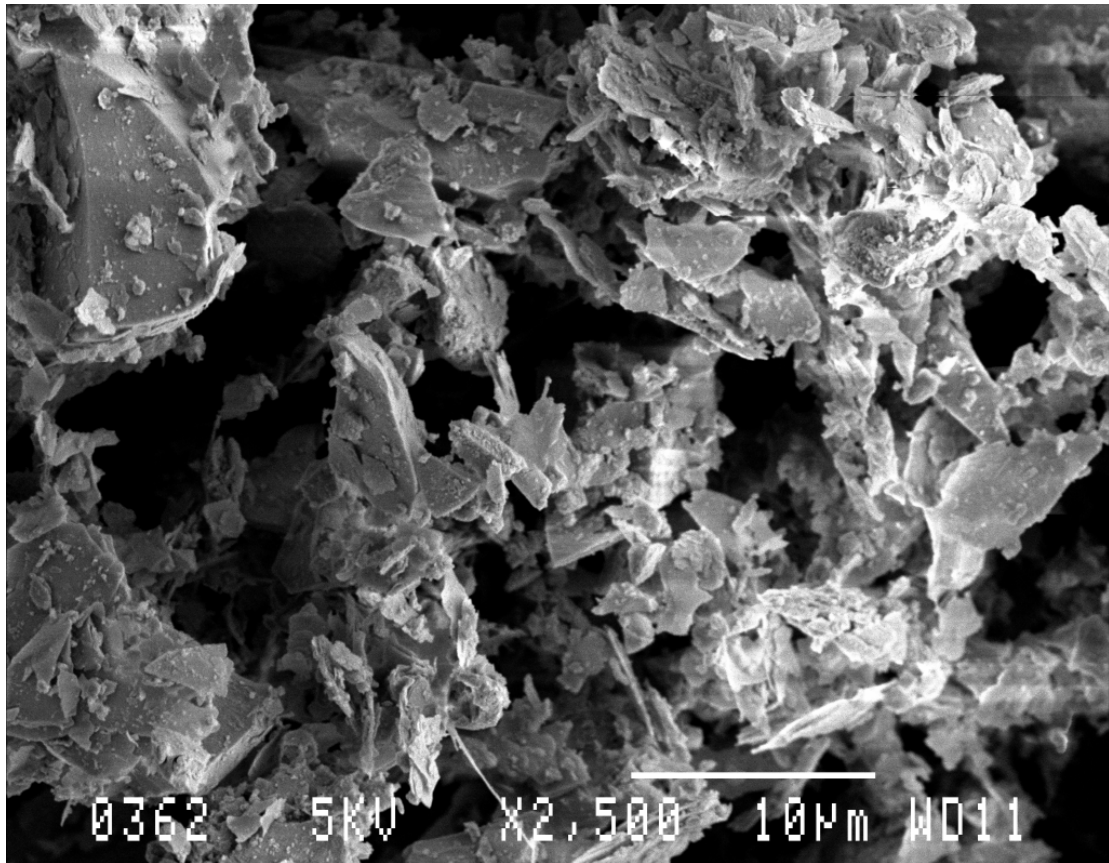


Material retained on 75  $\mu\text{m}$  sieve.



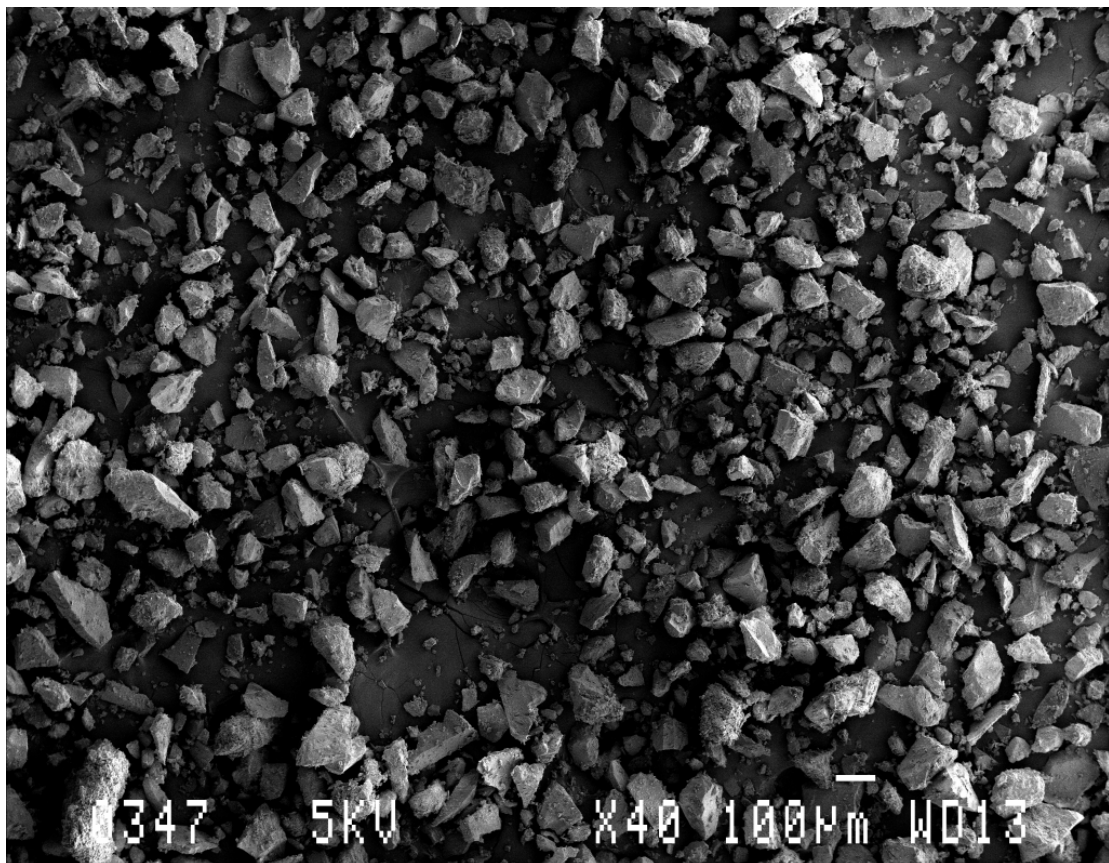
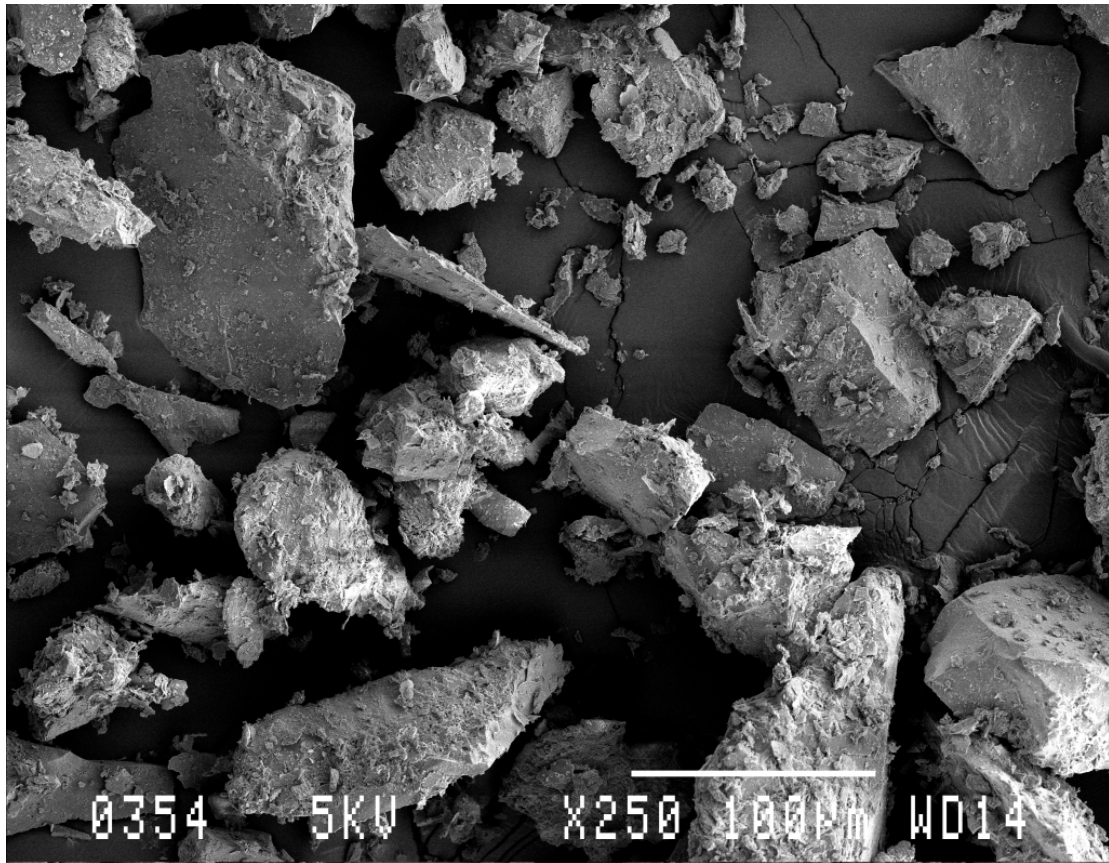


Fines (material passing 75  $\mu\text{m}$  sieve).

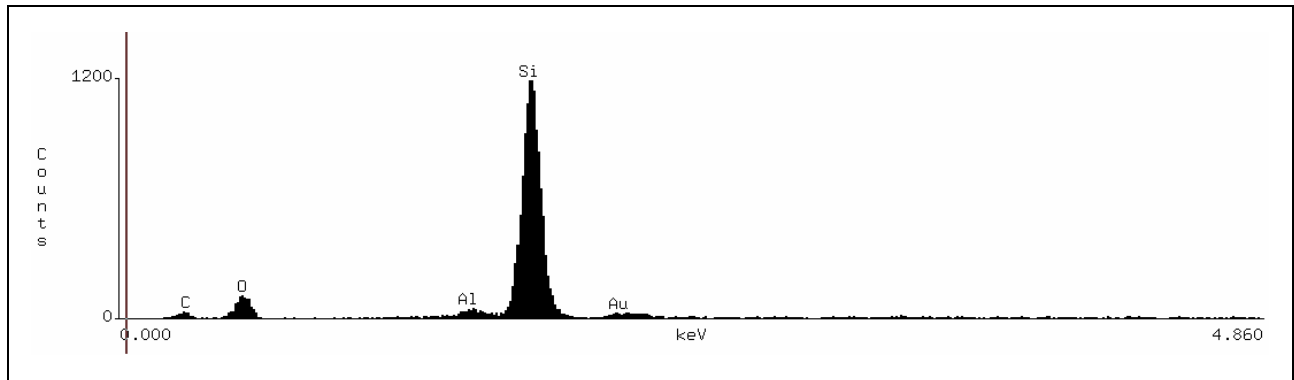




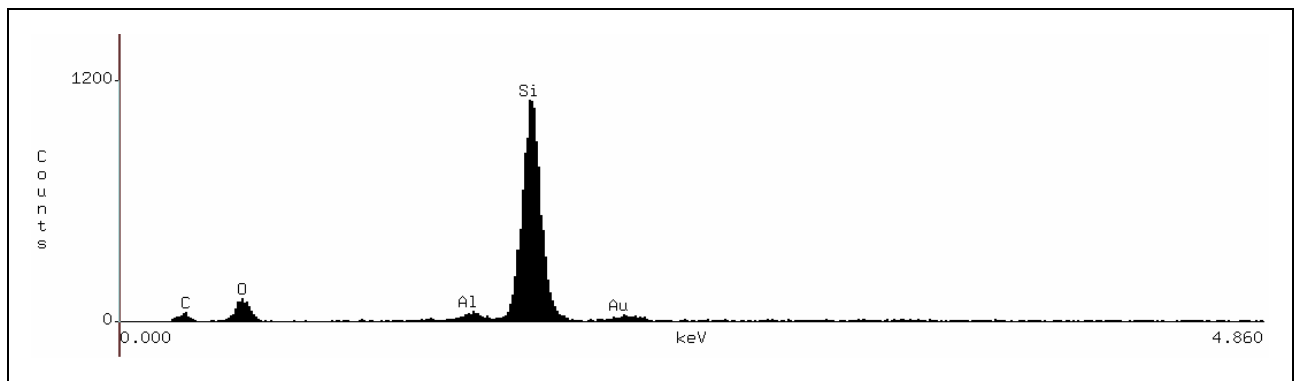
Sample material (including fine and coarse particles).



Sample retained on 150 µm sieve-A



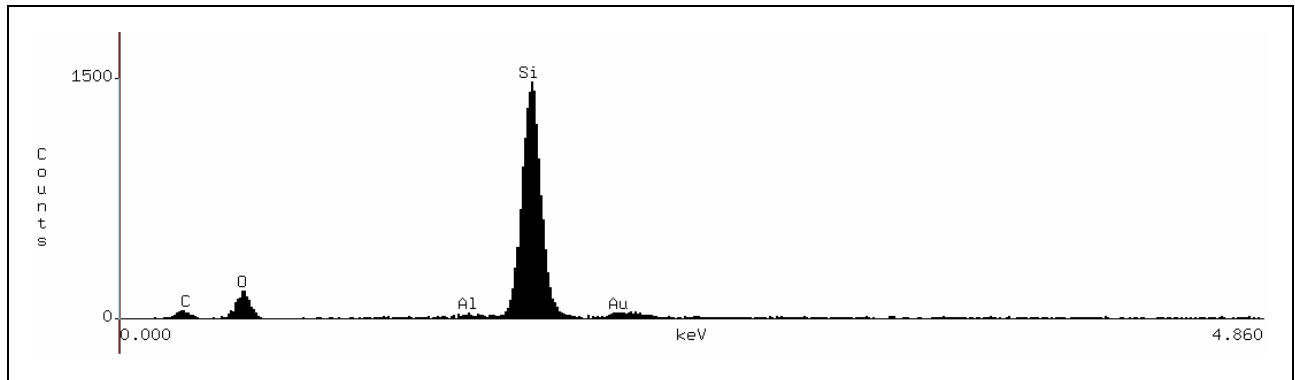
Sample retained on 150 µm sieve-B



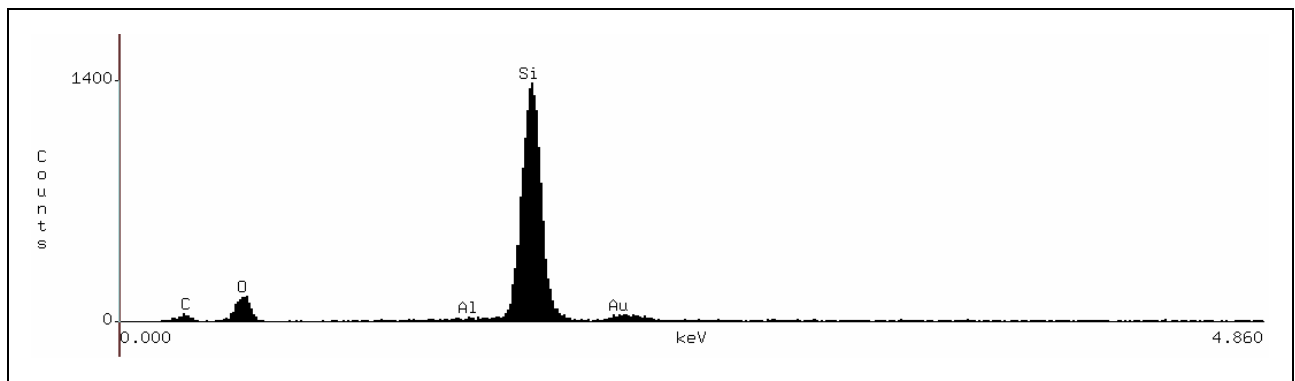
Quantitative Analysis

Sample 150A						Sample 150B				
chi-sqd	1.05		chi-sqd	1.14						
live time	100 s		live time	100 s						
Acc. Voltage	20 KeV		Acc. Voltage	20 KeV						
Take off angle	35 °		Take off angle	35 °						
Dead time	11.993		Dead time	11.781						
Element	k-ratio	ZAF	Atom	Element	wt %	k-ratio	ZAF	Atom	Element	wt %
	(calc)		%	wt %	error	(calc)		%	wt %	error
Al-k	0.0211	1.024	2.25	2.16	± 0.20	0.0215	1.024	2.29	2.20	± 0.20
Si-k	0.9472	1.033	97.75	97.84	± 1.01	0.0946	1.034	97.71	97.80	± 1.05
Total			100.0	100.0				100.0	100.0	

Sample retained on 75 µm sieve-A



Sample retained on 75 µm sieve-B

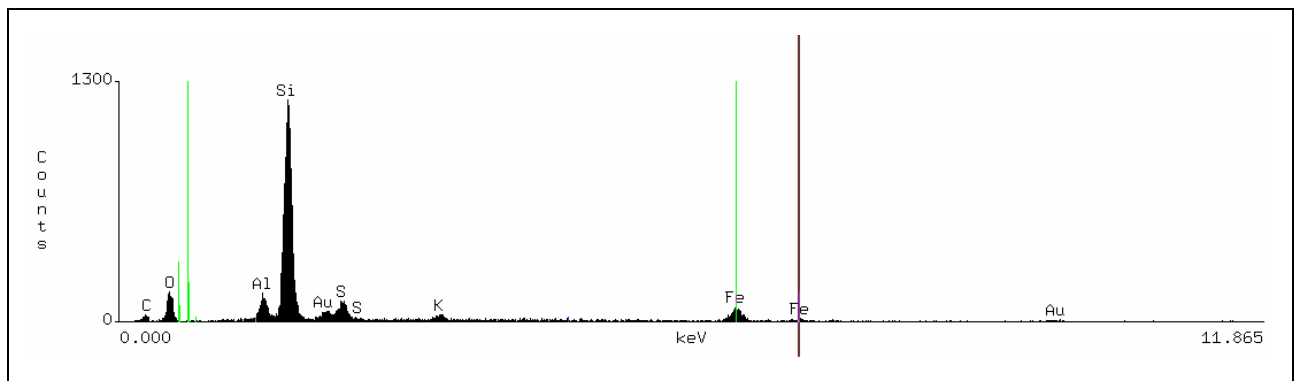


Quantitative Analysis

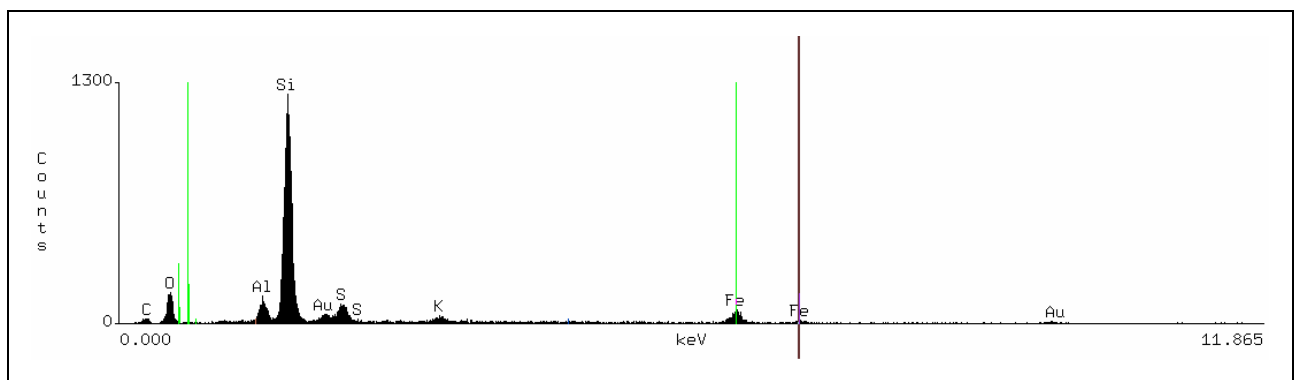
Sample 75A					Sample 75B				
chi-sqd		0.87			chi-sqd		1.19		
live time		100 s			live time		100 s		
Acc. Voltage		20 KeV			Acc. Voltage		20 KeV		
Take off angle		35 °			Take off angle		35 °		
Dead time		11.561			Dead time		11.957		

Element	k-ratio	ZAF	Atom	Element	wt %	k-ratio	ZAF	Atom	Element	wt %
	(calc)		%	wt %	error	(calc)		%	wt %	error
Al-k	0.0026	1.019	0.27	0.26	± 0.15	0.0048	1.019	0.51	0.49	± 0.15
Si-k	0.9935	1.004	99.73	99.74	± 0.90	0.8978	1.007	99.49	99.51	± 0.89
Total			100.0	100.0				100.0	100.0	

**Fines-A**



**Fines-B**



**Quantitative Analysis**

Fines-A					Fines-B				
chi-sqd	1.16				chi-sqd	1.04			
live time	100 s				live time	100 s			
Acc. Voltage	20 KeV				Acc. Voltage	20 KeV			
Take off angle	35 °				Take off angle	35 °			
Dead time	11.543				Dead time	11.738			

Element	k-ratio	ZAF	Atom %	Element	wt %	k-ratio	ZAF	Atom %	Element	wt %
	(calc)		%		wt %	(calc)		%		wt %
Al-k	0.0443	1.358	6.98	6.01	± 0.32	0.0409	1.332	6.29	5.45	± 0.20
Si-k	0.4984	1.280	71.20	63.79	± 0.72	0.5185	1.255	72.10	65.08	± 0.71
Fe-k	0.1539	1.127	9.74	17.34	± 0.30	0.1381	1.13	8.70	15.61	± 0.30
K -k	0.0207	1.343	2.23	2.79	± 0.23	0.0225	1.35	2.42	3.04	± 0.45
S -k	0.0574	1.755	9.85	10.07	± 0.74	0.0615	1.785	10.50	10.82	± 0.73
Total			100.0	100.0				100.0	100.0	