Well		7	Shelburne G-29											
Stratigraphic Unit	S	ion	Shortland Shale Formation											
Age			L-Cretaceous											
Depth (m)			3635											
wt% "heavies":	10.8		4.83											
% detrital heavy minerals in	0.4	2			2.1	4								
"heavies"	8.4	2			2.14									
Detrital Heavy Minerals	Cour	nt		Total by	Cou	nt		Total by						
Detrital Heavy Willerais	analysis	BSE	%	mineral	analysis	BSE	%	mineral						
Amphibole	4		1.2	4										
Apatite	3	_	0.9	3	7	_	9.3	7						
Garnet	2		0.6	2										
Ilmenite	1	_	0.3	1	49	_	65.4	49						
Magnetite	14	320	96.7	334										
Aluminium Spinel		_		—	1	_	1.3	1						
Chromium Spinel		_		—	3	_	4.0	3						
Tourmaline	1		0.3	1	12		16.0	12						
Zircon		—			3		4.0	3						
Total by grains of heavy minerals within same depth	25	320	_	345	75	_		75						
Total (heavy only)	345	5			75									
Total (heavy+light+diagenetic)	409	6			3497									

Table 4.3: Modal composition for detrital heavy minerals assemblage for Chinampas O-37 and Shelburne G-29

Note: "Heavies" include detrital hevy and light minerals, as well as diagenetic minerals. Wt% of heavies is percent of total sample with grains >250 and <53 μ m. Grains counted and identified from chemical analyses and in backscattered electon images (BSE). % detrital heavy minerals "heavies" is based on grain counts (both chemical analyses and BSE) and represents the total counts of detrital heavy minerals within the total count of grains (heavy+light+diagenetic) in the whole sample.

Well	Mohawik B-93																											
Stratigraphic Unit	Roseway Equivalent																N	lohawk	Formation	1								
Age		Lower Cretaceous											Upp	er Jura	ssic							Mide	tle Juras	ssic				
Depth (m)	1	1423.4			1577.33	1	1650.48			1743.45			1787.64			1892.8			1	932.43			1993.41		2058.92			
wt% "heavies":		16.28			2.78			8			6.55			1.71			3.14				3.18		5.72					
% detrital heavy minerals in "heavies"		1.34		5.92			21.46			3.95			5.94			16.23			13.06				5.21					
Detritel Heaver Minerale	Count			Count				Count			Count			Count			Count			Count			Count			Count		
Detrital Heavy Minerals	analysis	BSE	%	analysi	s BSE	%	analysis	BSE	%	analysis	BSE	%	analysis	BSE	%	analysis	BSE	%	analysis	BSE	%	analysis	BSE	%	analysis	BSE	%	
Apatite	3	-	14.3	1	_	1.0	_	1	0.3	_	-	-	_	-	_	1	-	0.5	2	-	0.7	5	_	4.1	3	-	2.4	
Garnet	_	_	_	2	1	3.0	1	4	1.7	1	_	1.4	_	_	_	4	_	2.2	6	9	5.5	10	5	13.9	2	_	1.6	
limenite	5	_	23.8	35	33	68.0	18	239	85.5	13	46	80.8	15	58	72.3	35	104	76.8	64	155	81.2	12	61	59.8	17	84	81.5	
Magnetite	2	_	9.5	1	_	1.0	_	_	_	-	_	_	_	_	_	-	_	-	_	_	_	_	_	-	3	_	2.4	
Monazite	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	2	_	1.1	_	_	_	_	_	_	_	_	_	
Rutile	_	_	_	_	2	2.0	_	2	1.0	_	_	_	_	_	_	_	_	_	_	2	0.7	_	_	_	_	_	_	
Aluminium Spinel	_	_	_	_	_	-	_	_	_	_	-	-	_	_	_	_	-	-	1	_	0.4	_	_	_	_	_	_	
Staurolite	_	_	_	1	2	3.0	4	1	1.7	1	3	5.5	6	1	6.9	_	_	_	1	7	3.0	1	4	4.1	5	1	4.8	
Tourmaline	1	_	4.8	6	1	7.0	22	4	8.8	6	2	11.0	7	_	6.9	13	22	19.4	4	12	5.9	15	2	13.9	5	_	4.0	
Xenotime	_	_	_	_	_	_	1	_	0.3	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	
Zircon	10	-	47.6	11	4	15.0	1	1	0.7	-	1	1.4	14	-	13.9	-	-	-	1	6	2.6	3	4	5.7	2	2	3.2	
Total by grains of heavy minerals within same depth	21	-	_	57	43	-	47	252	_	21	52	-	42	59	_	55	126		79	191	_	46	76	-	37	87	-	
Total (heavy only)	21	1		1	00		29	299			73			101			1		270			122			124			
Total heavy+light+diagenetic	156	13	3 1688				139	93		184	1845			1700			1115			2067			85		2380			

Table 4.4 Modal composition for detrital heavy minerals assemblage from Mohawk B-93

Note: "Heavies" include detrital hevy and light minerals, as well as diagenetic minerals. Wt% of heavies is percent of total sample with grains >250 and <53 µm. Grains counted and identified from chemical analyses and in backscattered electon images (BSE). % detrital heavy minerals "heavies" is based on grain counts (both chemical analyses and BSE) and represents the total counts of detrital heavy minerals within the total count of grains (heavy+light+diagenetic) in the whole sample.

Well		Mohican I-100																									
Stratigraphic Unit	Logan	Canyo	n Fm	U Mis	ssisauga	Fm	M Mis	sisauga	a Fm	Roseway Equivalent							Abenaki Fm			ohican Fr	n						
Age							U-Jurassic						Middle Jurassic			Middle Jurasic			Midd	lle Juras	sic	I-Jurassic					
Depth (m)	1	798.32	2 2203.7			2389.63				2584.7		2	2685.28			3474.72			3692.42		1	3852.67			4206.24		
wt% "heavies":		8.96			3.6		4.81			4.08			3.72			1.11			8.29			3.42			5.15		
% detrital heavy minerals in "heavies"		1.44			3.67		0.74			4.64			4.15		10.3		62.3			12.85			2.33				
Detrital Heavy Minorals	Count		Count		Count		Count			Count		Count		Count			Count			Count							
Detrital Heavy Minerals	analysis	BSE	%	analysis	BSE	%	analysis	BSE	%	analysis	BSE	%	analysis	BSE	%	analysis	BSE	%	analysis	BSE	%	analysis	BSE	%	analysis	BSE	%
Andalusite	1	_	2.9	_	-	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	1	_	0.4	_	_	_
Apatite	_	_	_	1	_	0.9	_	_	_	_	_	_	1	_	1.2	3	_	4.1	_	12	9.9	1	_	0.4	_	_	_
Garnet	_	_	_	9	_	7.8	1	_	5.2	1	_	0.9	1	1	2.4	1	_	1.4	_	_	_	8	35	16.4	_	_	_
Ilmenite	22	3	73.6	53	20	62.9	7	1	42.1	48	54	88.6	49	9	68.2	45	_	60.9	_	_	_	43	114	59.9	17	_	81.0
Monazite	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	2	_	2.7	_	12	9.9	2	_	0.8	_	_	_
Rutile	_	_	_	6	_	5.0	_	_	_	_	_	_	_	_	_	_	_	_	_	85	70.3	_	_	_	_	_	_
Aluminium Spinel	_	_	_	3	_	2.6	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
Chromium Spinel	_	_	_	1	_	0.9	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_	_
Staurolite	2	1	8.8	1	_	0.9	1	_	5.2	_	_	_	_	1	1.2	_	_	_	_	1	0.8	_	5	1.9	_	_	_
Tournaline	3	_	8.8	8	_	6.9	8	_	42.1	8	_	7.0	4	4	9.4	16	_	21.7	_	4	3.3	13	23	13.7	2	_	9.5
Zircon	1	1	5.9	14	_	12.1	1	_	5.2	3	1	3.5	14	1	17.6	7	_	9.5	_	7	5.8	11	6	6.5	2	_	9.5
Total by grains of heavy minerals within same depth	29	5	_	96	20	_	18	1	_	60	55	_	69	16	_	74	_	_	_	121	_	79	183		21	-	
Total (heavy only)	34	1		11	6		19)		115			85	85			1		12	1		26	2		2	1	
Total (heavy+light+diagenetic)	c) 2358			319	95		2535			24	2478			2044			8		2038								

Table 4.5 Modal composition for heavy minerals assemblage from Mohican I-100

Note: "Heavies" include detrital hevy and light minerals, as well as diagenetic minerals. Wt% of heavies is percent of total sample with grains >250 and <53 µm. Grains counted and identified from chemical analyses and in backscattered electon images (BSE).

% detrital heavy minerals "heavies" is based on grain counts (both chemical analyses and BSE) and represents the total counts of detrital heavy minerals within the total count of grains (heavy+light+diagenetic) in the whole sample. * Data for Mohican Formation (depth 3692.42 m) is taken from Li et al. (2012)

Appendix 1-1 Lithologic description of conventional core1 from Moheida P-15 well



Figure 1-1.1: Core1, box 1A, interval 2561.84 - 2562.54 m.



Figure 1-1.2: Core1, box 1B, interval 2562.63 - 2563.21 m.



Figure 1-1.3: Core1, box 2A, interval 2563.39 - 2563.88 m.



Figure 1-1.4: Core1, box 2B, interval 2564.10 - 2564.40 m.

Appendix 1-2 Lithologic description of conventional core2 from Moheida P-15 well



Figure 1-2.1: Core2, box 1A, interval 3305.58 - 3306.28 m.



Figure 1-2.2: Core2, box 1B, interval 3306.38 - 3307.04 m.



Figure 1-2.3: Core2, box 2A, interval 3307.04 - 3307.75 m.



Figure 1-2.4: Core2, box 2B, interval 3307.90 - 3308.52 m.



Figure 1-2.5: Core2, box 3A, interval 3308.62 - 3309.27 m.



Figure 1-2.6: Core2, box 3B, interval 3309.32 - 3309.97 m.



Figure 1-2.7: Core2, box 4A, interval 3310.17 - 3310.70 m.

Appendix 1-3 Lithologic description of conventional core3 from Moheida P-15 well



Figure 1-3.1: Core3, box 1A, interval 3743.62 - 3744.25 m.



Figure 1-3.2: Core3, box 1B, interval 3744.25 - 3744.95 m.



Figure 1-3.3: Core3, box 2A, interval 3744.95 - 3745.56 m.



Figure 1-3.4: Core3, box 2B, interval 3745.56 - 3746.72 m.



Figure 1-3.5: Core3, box 3A, interval 3746.82 - 3747.42 m.



Figure 1-3.6: Core3, box 3B, interval 3743.42 - 3748.12 m.



Figure 1-3.7: Core3, box 4A, interval 3748.12 - 3748.82 m.



Figure 1-3.8: Core3, box 4B, interval 3748.82 - 3749.52 m.



Figure 1-3.9: Core3, box 5A, interval 3749.58 - 3750.28 m.



Figure 1-3.10: Core3, box 5B, interval 3720.28 - 3750.92 m.



Figure 1-3.11: Core3, box 6A, interval 3750.92 - 3751.63 m.



Figure 1-3.12: Core3, box 6B, interval 3751.63 - 3752.33 m.



Figure 1-3.13: Core3, box 7A, interval 3752.33 - 3753.03 m.



Figure 1-3.14: Core3, box 7B, interval 3753.03 - 3753.82 m.



Figure 1-3.15: Core3, box 8A, interval 3753.82 - 3754.40 m.



Figure 1-3.16: Core3, box 8B, interval 3754.40 - 3755.00 m.



Figure 1-3.17: Core3, box 9A, interval 3755.20 - 3755.89 m.



Figure 1-3.18: Core3, box 9B, interval 3755.89 - 3756.59 m.



Figure 1-3.19: Core3, box 10A, interval 3756.59 - 3757.30 m.


Figure 1-3.20: Core3, box 10B, interval 3757.30 - 3757.97 m.



Figure 1-3.21: Core3, box 11A, interval 3758.04 - 3758.63 m.



Figure 1-3.22: Core3, box 11B, interval 3758.67 - 3759.30 m.



Figure 1-3.23: Core3, box 12A, interval 3759.37 - 3760.02 m.

Appendix 2-1 Lithologic description of conventional core1 from Mohican I-100 well



Figure 2-1.1: Core1, box 1A, interval 2524.92 - 2525.40 m.



Figure 2-1.2: Core1, box 1B, interval 2525.42 - 2525.97 m.



= sample obtained for polished thin sectionFigure 2-1.3: Core1, box 2A, interval 2525.98 - 2526.55 m.



Figure 2-1.4: Core1, box 2B, interval 2526.59 - 2527.15 m.



Figure 2-1.5: Core1, box 3A, interval 2527.08 - 2527.63 m.



Figure 2-1.6: Core1, box 3B, interval 2527.64 - 2528.34 m.



Figure 2-1.7: Core1, box 4A, interval 2528.37 - 2528.62 m.



Figure 2-1.8: Core1, box 4B, interval 2528.59 - 2529.12 m.



= sample obtained for polished thin section

Figure 2-1.9: Core1, box 5A, interval 2529.14 - 2529.64 m.



Figure 2-1.10: Core1, box 5B, interval 2529.54 - 2530.14 m.



= sample obtained for polished thin sectionFigure 2-1.11: Core1, box 6A, interval 2530.14 - 2530.75 m.



Figure 2-1.12: Core1, box 6B, interval 2530.75 - 2531.40 m.



Figure 2-1.13: Core1, box 7A, interval 2531.06 - 2531.52 m.



Figure 2-1.14: Core1, box 7B, interval 2531.45 - 2531.95 m.



Figure 2-1.15: Core1, box 8A, interval 2531.95 - 2532.13 m.



Figure 2-1.16: Core1, box 8B, interval 2531.77 - 2532.27 m.

Appendix 2-2 Lithologic description of conventional core2 from Mohican I-100 well



Figure 2-2.1: Core2, box 1A, interval 2532.60 - 2533.10 m.





Figure 2-2.2: Core2, box 1B, interval 2533.20 - 2533.75 m.



Figure 2-2.3: Core2, box 2A, interval 2533.82 - 2534.38 m.



Figure 2-2.4: Core2, box 2B, interval 2534.47 - 2534.91 m.



Figure 2-2.5: Core2, box 3A, interval 2535.02 - 2535.32 m.



Figure 2-2.6: Core2, box 3B, interval 2535.58 - 2536.13 m.



Figure 2-2.7: Core2, box 4A, interval 2536.00 - 2536.65 m.



= sample obtained for polished thin section

Figure 2-2.8: Core2, box 4B, interval 2536.65 - 2537.25 m.



Figure 2-2.9: Core2, box 5A, interval 2537.25 - 2537.72 m.



Figure 2-2.10: Core2, box 5B, interval 2537.72 - 2538.35 m.





Figure 2-2.12: Core2, box 6B, interval 2538.90 - 2539.45 m.



Figure 2-2.13: Core2, box 7A, interval 2539.45 - 2539.72 m.



Figure 2-2.14: Core2, box 7B, interval 2540.00 - 2540.50 m.


Figure 2-2.15: Core2, box 8A, interval 2540.56 - 2541.11 m.



= sample obtained for polished thin section

Figure 2-2.16: Core2, box 8B, interval 2541.11 - 2541.63 m.

Appendix 2-3 Lithologic description of conventional core3 from Mohican I-100 well



Figure 2-3.1: Core3, box 1A, interval 2838.91 - 2839.50 m.



Figure 2-3.2: Core3, box 1B, interval 2839.51 - 2840.10 m.



Figure 2-3.3: Core3, box 2A, interval 2840.10 - 2840.65 m.



Figure 2-3.4: Core3, box 2B, interval 2840.60 - 2841.15 m.



Figure 2-3.5: Core3, box 3A, interval 2841.21 - 2841.80 m.



Figure 2-3.6: Core3, box 3B, interval 2841.80 - 2842.40 m.



Figure 2-3.7: Core3, box 4A.



Figure 2-3.8: Core3, box 4B, interval 2842.86 - 2843.45 m.



Figure 2-3.9: Core3, box 5A, interval 2843.46 - 2844.05 m.



Figure 2-3.10: Core3, box 5B, interval 2844.05 - 2844.65 m.



Figure 2-3.11: Core3, box 6A, interval 2844.65 - 2845.18 m.



Figure 2-3.12: Core3, box 6B, interval 2845.18 - 2845.60 m.



Figure 2-3.13: Core3, box 7A, interval 2845.65 - 2846.25 m.



Figure 2-3.14: Core3, box 7B, interval 2846.30 - 2846.75 m.



Figure 2-3.15: Core3, box 8A, interval 2846.75 - 2847.18 m.



Figure 2-3.16: Core3, box 8B, interval 2847.15 - 2847.75 m.

Appendix 2-4 Lithologic description of conventional core4 from Mohican I-100 well



Figure 2-4.1: Core4, box 1A, interval 3220.21 - 3220.81 m.



Figure 2-4.2: Core4, box 1B, interval 3220.82 - 3221.38 m.



Figure 2-4.3: Core4, box 2A, interval 3221.38 - 3221.95 m.



Figure 2-4.4: Core4, box 2B, interval 3221.90 - 3222.52 m.



Figure 2-4.5: Core4, box 3A, interval 3322.41 - 3222.99 m.



Figure 2-4.6: Core4, box 3B, interval 3222.96 -3223.59 m.



Figure 2-4.7: Core4, box 4A, interval 3223.62 - 3224.03 m.



Figure 2-4.8: Core4, box 4B, interval 3224.00 - 3224.56 m.



Figure 2-4.9: Core4, box 5A, interval 3224.52 - 3224.98 m.



Figure 2-4.10: Core4, box 5B, interval 3224.90 - 3225.43 m.



Figure 2-4.11: Core4, box 6A, interval 3225.50 - 3226.03 m.



Figure 2-4.12: Core4, box 6B, interval 3226.00 - 3226.43 m.



Figure 2-4.13: Core4, box 7A, interval 3226.42 - 3226.84 m.



Figure 2-4.14: Core4, box 7B, interval 3226.85 - 3227.39 m.



Figure 2-4.15: Core4, box 8A, interval 3227.40 - 3227.79 m.



Figure 2-4.16: Core4, box 8B, interval 3227.77 - 3228.24 m.


Figure 2-4.17: Core4, box 9A, interval 3228.33 - 3228.84 m.



Figure 2-4.18: Core4, box 9B, interval 3229.00 - 3229.90 m.

Appendix 2-5 Lithologic description of conventional core5 from Mohican I-100 well



Figure 2-5.1: Core5, box 1A, interval 3462.50 - 3463.10 m.



Figure 2-5.2: Core5, box 1B, interval 3463.10 - 3463.72 m.



Figure 2-5.3: Core5, box 2A, interval 3463.72 - 3464.10 m.



Figure 2-5.4: Core5, box 2B, interval 3464.10 - 3464.65 m.



Figure 2-5.5: Core5, box 3A, interval 3464.61 - 3465.05 m.



Figure 2-5.6: Core5, box 3B, interval 3465.05 - 3465.61 m.



Figure 2-5.7: Core5, box 4A, interval 3465.57 - 3465.86 m.



Figure 2-5.8: Core5, box 4B, interval 3465.90 - 3466.52 m.







Figure 2-5.10: Core5, box 5B, interval 3467.10 - 3467.57 m.



Figure 2-5.11: Core5, box 6A, interval 3467.47 - 3467.92 m.



Figure 2-5.12: Core5, box 6B, interval 3467.90 - 3468.51 m.



Figure 2-5.13: Core5, box 7A, interval 3468.47 - 3468.98 m.



Figure 2-5.14: Core5, box 7B, interval 3469.02 - 3469.53 m.

Appendix 2-6 Lithologic description of conventional core7 from Mohican I-100 well



Figure 2-6.1: Core7, box 1A, interval 3959.35 - 3959.85 m.



Figure 2-6.2: Core7, box 1B, interval 3959.85 - 3960.30 m.



Figure 2-6.3: Core7, box 2A, interval 3960.30 - 3960.79 m.



Figure 2-6.4: Core7, box 2B, interval 3960.75 - 3961.37 m.



Figure 2-6.5: Core7, box 3A, interval 3961.30 - 3961.85 m.



Figure 2-6.6: Core7, box 3B, interval 3961.80 - 3962.35 m.



Figure 2-6.7: Core7, box 4A, interval 3962.35 - 3962.93 m.



Figure 2-6.8: Core7, box 4B, interval 3962.90 - 3963.44 m.



Figure 2-6.9: Core7, box 5A, interval 3963.30 - 3963.85 m.



Figure 2-6.10: Core7, box 5B, interval 3963.85 - 3964.45 m.



= sample obtained for polished thin section

Figure 2-6.11: Core7, box 6A, interval 3964.50 - 3964.87 m.



Figure 2-6.12: Core7, box 6B, interval 3964.75 - 3965.38 m.



Figure 2-6.13: Core7, box 7A, interval 3965.35 - 3965.88 m.



Figure 2-6.14: Core7, box 7B, interval 3965.91 - 3966.24 m.

Appendix 2-7 Lithologic description of conventional core8 from Mohican I-100 well



Figure 2-7.1: Core8, box 1A, interval 4091.94 - 4092.50 m.



Figure 2-7.2: Core8, box 1B, interval 4092.50 - 4093.12 m.



Figure 2-7.3: Core8, box 2A, interval 4093.15 - 4093.69 m.


Figure 2-7.4: Core8, box 2B, interval 4093.65 - 4094.27 m.





Figure 2-7.5: Core8, box 3A, interval 4094.30 - 4094.82 m.



Figure 2-7.6: Core8, box 3B, interval 4094.30 - 4094.82 m.



= sample obtained for polished thin section

Figure 2-7.7: Core8, box 4A, interval 4095.35 - 4095.95 m.



Figure 2-7.8: Core8, box 4B, interval 4095.95 - 4096.57 m.



Figure 2-7.9: Core8, box 5A, interval 4096.56 - 4097.17 m.



Figure 2-7.10: Core8, box 5B, interval 4097.30 - 4097.75 m.



= sample obtained for polished thin section

Figure 2-7.11: Core8, box 6A, interval 4097.65 - 4098.23 m.



Figure 2-7.12: Core8, box 6B, interval 4098.15 - 4098.77 m.



Figure 2-7.13: Core8, box 7A, interval 4098.77 - 4099.32 m.



Figure 2-7.14: Core8, box 7B, interval 4099.47 - 4099.70 m.

Appendix 2-8 Lithologic description of conventional core9 from Mohican I-100 well



= sample obtained for polished thin section

Figure 2-8.1: Core9, box 1A, interval 4330.90 - 4331.35 m.



Figure 2-8.2: Core9, box 1B, interval 4331.51 - 4332.05 m.



Figure 2-8.3: Core9, box 2A, interval 4331.95 - 4332.45 m.



= sample obtained for polished thin sectionFigure 2-8.4: Core9, box 2B, interval 4332.50 - 4333.10 m.



Figure 2-8.5: Core9, box 3A, interval 4333.10 - 4333.70 m.



Figure 2-8.6: Core9, box 3B, interval 4333.60 - 4334.16 m.



Figure 2-8.7: Core9, box 4A, interval 4334.25 - 4334.71 m.



Figure 2-8.8: Core9, box 4B, interval 4334.65 - 4335.10 m.



Figure 2-8.9: Core9, box 5A, interval 4334.73 - 4335.73 m.



Figure 2-8.10: Core9, box 5B, interval 4335.88 - 4336.32 m.



Figure 2-8.11: Core9, box 6A, interval 4336.40 - 4336.82 m.



Figure 2-8.12: Core9, box 6B, interval 4337.00 - 4337.52 m.



Figure 2-8.13: Core9, box 7A, interval 4337.50 - 4338.05 m.



Figure 2-8.14: Core9, box 7B, interval 4338.05 - 4338.62 m.

Appendix 3 Back-scattered images and EDS geochemical mineral analyses of sample Chinampas O-37 990 (ft) (301.75 m)



Mag
Mag
Mag
Mag
Zn (cont)
Bt

Figure 3.1: Sample O-37 990 (ft) (301.75m) site 1 (SEM). (Table 3A)



12 Bt 15 Tlc (cont) 17 Mag 19 Chl 20 Chl

Figure 3.2: Sample O-37 990 (ft) (301.75m) site 2 (SEM). (Table 3A)



- 6 Sd+Py+Qz+other
- 10 Sd+other
- 14 Sd+Py+other
- 22 Cal+Chl+Py

Figure 3.3: Sample O-37 990 (ft) (301.75m) site 3 (SEM). (Table 3A)



- 2 Sd+Py+Qz
- 3 Mag
- 4 PbO (cont)
- 5 Brt (cont)
- 6 Mag
- 10 Mag
- 11 Sd+Chl+Py
- 12 Cal
- 14 Sd+Py+other
- 15 Brt (cont)
- 21 Chl
- 28 Bt
- 37 Zn (cont)

Figure 3.4: Sample O-37 990 (ft) (301.75m) site 4 (SEM). (Table 3A)



Figure 3.5: Sample O-37 990 (ft) (301.75m) site 5 (SEM). (Table 3A)



12 Mag 16 Bt

5 Sd+Py+Qz+other

- 24 Chl 30 llm+Chl
- 37 Tr

Figure 3.6: Sample O-37 990 (ft) (301.75m) site 6 (SEM). (Table 3A)



Figure 3.7: Sample O-37 990 (ft) (301.75m) site 7 (SEM). (Table 3A)



Figure 3.8: Sample O-37 990 (ft) (301.75m) site 8 (SEM). (Table 3A)



4 Qz+Cal+Chl 6 Bt

Figure 3.9: Sample O-37 990 (ft) (301.75m) site 9 (SEM). (Table 3A)



Figure 3.10: Sample O-37 990 (ft) (301.75m) site 10 (SEM). (Table 3A)



Figure 3.11: Sample O-37 990 (ft) (301.75m) site 11 (SEM). (Table 3A)



Figure 3.12: Sample O-37 990 (ft) (301.75m) site 12 (SEM). (Table 3A)



Figure 3.13: Sample O-37 990 (ft) (301.75m) site 13 (SEM). (Table 3A)



Figure 3.14: Sample O-37 990 (ft) (301.75m) site 14 (SEM). (Table 3A)



Sp
Tlc (cont)
Qz+Kfs+Chl

Figure 3.15: Sample O-37 990 (ft) (301.75m) site 15 (SEM). (Table 3A)



Figure 3.16: Sample O-37 990 (ft) (301.75m) site 16 (SEM). (Table 3A)



4 Alm-Sps 15 F-Ap (diag)+other

Figure 3.17: Sample O-37 990 (ft) (301.75m) site 17 (SEM). (Table 3A)



Figure 3.18: Sample O-37 990 (ft) (301.75m) site 18 (SEM). (Table 3A)


Figure 3.19: Sample O-37 990 (ft) (301.75m) site 19 (SEM). (Table 3A)



Figure 3.20: Sample O-37 990 (ft) (301.75m) site 20 (SEM). (Table 3A)



Figure 3.21: Sample O-37 990 (ft) (301.75m) site 21 (SEM). (Table 3A)



Figure 3.22: Sample O-37 990 (ft) (301.75m) site 22 (SEM). (Table 3A)



Figure 3.23: Sample O-37 990 (ft) (301.75m) site 23 (SEM). (Table 3A)

1 F-Ap 4 Zn (cont) 8 Chl



Figure 3.24: Sample O-37 990 (ft) (301.75m) site 24 (SEM). (Table 3A)



7 Tlc (cont) 8 Bt

Figure 3.25: Sample O-37 990 (ft) (301.75m) site 25 (SEM). (Table 3A)



Figure 3.26: Sample O-37 990 (ft) (301.75m) site 26 (SEM). (Table 3A)



Figure 3.27: Sample O-37 990 (ft) (301.75m) site 27 (SEM). (Table 3A)



Figure 3.28: Sample O-37 990 (ft) (301.75m) site 28 (SEM). (Table 3A)



Chl
F-Ap
Chl+Kfs
Chl

Figure 3.29: Sample O-37 990 (ft) (301.75m) site 29 (SEM). (Table 3A)



Figure 3.30: Sample O-37 990 (ft) (301.75m) site 30 (SEM). (Table 3B) see location in Fig.3.4



Figure 3.31: Sample O-37 990 (ft) (301.75m) site 31 (SEM). (Table 3B) see location in Fig.3.4



Figure 3.32: Sample O-37 990 (ft) (301.75m) site 32 (SEM). (Table 3B) see location in Fig.3.4



Figure 3.33: Sample O-37 990 (ft) (301.75m) site 33 (SEM). (Table 3B) see location in Fig.3.4



1 Mag 2 Mag

- 3 Mag
- 4 Sd+other
- 5 Sd+other
- 6 Sd+other
- 7 Mag

Figure 3.34: Sample O-37 990 (ft) (301.75m) site 34 (SEM). (Table 3B) see location in Fig.3.4



- 1 Ilm+Chl
- 2 Chl

3 Sd+Py+Qz

- 4 Sd+Py+Qz
- 5 Chl
- 6 Chl

Figure 3.35: Sample O-37 990 (ft) (301.75m) site 35 (SEM). (Table 3B) see location in Fig.3.6



Figure 3.36: Sample O-37 990 (ft) (301.75m) site 36 (SEM). (Table 3B) see location in Fig.3.6



Figure 3.37: Sample O-37 990 (ft) (301.75m) site 37 (SEM). (Table 3B) see location in Fig.3.8



Figure 3.38: Sample O-37 990 (ft) (301.75m) site 38 (SEM). (Table 3B) see location in Fig.3.13



1 Mag 2 Mag

- 3 Cal+Chl
- 4 Chl+Cal 5 mix

see location in Fig.3.14

Figure 3.39: Sample O-37 990 (ft) (301.75m) site 39 (SEM). (Table 3B)



- 1 Sd+Py+other
- 2 Sd+Py+other
- 3 Sd
- 4 Sd+Py+other
- 5 Sd+Py+other
- 6 Sd+Py+other
- 7 Sd+Py+other

Figure 3.40: Sample O-37 990 (ft) (301.75m) site 40 (SEM). (Table 3B) see location in Fig.3.1



- 1 Mag
- 2 Sd+Py+Qz
- 3 Sd
- 4 Sd+Py
- 5 Mag+Qz
- 6 Sd+Qz

Figure 3.41: Sample O-37 990 (ft) (301.75m) site 41 (SEM). (Table 3B) see location in Fig.3.2



Figure 3.42: Sample O-37 990 (ft) (301.75m) site 42 (SEM). (Table 3B) see location in Fig.3.3



- 1 Qz
- 2 Sd+Py+Qz+other
- 3 Sd+Py+other
- 4 Sd+Py+Qz
- 5 Sd+Py+other
- 6 Sd+Py+Qz+other
- 7 Sd+Qz+other
- 8 Sd+Qz+other

Figure 3.43: Sample O-37 990 (ft) (301.75m) site 43 (SEM). (Table 3B)



- 1 Sd+Py+Qz+other
- 2 Qz+other
- 3 Sd+Ms+other
- 4 Sd+Py+other
- 5 Py+Sd+other
- 6 Sd+Py+other
- 7 Sd+Py+other
- 9 Sd+Py+other
- 12 Ilm+other
- 13 Ilm+other

Figure 3.44: Sample O-37 990 (ft) (301.75m) site 44 (SEM). (Table 3B) see location in Fig.3.4



Figure 3.45: Sample O-37 990 (ft) (301.75m) site 45 (SEM). (Table 3B) see location in Fig.3.4



Figure 3.46: Sample O-37 990 (ft) (301.75m) site 46 (SEM). (Table 3B) see location in Fig.3.14



Figure 3.47: Sample O-37 990 (ft) (301.75m) site 47 (SEM). (Table 3B) see location in Fig.3.5



Figure 3.48: Sample O-37 990 (ft) (301.75m) site 48 (SEM). (Table 3B) see location in Fig.3.6



Figure 3.49: Sample O-37 990 (ft) (301.75m) site 49 (SEM). (Table 3B) see location in Fig.3.9



Figure 3.50: Sample O-37 990 (ft) (301.75m) site 50 (SEM). (Table 3B) see location in Fig.3.15



Figure 3.51: Sample O-37 990 (ft) (301.75m) site 51 (SEM). (Table 3B) see location in Fig.3.24

Table 3A: SEM analyses from sample Chinampas O-37 990 ft (301.75 m).

Site	Position	Mineral	SiO2	TiO2	AI2O3	FeO	MnO	MgO	CaO	Na2O	К2О	P2O5	SO3	F	CI	V2O5	Cr2O3	NiO	ZnO	As2O3	ZrO2	SnO2	BaO	WO3	PbO	Total	Actual Total
1	2	Mag				98.53	0.84		0.64																	100	104
1	6	Mag	0.70			94.56	0.68		1.53	0.72																100	91
1	21	Mag				99.39	0.61																			100	82
1	28	Zn (cont)				1.44			0.77						0.30				95.82						1.68	100	107
1	38	Bt	39.08	5.25	12.95	19.94	0.16	9.19		0.91	8.30				0.20											96	120
2	12	Bt	38.61	1.60	19.95	16.76		9.82		0.33	8.91															96	113
2	15	TIc (cont)	62.45			0.11		31.08						1.36												95	121
2	17	Mag				99.20	0.80	- · · -																		100	96
2	19	Chl	25.61		23.61	25.95	0.96	8.17	0.46		0.20															85	98
2	20	Chi	27.00		20.18	26.86	1.01	9.69	0.23																	85	97
3	6	Sd+Py+Qz+other	1.36		0.40	44.02	0.52	2.14	5.65				1.73		0.24	0.30										57	78
3	10	Sd+other	0.34		0.43	54.99		0.04	0.22				0.07		0.47									0.00		57	81
3	14	Sd+Py+other	1.65		0.60	46.81	0.24	0.84	0.88	0.70			0.67	44.04	0.47				0.47					0.82		57	69
3	22	Cal+Chl+Py	33.93		2.66	2.35		6.04	37.64	0.78			3.10	11.04	0.31				0.47					1.66	4.00	100	86
4	2	Sd+Py+Qz	0.74			48.26	0.33		4.66				0.93												1.06	57	83
4	3	Mag				99.23	0.77																		100.01	100	103
4	4	PbO (cont)											07.04										00.04		100.01	100	87
4	5	Brt (cont)				00.04	0.74		0.04				37.91										60.34			100	111
4	6	iviag				98.94	0.74		0.31																	100	103
4	10	Mag	44.05	0.55	7.00	99.26	0.74	0.00	2.07		0.70		4.07		0.00									1.00	0.70	100	110
4	10	SutChitPy	14.65	0.55	7.29	07.53	0.25	0.00	2.07		0.72		1.27		0.28									1.02	3.70	100	62
4	12	Cal	0.40			2.48	0.35	0.50	52.64				1.07		0.07				0.00							56	56
4	14	Su+Py+other	0.49			40.09	0.52		4.51				1.07		0.27				0.20				50.47			57	10
4	15	Chi Conti	20.40	0.51	10.75	1.51	0.21	10.77	0.24		1 20		30.13										59.47			100	124
4	21		29.40	0.51	19.75	22.79	0.31	10.77	0.24	0.50	1.20				0.04											65	110
4	28	Dl Zn (cont)	39.64	4.21	14.00	19.57	0.18	0.00	1.05	0.52	7.02				0.24				71.25					10.66	2.24	96	01
4	37				1.19	1.99	0.75	2.02	1.05						0.41				71.55					19.00	2.34	100	100
5	2	Sdu Duu Or	0.42			51.00	0.75		0.97				0.02													57	07
5	2	Sd+Fy+QZ Sd+By+Qz+othor	0.42			42.27	0.54		Z.10				1.04		0.16	0.21	0.12									57	07
5	3	Mag	4.19			43.37	0.49		0.30				1.94		0.10	0.31	0.12									100	00
5	5	Col+Ab+Pv	25.54		2.49	2.53	0.70	7.64	46 70	1.00	0.19		8 60	3.52	0.32				0.32					0.87		100	92
5	6	PbO (cont)	23.34		2.40	2.55		7.04	40.75	1.09	0.10		0.09	3.32	0.52				0.52					0.07	00 32	100	90
5	7	Sd+Pv+Oz+other	0.78			19 11	0.46	0.66	2.52				0.70		0.15										1 28	57	76
5	8	Man	0.70			99.25	0.40	0.00	2.52				0.70		0.15										1.20	100	100
5	9	Kfe	63 56		18.80	3.04	0.75			0.80	12/1												0.50			100	130
5	17	Sd+Pv+other	03.50		10.00	50.32	0.60		3.08	0.00	12.71		1 43		0.17					0.36			0.50			57	79
5	20	Mag				99.24	0.00		0.00				1.40		0.17					0.00						100	92
5	31	Rct	59 73			0.28	0.10	25 50	6.21	5.01	0.77			1 50												100	125
6	5	Sd+Pv+Oz+other	1 40		0.45	49.64		0.87	1.80	0.01	0.17		0.47	1.53	0.16									1 18		57	80
6	12	Mag	1.40		0.40	90.34	0.66	0.07	1.00				0.47		0.10									1.10		100	108
6	16	Bt	41 73	2.01	18.96	13.18	0.00	11 90			7 79															96	90
6	24	Chl	29.07	2.01	21.03	21 27	0.00	12 52	0.27		0.50															85	80
6	30	llm+Chl	18 35	44 24	14 21	12.93	0.36	8 94	0.27		0.00															100	90
6	37	Tr	56 37		3.76	7.67	0.00	19.93	10.30	0.43	1 17						0.18									100	105
7	2	Sd+other	0.77		0.70	51.62	0.78	10.00	1 23	0.40	1.17				0.85		0.10									57	72
7	3	Bt	37.91	2,91	18.55	19.21	0.25	8.07		0	9.08				5.00									1		96	114
7	4	Chl	25.52	2.01	21.13	25.94	0.30	10.02	1.47		0.24				0.17				0.17							85	110
7	8	Sd+other				45.82	0.76	0.31	2.02			1.42			0.29	1.74		0.16	1.10						2.34	57	89
7	22	Cst (cont)				0.46	00	0.01							5.20			55				96.63			2.93	100	107
7	26	Kfs	66.17		17.72	0.33				0.93	14.84															100	141
8	9	Bt	37.60	3.69	18.45	19.62	0.26	6.68		0.40	9.28															96	115
9	4	Qz+Cal+Chl	48.43	0.25	2.76	2.51		7.68	21.88	21.5			0.92	3.61	1.28				3.80		0.45			6.42		100	81
9	6	Bt	36.65	3.04	17.99	22.01	0.22	5.86		0.38	9.66				0.14											96	101

Table 3A: SEM analyses from sample Chinampas O-37 990 ft (301.75 m).

Site	Position	Mineral	SiO2	TiO2	AI2O3	FeO	MnO	MgO	CaO	Na2O	К2О	P2O5	SO3	F	CI	V2O5	Cr2O3	NiO	ZnO	As2O3	ZrO2	SnO2	BaO	WO3	PbO	Total	Actual Total
10	1	Chl	26.38		21.19	29.41	1.08	6.91																		85	100
10	5	Mag	0.98			97.13	0.89										0.99									100	147
11	4	Sd+Py+other	1.14		1.61	51.90	0.17		0.22				0.43		0.48											57	87
11	7	Chl	30.94	0.15	19.55	19.27	0.23	13.99	0.23		0.58															85	100
11	9	Chl	27.27		23.67	21.53	0.23	12.27																		85	99
11	11	Chl	30.29		22.06	16.44	0.30	15.09	0.48						0.29											85	55
11	13	Chl	33.87	0.28	20.63	19.00	0.22	9.14	0.20		0.91				0.08											85	85
11	20	Kfs+Sd+Chl	47.00	0.53	8.96	28.23	0.35	3.05	5.01		3.97		0.82		0.25				1.23	0.61						100	84
11	21	Ms	43.83	0.55	27.65	8.49		1.59		0.46	9.17														1.24	93	101
12	6	llm+Chl	12.49	63.12	7.92	10.97	0.25	4.97	0.27		5.04															100	103
12	8	Bt	34.86	2.11	18.00	23.65	0.42	11.02	17.07		5.31	15 10		0.70										0.00		96	107
13	2	F-Ap	04.07			0.22		05.00	47.67	4.00	0.00	45.42		6.79										-0.09		100	131
13	3	11	61.37		47.00	0.76		25.68	10.54	1.32	0.33															100	98
13	4	KIS D4	66.23	4.50	17.89	0.18	0.40	40.00		0.70	15.00															100	132
13	15	BL	40.00	1.00	10.20	13.02	0.16	13.00			0.04															90	121
14	1	Uni	25.52		23.68	24.66	0.40	10.71	2.01	E 20			40.40		1.07											85	115
14	2	noie	14.42		4.00	5.00	0.45		2.91	5.20			13.40		1.97				44.00							43	111
15	1	Sp Tip (pont)	EC CE			0.20	0.15	26.19	0.20		0.11		52.09	1 27					41.00							100	100
15	2		72.22	0.15	17.00	0.29		1 1 2	0.19	0.55	0.11			1.37					0.10							90	95
15	0	QZ+KIS+UNI Chi	13.33	0.15	21.00	1.79	0.45	1.13	1.41	0.55	4.53															100	100
16	1	Mag	29.03		21.00	23.05	0.45	9.72			0.23						0.64	0.51								100	100
16	2 A	IVIAY	28.26	2 10	10.66	97.55	0.03	12.06			7.01						0.04	0.51								00	100
17	4	Alm Sno	40.22	2.10	21.20	11.09	22.47	12.00	2.07		7.51															100	100
17	4	F-An (diag)+othor	21 01	5 74	21.39	2 17	23.47	0.46	2.97	1 27	1.02			26.03												100	120
10	5	Who	61 79	5.74	0.51	0.35	3.00	27.92	4 27	2.40	0.66			20.03						0.30						100	110
18	12	Rt	38.48	1 27	10.88	14.06		13 75	7.21	2.45	8.54			2.00						0.00						96	121
18	14	Bt	40.78	1.27	20.28	14.66	0.17	11 55	1 72	0.45	4 93															96	107
19	6	Bt	39.01	2.19	18.90	18.04	0.17	10.27	1.72	0.40	7.01				0.54											96	31
20	1	Tur	36.81	0.40	30.26	6.32		6.54	0.60	2 23	7.01			1 84	0.04											85	100
20	2	Chl	25.47	0.10	24.26	26.65	0.48	8 10	0.00	2.20																85	100
20	3	Chl	25.45		23.86	26.49	0.33	8.84																		85	100
21	2	Bt	38.36	2.27	19.51	17.31	0.16	9.89		0.42	8.04															96	118
22	2	Bt	38.89	3.11	17.66	18.10	0.37	8.80			9.04															96	110
23	1	F-Ap							48.52			45.39		6.13										-0.05		100	118
23	4	Zn (cont)				0.64													98.04						1.34	100	120
23	8	Chl	26.22		24.17	20.26	0.29	14.05																		85	109
24	1	Kfs	66.21		17.89	0.18				0.34	15.38															100	132
24	11	Ab	62.12		23.83	0.26			5.09	8.68																100	120
25	7	TIc (cont)	61.00			0.30		29.96	0.14					1.07	0.13				1.67					0.69		95	110
25	8	Bt	39.89	1.98	19.68	16.32	0.14	9.48		0.32	8.14															96	100
26	1	Bt	39.85	1.75	18.82	13.82	0.17	12.91			8.65															96	115
26	2	Chl	28.45		20.54	30.73	0.42	4.15	0.32		0.35															85	96
26	3	Chl	26.40		23.63	26.02	0.27	8.38	0.27																	85	107
26	4	Bt	39.40	2.29	17.49	16.12	0.30	11.70		0.37	8.29															96	119
26	5	Chl	29.63	0.51	19.49	20.79	0.41	5.75	5.93	0.41	1.50		0.55													85	110
27	7	Chl	31.22	0.17	19.41	27.34	0.15	5.39	0.17		1.09															85	97
27	8	Bt	38.30	1.48	20.24	16.43	0.39	11.80	2.33	0.63	4.36															96	98
27	9	Bt	43.41	1.08	20.13	14.53		10.28			6.21				0.35											96	68
27	10	Chl	26.96		22.08	18.81	0.47	16.68																		85	113
27	11	Chl	26.74		23.46	25.77	0.65	8.35																		85	98
27	12	Grs	42.93		6.84		0.14	12.32	37.58		0.16															100	127
28	1	Qz+other	70.98	0.93	9.16	9.57		4.68	0.41		4.28															100	74
28	3	Ms	48.49	0.46	34.54	5.59		1.31	0.78	0.42	1.35						1	1								93	85

Site	Position	Mineral	SiO2	TiO2	AI2O3	FeO	MnO	MgO	CaO	Na2O	K2O	P2O5	SO3	F	CI	V2O5	Cr2O3	NiO	ZnO	As2O3	ZrO2	SnO2	BaO	WO3	PbO	Total	Actual Total
28	4	Bt	38.81	1.69	19.15	17.17	0.25	12.69		0.29	5.91															96	111
28	7	Chl	25.52		23.92	27.06	0.51	7.77	0.17																	85	97
28	9	Chl	25.69		23.85	25.91	0.78	8.78																		85	107
29	1	Chl	25.92		22.71	25.53	0.63	10.19																		85	98
29	2	F-Ap				0.19			48.38			45.28		6.01	0.16											100	123
29	5	Chl+Kfs	34.95	2.27	20.22	24.43	0.43	8.14	5.34	0.57	2.01		1.30		0.14		0.18									100	88
29	9	Chl	36.23		12.46	9.06		25.13	0.24								0.53							1.24		85	78

Table 3A: SEM analyses from sample Chinampas O-37 990 ft (301.75 m).

Site	Position	Mineral	SiO2	TiO2 Al2O3	FeO	MnO	MgO	CaO	Na2O	K2O	P2O5	SO3	F	CI	Cr2O3	ZnO	BaO	WO3	PbO	Total	Actual Total
30	1	Mag			98.70	0.85		0.45												100	89
30	2	Sd+Py+Qz	1.01		48.55	0.29	1.66	3.55				0.94							0.98	57	69
30	3	Sd+Py+Qz	0.75		43.77	0.45	2.02	7.83				1.35							0.79	57	66
30	4	Sd+Py+Qz	0.87		47.38	0.32	0.77	5.52				1.02							1.08	57	64
30	5	Sd+Py+Qz	1.63		54.54	0.30		2.24				0.86							1.11	57	63
30	6	Mag	0.58	0.45	98.15	0.65										0.17				100	78
30	7	Mag	0.64		97.81	0.75		0.80								-				100	84
30	8	Sd+Py+Qz	1.63		47.55	0.25	0.44	5.01				1.09							1.03	57	65
30	9	Mag			99.24	0.75														100	84
30	10	Mag			99.24	0.76														100	85
31	1	Mag			98.99	0.70		0.31												100	87
31	2	Mag			98.81	0.74		0.45												100	86
31	3	Mag			97.45	0.74		1.80												100	83
31	4	Mag			91.11	0.58		3.33				4.27								100	78
31	5	Mag			96.49	0.76		2.76												100	80
31	6	Sd+Py+Qz	2.01		42.33	0.29	0.86	6.53				1.56							3.39	57	65
31	7	Mag	1.41		75.30	0.35	1.33	16.24	1.33			1.35							2.69	100	63
31	8	Mag	2.91		77.60	0.63	4.48	5.79				3.15		0.44					5.02	100	61
31	9	Sd+Pv+Qz+other	0.95		46.71	0.19	0.68	4.45				1.35		0.16					2.47	57	65
31	10	Sd+Pv+Qz+other	1.24		45.10	0.29	1.33	5.24				1.53							2.20	57	63
31	11	Sd+Pv+Qz+other	1.24		46.73	0.38	0.94	4.15				1.00							2.53	57	63
31	12	Sd+Pv+Qz+other	1.40		38.57	0.36	3.02	8.14	0.49			1.97							3.00	57	65
31	13	Sd+Pv+Qz+other	0.95		40.59	0.30	0.83	5.95				1.66						4.12	2.57	57	65
32	1	Sd			55.28	0.79		0.91												57	75
32	2	Sd+Pv+Qz	2.01		44.35	0.30	0.74	8.84				0.58		0.14						57	67
32	3	Sd+Pv+Qz	1.97	0.36	49.96	0.66	1.16	0.92				0.42		0.16				1.35		57	64
32	4	Sd+Pv+Qz	1.64		45.92	0.63	1.17	6.23	0.58			0.69								57	69
32	5	Sd+Pv+Qz	1.73		52.79	0.55	0.70	0.81				0.41								57	66
32	6	Sd+Pv+Qz+other	1.89		40.00	0.88	2.35	6.24	0.79			0.88	2.22	0.24				1.47		57	68
32	7	Sd+Pv+Qz+other	2.34		37.63	0.46	0.58	14.27				1.51		0.18						57	65
32	8	Sd+Pv+Qz	1.89		52.75	0.34		1.59				0.41								57	78
32	9	Sd+Qz	1.55		53.23	0.57		1.63				-								57	77
32	10	Sd+other	8.53	1.35	28.97	0.80	1.26	9.82	0.37			1.29		0.16				4.41		57	69
32	11	hole	5.54	0.70	35.63	0.62	1.03	9.25				1.26		0.15				2.47		57	70
33	1	PbO+WO+other	5.41		1.31		2.59	2.11					2.94			9.08		10.37	66.20	100	69
33	3	ZnO+WO+PbO+other	4.90		1.97			3.51				8.54	5.92	0.86		35.36		23.59	14.87	100	62
33	4	ZnO+WO+PbO+other			1.30			3.65					7.63	1.42		18.59		40.03	27.37	100	60
33	5	ZnO+other	2.55		1.34			3.39				12.78	6.86	0.87		57.69		7.68	6.60	100	61
33	6	PbO (cont)										-							100.01	100	79
33	7	PbO (cont)														2.30			97.70	100	72
33	8	PbO (cont)														3.26		7.49	89.26	100	76
34	1	Mag			99.29	0.71										'				100	91

Table 3B: SEM analyses from sample Chinampas O-37 990 ft (301.75 m)

Site	Position	Mineral	SiO2	TiO2	AI2O3	FeO	MnO	MgO	CaO	Na2O	K2O	P2O5	SO3	F	CI	Cr2O3	ZnO	BaO	WO3	PbO	Total	Actual Total
34	2	Mag				99.33	0.67														100	83
34	3	Mag				94.71	0.45	0.68	1.41											2.15	100	77
34	4	Sd+other	5.48		1.36	36.35	0.21	6.49	0.81		0.09			1.88	0.13		2.72		2.59	1.20	57	80
34	5	Sd+other	8.26		1.48	24.25		2.67	6.95				0.78	2.17	0.18	0.35	3.44		8.18	1.78	57	63
34	6	Sd+other	8.43			45.79	0.32	0.94	3.17				0.60			0.23				1.11	57	73
34	7	Mag				99.06	0.94														100	92
35	1	llm+Chl	13.05	60.98	10.64	7.28	0.25	6.60	1.04		0.17										100	102
35	2	Chl	29.62	0.18	23.43	17.69	0.53	13.33			0.13										85	108
35	3	Sd+Py+Qz	1.37			51.27	0.86		2.45				1.02								57	72
35	4	Sd+Py+Qz	1.42		0.53	49.83	0.55		3.31				1.09		0.24						57	71
35	5	Chl	24.53		20.09	18.09	0.38	8.11	0.47												57	55
35	6	Chl	38.65		25.90	8.83	0.22	9.31	0.24	0.33	1.47										85	122
36	1	Mag	0.86			93.67	1.11	0.78	2.60				0.97								100	78
36	2	Sd+Py+Qz	1.51			51.95	0.35		2.33				0.83								57	75
36	3	Mag	4.13			89.53	1.56		4.03				0.75								100	81
36	4	Sd+Qz	1.92			51.26	0.33	1.02	1.29										1.15		57	72
36	5	Sd+Qz	2.71			50.07	0.25	1.57	1.13						0.25				0.99		57	70
36	6	Mag				99.20	0.80														100	91
36	7	Mag				99.61	0.39														100	84
37	1	Sd+other	1.14			48.07	0.55	0.54	3.43	0.65			0.91		0.30		1.01		0.35		57	65
37	2	Sd+other	0.46			51.04	0.73		3.57				0.92		0.82		0.23				57	71
37	3	Wlf+other				53.93	0.46		13.04	1.19		0.66	1.50		0.27				28.93		100	70
37	4	Wlf+other			2.78	69.03	0.34		10.00	1.15			1.25		0.53				14.96		100	74
38	1	Brt (cont)											38.80					61.21			100	116
38	2	Brt (cont)				1.09							38.53					60.38			100	115
38	3	Brt (cont)				1.43			2.35				38.33					57.91			100	113
38	4	Chl+Cal+Brt	20.60		2.99	36.64		9.52	23.73				4.74		0.51			1.25			100	68
38	5	Sd+Py+Qz	4.19			45.87	0.99	2.53	1.95				1.45								57	75
38	6	Sd				55.49	0.60		0.91												57	81
38	7	Sd	1.53			51.07	0.47		3.16				0.75								57	67
39	1	Mag				99.42	0.58														100	95
39	2	Mag				99.28	0.72														100	89
39	3	Cal+Chl	10.42	0.47	18.35	17.35	0.21	6.20	43.28	0.50	0.33		1.30		0.18				1.42		100	94
39	4	Chl+Cal	29.78		2.63	4.45		12.10	41.43				5.44		0.67				3.48		100	74
39	5	mix	28.71		3.42	4.07		22.19	27.12				3.50	5.99	1.05				3.97		100	83
40	1	Sd+Py+other	0.56	0.00	0.00	53.90	0.78		1.15				0.61								57	87
40	2	Sd+Py+other	0.43	0.00	0.00	51.09	0.90		2.65				1.32								57	80
40	3	Sd	0.51			54.73	0.54		1.24												57	87
40	4	Sd+Py+other	0.00	0.00	0.00	48.69	0.55		4.40				2.05		0.21					1.11	57	76
40	5	Sd+Py+other	0.63	0.00	0.00	53.94	1.02		1.00				0.40							0.00	57	88
40	6	Sd+Py+other	0.76	0.00	0.00	49.01	0.50		3.21				1.85							1.66	57	82
40	7	Sd+Py+other	0.00	0.00	0.00	49.96	0.89		3.44				1.11		0.20					1.40	57	83

Table 3B: SEM analyses from sample Chinampas O-37 990 ft (301.75 m)

Table 3B:	SEM analyses from sample Chinampas O-37 990 ft (301.75 m)	

Site	Position	Mineral	SiO2	TiO2	AI2O3	FeO	MnO	MgO	CaO	Na2O	K2O	P2O5	SO3	F	CI	Cr2O3	ZnO	BaO	WO3	PbO	Total	Actual Total
41	1	Mag	3.27			94.30	0.92		1.51												100	101
41	2	Sd+Py+Qz	1.40	0.00	0.00	52.44	0.23		2.26				0.67								57	78
41	3	Sd	0.00	0.00	0.00	54.93	0.21		1.32				0.52								57	79
41	4	Sd+Py	0.00	0.00	0.00	54.47	0.39		1.50				0.63								57	77
41	5	Mag+Qz	3.55			93.60	1.02		1.83												100	98
41	6	Sd+Qz	3.74	0.00	0.00	50.22	1.02		2.01												57	70
42	1	Sd+Py+Qz	0.77	0.00	0.00	54.55	0.40		0.72				0.54								57	89
42	2	Sd+Py+Qz	1.01	0.00	0.00	53.45	0.50	0.58	1.03				0.44								57	89
42	3	Sd+Py+Qz	1.41	0.00	0.00	52.47	1.20		1.43				0.48								57	77
42	4	Sd+Py+Qz	1.57	0.00	0.00	52.31	1.01		1.52				0.58								57	77
42	5	Sd+Py+Qz	1.24	0.00	0.00	52.73	0.86		1.56				0.63								57	78
42	6	Sd+Py+Qz	1.19	0.00	0.00	53.65	0.80		1.36												57	78
42	7	Sd+Py+Qz	1.25	0.00	0.00	53.04	0.88		1.22				0.60								57	81
42	8	Sd+Qz+other	1.68	0.00	0.00	52.12	0.86	0.48	0.82										0.81		57	88
43	1	Qz	99.69			0.31															100	124
43	2	Sd+Py+Qz+other	3.33	0.00	0.00	51.26	0.21		0.93				0.66		0.62						57	78
43	3	Sd+Py+other	8.65	0.00	2.35	41.06	0.40	0.40	3.25		0.21		0.70								57	81
43	4	Sd+Py+Qz	4.40	0.00	0.00	49.94	0.39		1.43				0.67		0.17						57	77
43	5	Sd+Py+other	3.90	0.00	0.00	49.64	0.35		1.08	0.84			0.67		0.50						57	76
43	6	Sd+Py+Qz+other	3.84	0.00	0.00	44.98	0.19		0.87				3.61		0.26		0.25	3.00			57	81
43	7	Sd+Qz+other	4.31	0.00	0.00	50.12	0.35		1.29				0.54		0.36						57	76
43	8	Sd+Qz+other	3.11	0.00	0.00	51.65	0.48		0.97				0.57		0.23						57	75
44	1	Sd+Py+Qz+other	1.43	0.00	0.00	50.40			3.74				0.97		0.24	0.22					57	78
44	2	Qz+other	94.79		0.66	4.04			0.36		0.16										100	112
44	3	Sd+Ms+other	15.95	0.00	9.72	26.08	0.14	0.36	2.25	0.55	1.27		0.51				0.19				57	97
44	4	Sd+Py+other	8.55	0.00	3.64	37.30		0.43	4.00	0.38	0.45		1.27		0.43		0.56				57	84
44	5	Py+Sd+other	7.72		3.14	44.50	0.27		3.46		0.37		39.73				0.37				100	125
44	6	Sd+Py+other	0.00	0.50	0.00	49.98			3.57				1.17		0.30		1.48				57	72
44	7	Sd+Py+other	1.81	0.00	1.79	47.77			4.06				1.17		0.20	0.22					57	75
44	9	Sd+Py+other	8.86	0.46	2.79	37.42	0.18		4.02	0.51	0.51		1.21		0.43		0.60				57	73
44	12	Ilm+other	4.34	56.63	2.78	25.11			2.50					5.43	0.21		2.99				100	87
44	13	Ilm+other	3.17	65.42	2.29	21.57			1.72								5.83				100	84
45	1	QZ	95.99		1.34	2.26					0.40										100	122
45	2	Py+other	0.88		0.40	31.67			0.24				66.25								100	203
45	3	Chl	29.35		19.69	38.12		1.31	2.34	0.51	0.87				0.24		0.42	0.94	3.82	2.38	100	98
45	4	Ilm+other	21.41	1.82	9.07	57.29		1.86	2.14		0.51						0.92			4.99	100	84
45	5	Qz+other	78.47		2.25	17.43			0.59		0.28									0.87	100	102
45	6	Ilm+Chl+other	8.69	61.90	4.91	21.69		1.14	0.69		0.43										100	96
45	7	Chl+other	26.16		16.31	46.09		1.71	2.66		0.82				0.24				3.10	2.91	100	90
45	8	Py+other	5.63		3.27	50.31		0.53	1.23	0.84	0.20		32.76		0.20				2.22	2.84	100	117
45	9	Sd+other	6.95	0.00	4.02	39.73		0.49	1.50	0.48	0.26				0.16				1.02	2.39	57	85
46	1	Qz+other	58.27		10.26	25.19	0.23	0.40	3.26	1.19	1.19										100	111

Table 3B: SEM analyses from sample Chinampas O-37 990 ft (301.7)
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Site	Position	Mineral	SiO2	TiO2	AI2O3	FeO	MnO	MgO	CaO	Na2O	K2O	P2O5	SO3	F	CI	Cr2O3	ZnO	BaO	WO3	PbO	Total	Actual Total
46	2	Brt+other	3.42		1.08	19.39			1.18				31.76					42.01			100	111
46	3	Sd+Chl+other	18.18	0.00	10.78	24.52	0.16	0.56	1.66		0.51		0.50		0.13						57	104
46	4	KIn+Sd+other	33.91	2.72	24.70	34.14			1.85	0.51	0.41		1.57		0.19						100	100
46	5	KIn+Sd+other	39.94		27.97	27.07	0.44		2.78		0.29		1.05		0.48						100	106
46	6	Sd+Py+other	20.35	0.00	3.75	27.00	0.29	0.46	2.81		0.38		1.17		0.61		0.21				57	95
46	7	Qz+other	95.84		0.40	3.34			0.25		0.14										100	133
46	8	Ilm+other	31.02	46.31	6.54	8.85		0.98	2.17	1.00	0.88		0.65				0.45		1.17		100	83
46	9	Ank+other	13.99	1.88	6.31	12.32		19.57	22.61	1.91	0.87		3.50	9.18	0.57		1.29		6.02		100	42
46	10	Cal+Chl+Py+other	11.77		5.80	13.60		4.61	27.86		0.26		2.52	26.04	0.37		1.01		5.17	0.98	100	62
47	1	Chl+other	26.35		20.52	48.15	0.41		3.32		0.31		0.95								100	102
47	2	Chl+Kfs+other	31.87		20.43	39.30		1.64	1.75	0.47	3.89		0.65								100	107
47	3	Kfs	65.18		17.89	0.49				0.77	14.84							0.80			100	124
47	4	Sd+Py+Qz+other	1.41			49.62	0.40		4.37				0.61		0.40	0.18					57	77
47	5	Sd+Brt+other	8.30		2.66	25.52	0.21	0.34	2.19		0.24		7.01					10.54			57	102
47	6	Sd+other	5.97		2.51	44.79	0.64		2.27		0.17		0.48		0.15						57	81
47	7	Sd+Chl+other	15.09		6.19	32.63	0.17	0.87	1.03		0.63		0.38								57	85
47	8	Qz	91.99			7.49			0.53												100	129
48	1	Py				28.42			0.13				71.47								100	231
48	2	Sd+Qz+other	0.58			51.81	0.40	0.48	3.02				0.51		0.21						57	84
48	3	Sd+other	0.67		0.63	40.29	0.26	9.23	4.99	0.50							0.41				57	73
48	4	Ab+other	50.12		15.38	19.52			1.29	12.82					0.32		0.54				100	150
48	5	Sd+other				52.12	0.54		2.86				0.54		0.27		0.67				57	70
48	6	Sd+other				49.73	0.54	0.59	2.46						0.25		0.72		0.88	1.85	57	73
48	7	Sd+Chl+other	10.92		7.28	31.94	0.29	0.83	2.07	0.57	0.56		0.50		0.27		0.92			0.83	57	101
48	8	Sd+Py+other	0.67			49.58	0.23		2.16	0.58			0.77		0.66		1.20		0.68		57	76
48	9	Sd+other				52.52	0.54	0.54	2.79						0.21				0.42		57	77
49	1	Sd+Qz+Py	1.22			52.53	0.65		1.97				0.63								57	79
49	2	Mag	0.96			95.84	1.32		1.86												100	104
49	3	Sd+Qz+Py	0.52			54.37	0.91		0.68				0.51								57	112
49	4	Sd+Qz+Py	0.76			53.60	0.50		1.62				0.52								57	88
49	5	Sd				53.55	0.91		2.02				0.52								57	80
49	6	Sd+Py				52.15	0.48	0.75	2.35				1.27								57	75
50	1	Sd+Py+Qz	1.45			46.99	0.26	1.38	4.61				1.20							1.12	57	76
50	2	Mag				98.72	0.89		0.39												100	103
50	3	Mag				99.17	0.83														100	102
50	4	Sd+Py				51.02		0.82	2.03				1.11		0.36				1.66		57	74
50	5	Cal+Py+other	1.37			11.14		2.27	77.47	0.93			6.82								100	65
50	6	Sd+Py+other	4.88		0.47	42.82	0.21	3.20	3.34	0.60			1.08		0.22	0.18					57	78
50	7	Sd+Py+other	5.78		0.48	35.88	0.21	3.45	7.58				1.57		0.25	0.26			0.96		57	74
50	8	Sd+Py+Qz	3.71		0.00	38.69		2.03	9.05				1.43						1.13	0.97	57	73
51	1	Sd+Py+other	3.19	1.22	0.54	47.15	0.38		2.37				1.44				0.31				57	79
51	2	Ms+other	35.23	1.88	21.14	31.99		0.63	2.85	0.70	4.35		0.95				0.25				100	105

Site	Position	Mineral	SiO2	TiO2	AI2O3	FeO	MnO	MgO	CaO	Na2O	K2O	P2O5	SO3	F	CI	Cr2O3	ZnO	BaO	WO3	PbO	Total	Actual Total
51	3	Sd+Py				49.80	0.50		3.60				1.89		0.53						57	80
51	4	Chl+other	29.76		19.07	40.42	0.34	1.54	4.88		2.30		1.70								100	102
51	5	Sd+other	20.91		5.74	25.91		1.00	1.89		0.83		0.55		0.17						57	96
51	6	Sd+Py+other	12.83	0.29	5.42	31.99		0.65	3.02		0.59		1.29		0.32		0.24				57	84
51	7	Sd+Py+other	0.44			47.87	0.48		5.43				2.53		0.23						57	83

Table 3B: SEM analyses from sample Chinampas O-37 990 ft (301.75 m)

Appendix 4-1 Back-scattered images and EDS geochemical mineral analyses of sample Mohawk B-93 4670 (ft) (1423.4 m)



Figure 4-1.1: Sample B-93 4670 (ft) (1423.4m) site 1 (SEM). (Table 4-1A)



Figure 4-1.2: Sample B-93 4670 (ft) (1423.4m) site 2 (SEM). (Table 4-1A)



- 1 PbO (cont)
- 2 Brt (cont)
- 11 Cal
- 21 Cal+Chl+Kfs
- 22 Sd+Chl+other
- 23 Sd+Chl+other
- 24 Py
- 39 Sd+Chl+other
- 46 Kfs+Chl+other

Figure 4-1.3: Sample B-93 4670 (ft) (1423.4m) site 3 (SEM). (Table 4-1A)



Figure 4-1.4: Sample B-93 4670 (ft) (1423.4m) site 4 (SEM). (Table 4-1A)



- 1 Ab+Cal
- 5 Sd+other
- 6 Brt (cont)
- 25 Mag
- 27 Ilm+Qz

Figure 4-1.5: Sample B-93 4670 (ft) (1423.4m) site 5 (SEM). (Table 4-1A)



- 1 Brt (cont)
- 10 Ms
- 13 Py
- 17 Chl+Kfs+Sd+other
- 21 Sd+Chl+other

Figure 4-1.6: Sample B-93 4670 (ft) (1423.4m) site 6 (SEM). (Table 4-1A)



Brt (cont)

Kfs+Chl

Sd+Chl+Kfs+other

Figure 4-1.7: Sample B-93 4670 (ft) (1423.4m) site 7 (SEM). (Table 4-1A)



Figure 4-1.8: Sample B-93 4670 (ft) (1423.4m) site 8 (SEM). (Table 4-1A)



1 F-Ap+Py 2 Rt

Figure 4-1.9: Sample B-93 4670 (ft) (1423.4m) site 9 (SEM). (Table 4-1A)



- 6 Tur
- 7 Brt (cont)
- 8 Sd+Chl+other
- 9 Mag
- 10 Sd+other

Figure 4-1.10: Sample B-93 4670 (ft) (1423.4m) site 10 (SEM). (Table 4-1A)



- 1 Kfs+Chl
- 2 F-Ap+other
- 3 Brt (cont)
- 4 Ank

Figure 4-1.11: Sample B-93 4670 (ft) (1423.4m) site 11 (SEM). (Table 4-1A)



- 1 Mag
- 2 Mag
- 3 Fsp
- 4 Cal+other
- 5 Sd+other

Figure 4-1.12.: Sample B-93 4670 (ft) (1423.4m) site 12 (SEM). (Table 4-1B) see location in Fig.4-1.1



- 1 Mag
- 2 Mag

3 Mag+other

- 4 Sd+other
- 5 Ank
- 6 Sd+other

Figure 4-1.13: Sample B-93 4670 (ft) (1423.4m) site 13 (SEM). (Table 4-1B) see location in Fig.4-1.1



- 1 Sd+other
- 2 Sd+other
- 3 Qz
- 4 Sd+other

Figure 4-1.14: Sample B-93 4670 (ft) (1423.4m) site 14 (SEM). (Table 4-1B) see location in Fig.4-1.1



- 1 Sd
- 2 Sd+other
- 3 Ank
- 4 Sd+Py+other

Figure 4-1.15: Sample B-93 4670 (ft) (1423.4m) site 15 (SEM). (Table 4-1B) see location in Fig.4-1.1



- 1 Sd+other
- 2 Sd+other
- 3 Sd+other
- 4 Sd+other

Figure 4-1.16: Sample B-93 4670 (ft) (1423.4m) site 16 (SEM). (Table 4-1B) see location in Fig.4-1.2



- 1 Cal
- 2 Sd+Chl+other
- 3 Sd+other
- 4 Sd+other
- 5 Sd+Chl+other

Figure 4-1.17: Sample B-93 4670 (ft) (1423.4m) site 17 (SEM). (Table 4-1B) see location in Fig.4-1.2



Figure 4-1.18: Sample B-93 4670 (ft) (1423.4m) site 18(SEM). (Table 4-1B) see location in Fig.4-1.4



2 Sd+other

3 Sd+other

- 4 Sd+other
- 5 Sd+other
- 6 Cal

Figure 4-1.19: Sample B-93 4670 (ft) (1423.4m) site 19 (SEM). (Table 4-1B) see location in Fig.4-1.4



Figure 4-1.20: Sample B-93 4670 (ft) (1423.4m) site 20 (SEM). see location in Fig.4-1.1


Figure 4-1.21: Sample B-93 4670 (ft) (1423.4m) site 21 (SEM). see location in Fig.4-1.1



Figure 4-1.22: Sample B-93 4670 (ft) (1423.4m) site 22 (SEM). (Table 4-1B)



- 1 Sd+Py+Qz
- 2 Qz+other
- 3 Sd+other
- 4 Sd+other
- 5 Kfs+Chl
- 6 Ms
- 7 Sd+other
- 8 Sd+Py+Qz

Figure 4-1.23: Sample B-93 4670 (ft) (1423.4m) site 23 (SEM). (Table 4-1B)



Figure 4-1.24: Sample B-93 4670 (ft) (1423.4m) site 24 (SEM). (Table 4-1.B)



Figure 4-1.25: Sample B-93 4670 (ft) (1423.4m) site 25 (SEM). (Table 4-1B)

Table 4-1A: SEM analyses from sam	ple Mohawk B-93 4670 ft (1423.4 m).
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Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	CoO	NiO	CuO	ZnO	SrO	BaO	WO_3	PbO	B_2O_3	Total	Actual Total
1	1	Brt (cont)											22.57								41.29			36.14	100	190
1	2	Brt (cont)	2.78		0.51	1.14			1.72				20.13							0.72	34.77	0.57		37.69	100	179
1	3	Qz	99.86			0.13																			100	136
1	4	F-Ap+Pv				0.49			49.14	0.88		37.99	1.67	9.77								0.09			100	129
1	5	Brt (cont)				0.55			-				39.28								60.18				100	129
1	6	Ŵlf				47.75	0.54		3.01	1.87			1.12									45.70			100	81
1	7	Sd+Py+Qz	1.07			54.64	0.51						0.55		0.21										57	79
1	8	Sd+Py+other				48.55	0.43		0.67	0.40			0.48									6.44			57	88
1	9	Sd+Chl+other	17.49	0.80	10.85	45.70	0.17	4.68	0.54		1.36	0.79			0.22							2.33			90	97
1	10	Ank	0.31	2.04		39.64	0.39	3.39	10.20																56	82
1	11	Ilm+other	2.19	5.87	1.61	67.39	0.65		1.16													8.91			100	84
1	12	Qz	99.41			0.59																			100	129
1	13	Cal+Sd				16.72	1.33	1.21	80.73																100	65
1	14	Sd+Py+Qz	1.40			53.36	0.38		0.67				1.03		0.13										57	77
1	15	Sd+other				47.34	0.86		0.95				0.66									7.17			57	78
1	16	Qz	99.67			0.33																			100	127
1	17	Sd+Chl+Kfs	22.70	0.40	12.17	57.11		2.11	0.55		2.12	0.69										2.18			100	93
1	18	Qz	99.62			0.36																			100	126
1	19	Sd+other			0.67	42.24	0.71		1.76				0.43									11.15			57	76
1	20	Sd+other				53.54	0.62		0.34				0.80									1.68			57	73
1	21	Sd+Py+other	9.62		3.80	41.41	0.27	0.46	0.23		0.32		0.85												57	83
1	22	Mag				98.93	1.07																		100	103
1	23	Kfs	65.52		17.88	0.68				1.64	13.86										0.40				100	124
1	24	Sd+Py+Qz+other	1.23		0.46	51.44	0.85		0.65				0.46									1.87			57	75
1	25	Sd+other				37.96	0.37		1.77	1.00			0.63									15.23			57	52
1	26	Sd+other	0.94		0.47	53.54	0.66		0.56				0.65		0.13										57	78
1	27	Chl+Cal	28.52		19.08	20.11	0.43	3.43	23.72	0.63	0.54											3.57			100	88
1	28	Sd+Chl	9.39	2.99	12.04	65.80		1.92	0.78		0.65	1.49			0.29							4.65			100	77
1	29	Sd+other			1.17	38.24	0.33		1.80	0.72												14.71			57	51
1	30	Sd+Qz+other	1.80		0.93	40.82	0.43		1.25	0.70												11.02			57	76
1	31	Sd+Qz+other	1.21		0.80	41.72	0.35		1.41	0.42												11.03			57	85
1	32	llm		69.93	0.64	25.73	1.17		0.31													2.22			100	97
1	33	Glt	47.97		5.69	25.62		2.95			7.74														90	101
1	34	Glt	51.39		5.42	21.69		3.33			8.16														90	104
1	35	Glt	31.65	0.42	7.45	43.45	0.71	2.51			3.80														90	95
1	36	Sd				54.12	0.52		0.35				0.80									1.18			57	72
1	37	Qz	99.30			0.71																			100	127
1	38	Ру				28.11							71.89												100	237
1	39	Ank				10.48	0.93	12.61	31.97																56	66
1	40	Sd+other				27.30	0.35		2.67	0.53												26.12			57	68
1	41	Sd+Py+other	0.91			54.09	0.38		0.55				1.05												57	79
1	42	Qz	99.75			0.26																			100	130
1	43	Brt (cont)				0.30							38.26								61.45				100	117
1	44	Sd+other	0.82		0.36	54.04	0.60		0.59				0.57												57	69

1000 ± 17	Table 4-1A:	SEM analyses	from sample	Mohawk B-9	93 4670 ft	(1423.4 m).
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Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	Cr_2O_3	CoO	NiO	CuO	ZnO	SrO	BaO	WO_3	PbO	B ₂ O ₃	Total	Actual Total
1	45	Sd+Qz	2.13		0.51	51.63	0.19		2.01				0.51												57	76
1	46	Kfs	54.44		11.85	21.42		2.74	0.52	0.40	7.29											1.35			100	102
1	47	Qz	99.69			0.30																			100	112
1	48	Sd+Qz+other	1.29		1.02	46.37	0.53		1.14			0.36										6.27			57	70
1	49	Sd+other	0.85			51.20	0.30		0.79													3.84			57	74
1	50	F-ap (diag)			0.42	3.11		0.35	46.75	1.12		35.36	0.47 8	3.58						0.67		3.15			100	111
1	51	Py	0.13			28.28							71.59												100	239
1	52	Mag	5.50			89.33	1.08								0.88		2.38	0.84							100	110
1	53	Sd+Qz+other	1.24		0.61	46.24	0.32		2.35													6.01			57	78
1	54	Sd+other				44.51	0.24		1.05	0.49												10.71			57	84
1	55	Sd+other	0.94			53.50	0.33		0.55				0.38		0.21							1.06			57	79
1	56	Sd+other				44.24	0.67	0.37	1.33	0.46												9.89			57	75
1	57	Cal+Sd	2.03		1.27	13.42	0.39	2.01	78.33													2.57			100	64
1	58	Sd+other			0.94	46.26	0.42	0.44	0.87													8.06			57	72
1	59	Ank				11.18	1.09	12.77	31.93																56	57
1	60	Kfs+Chl+other	50.96		12.11	23.36		2.92	0.67	0.47	6.82											2.70			100	97
1	61	Sd+Kfs+Chl+other	37.56	0.83	12.51	37.54		2.60	0.77	0.49	4.16											3.54			100	91
1	62	Sd+other				39.20	0.59		10.72													6 46			57	65
1	63	Pv				28.51							71 49												100	225
1	64	Sd+other				47.50	0.63		0.73				0.60									7 52			57	76
1	65	Sd+other	0.78			51 96	0.83		0.51				1.28									1.63			57	45
1	66	Sd+other	0.70			45 25	0.00		0.84				1.20									10.48			57	77
1	67	Cal+Chl	2 97		2 1 2	6.43	0.42	1 61	86 39													10.40			100	61
1	68	Cal+Kfs	2.07		1.02	2 29	0.10	2 16	91 44		0.16														100	58
1	69	Sd+other	1.32		0.70	50.47	0.33	2.10	0.67		0.10		0.41									3.07			57	73
1	70	Oz	99 15		0.70	0.84	0.00		0.07				0.41									0.07			100	117
1	71	Sd+other	0.67			54 72	0.50		0.55				0.52												57	73
1	72	FeO	0.07			97.61	1 10		0.34				0.02												100	107
1	73	Sd+other	0.30			54 65	0.52		0.04				0.62												57	71
1	73	Sd+other	0.71			53.05	0.52		0.47				0.02									1 /0			57	72
1	75	Sd+othor	0.05		0.48	52.30	0.50		0.43				0.03									1.40			57	66
1	76	Sd+othor	0.95		1.00	37.00	0.33		1.99	0.57			0.45									15 11			57	55
1	70	Sdu Dyu othor			0.50	20.25	0.43		1.00	0.57			0.69									14.50			57	55
	70	Su+Fy+other			0.59	59.25	0.34		0.77				0.00									14.00			57	70
	70	Sd+Py+other				51.00	0.43		0.77				0.03									3.30			57	<u>70</u> 52
	19	Su+Fy+other	0.64			52.19	0.30		0.71				1.09									1.09			57	70
1	80	Sa+Py+other	0.64			53.82	0.50		0.51				0.60								25.24	0.90		40.05	5/	12
1	81	Brt (cont)			0.40	0.19	0.00		1.04				18.13								35.34	7.40		46.35	100	179
	82	Sa	0.00		0.43	47.49	0.39		1.24	0.07												1.43			5/	/1
1	83	Sd+other	8.62		3.50	/5.25	0.88		1.48	0.94								4 76				9.32			100	58
1	84	Py+Sp				5.66							50.79					4.72	38.83						100	167
1	85	Qz	99.84			0.17	0.55		0.00				0.74												100	109
1	86	Sd+other	0.70			54.47	0.58		0.36		1.05		0.71												57	82
1	87	Chl+other	32.32	0.25	12.92	48.95	0.54	1.34	0.50	0.43	1.28		0.62									0.87			100	97
1	88	Sd+other				49.70	0.70		0.73													5.85			57	86

Table 4-1A: SEM analyses from sample Mohawk B-93 4670 ft (1423.4 m).

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	CoO	NiO	CuO	ZnO	SrO	BaO	WO_3	PbO	B_2O_3	Total	Actual Total
1	89	Sd+other				53.19	1.11		0.42				0.41									1.85			57	80
1	90	Kfs	59.53		16.91	5.12			0.87	0.69	12.58		3.42									0.88			100	135
1	91	Sd+Kfs+Chl+other	12.94		4.55	77.03	0.57	0.76	0.85		0.48		0.80									1.78			100	87
1	92	Sd+other				44.47	0.43		1.17													10.90			57	70
1	93	Sd+Kfs+Chl+other	23.51	3.79	11.47	46.03	0.39	0.98	1.54	0.92	1.05											10.33			100	85
1	94	Sd+Qz+other	1.10		0.61	51.01	0.38		0.57													3.32			57	77
1	95	Kfs	62.61		17.23	6.12				0.82	13.20														100	123
1	96	Sd+Py+other			0.45	44.06	0.24		0.99				1.26									9.67			57	50
1	97	Sd+other	11.44		5.93	61.93	2.26	1.11	1.99		0.29											15.03			100	67
1	98	Sd+other	0.67			52.34	0.61		0.63													2.73			57	71
1	99	Sd+other	2.87		1.43	31.87	0.50	0.74	11.98													7.59			57	46
1	100	Sd+other	2.76		1.49	74.33	0.90		1.87	0.69												17.94			100	76
1	101	Sd+other	2.20		1.15	70.15	0.68	0.78	2.21	1.54			0.72		0.35							20.20			100	80
1	102	Sd+other			1.03	40.38	0.88		2.23	0.53												11.92			57	77
1	103	Sd+other	5.39		2.65	78.72	1.42		1.58	0.73			0.80									8.73			100	77
1	104	Sd+other	1.39		0.39	47.20	0.33		1.12				0.74									5.81			57	77
1	105	Sd+other	3.64		0.41	49.69	0.33		0.47				0.83									1.47			57	69
1	106	Sd+other		0.43		47.76	0.37		0.74	0.46												7.21			57	68
1	107	Sd+other			1.17	37.64	0.33		1.63				0.71									15.50			57	73
1	108	Sd+other	5.18		3.80	60.79	0.56		3.20	0.98	0.28		1.27									23.98			100	65
1	109	Sd+other	0.66		0.37	52.32	0.64		0.62				0.78		0.18							1.40			57	72
1	110	Sd+other			0.53	45.66	0.43		0.95						0.43							8.76			57	74
1	111	Sd+other			0.55	43.90	0.48		1.16	0.64			0.43									9.79			57	73
1	112	Sd+other	7.87		2.97	80.30	0.96		0.94		0.73		0.90									5.33			100	84
1	113	Sd	0.87		0.34	53.31	1.08		0.43				0.78		0.14										57	71
1	114	Sd+other				50.27	0.96		0.52													5.23			57	68
1	115	Cal+other				16.91	0.37	0.45	31.68													6.56			56	58
1	116	Sd+other				50.57	0.73		0.84				0.79									3.85			57	67
1	117	Sd+Chl+other	1.71		1.68	81.34	0.87	0.68	1.29													12.43			100	69
1	118	Sd+Cal+Qz+other	16.84		2.46	44.14	0.54		32.39													2.98			100	28
1	119	Sd+other	0.97		0.43	52.80	0.65		0.95				0.96		0.19										57	73
1	120	Sd+Kfs+Py	12.66		4.89	77.91	0.83		1.94		0.65		1.10												100	82
1	121	Cal+Sd+Chl	3.42		2.38	15.39		1.64	75.04		0.19											1.93			100	63
1	122	Sd+other	0.70			52.24	0.70		0.49				0.82									1.88			57	81
1	123	Sd+other				50.73	0.60	0.39	0.18				0.41									4.10			57	77
1	124	Sd+other				15.01			9.39	0.67												74.93			100	53
1	125	Sd+other				44.00	0.42		1.60													10.96			57	60
1	126	Sd+other				46.03	0.78		3.27				0.57									6.34			57	84
1	127	Sd+other	1.18		0.48	48.05	0.63		0.94				0.96									4.38			57	83
1	128	Qz+llm+Cal	87.47	5.97		1.03			5.51																100	121
1	129	(Alt IIm) Rt	0.98	97.55	0.43	0.66			0.41																100	112
2	1	Ank	1.03			8.74	0.27	14.07	31.87																56	69
2	4	Qz	99.84			0.15																			100	122
2	8	Sd+Chl+other	19.12	1.53	15.68	53.38		2.64	0.66	0.66	0.89	0.94			0.32							4.17			100	90

Table 4-1A: SEM analyses from sample Mohawk B-93 4670 ft (1423.4 m).

Site	Position	Mineral	$\rm SiO_2$	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	CoO NiO	CuO	ZnO	SrO	BaO	WO_3	PbO I	3 ₂ O ₃	Total	Actual Total
2	9	mix	33.11		20.41	7.08	0.17	1.77	18.25		5.72	10.86	0.42	2.22										100	118
2	10	Sd+Chl+Kfs+other	7.79	1.73	11.03	70.83	0.27	2.06	0.73		0.48	0.87			0.28						3.93			100	83
2	11	Brt (cont)				0.27							37.76						0.89	61.09				100	109
2	15	Sd+other	1.65		1.18	40.44	0.58		2.03	0.49											10.60			57	80
2	24	Sd+other	1.14		0.65	51.33	0.63		0.95				0.35								1.90			57	83
2	25	Py	0.24		0.19	28.30			0.46				70.27											100	214
2	27	Sd+Chl+other	37.24		22.56	30.30		5.39	1.47	0.49	0.78										1.79			100	81
2	28	Sd+Chl+other	31.53	0.40	13.15	45.40		2.19	0.55	0.50	3.65										2.61			100	98
2	33	mix	29.22		17.23	42.25	0.67	3.68	0.81	0.62	0.86										4.65			100	100
2	35	Sd+Chl+Kfs	36.00	1.63	17.84	30.12	0.26	7.43		0.39	6.34													100	102
2	36	Brt (cont)				2.25							36.81							60.96				100	99
2	54	Ms	39.05	0.39	27.40	17.13		0.94		0.55	6.68										0.86			93	106
2	55	Sd+Chl+Kfs+other	15.12	0.32	15.19	63.89		1.96	0.32		1.61	0.78									0.82			100	88
2	56	Sd+other			1.10	46.26			1.99	0.73											49.92			100	49
2	58	Sd+Chl+Fsp	24.58		9.69	43.37	0.70	1.13	3.62	0.94	0.95										15.03			100	54
3	1	PbO (cont)																				100.01		100	92
3	2	Brt (cont)				0.21							26.92						0.95	45.84		2	26.12	100	155
3	11	Cal				1.56	0.38	1.33	52.71															56	56
3	21	Cal+Chl+Kfs	17.16		13.77	2.20		1.54	60.14	0.69	2.08			2.41										100	75
3	22	Sd+Chl+other	8.90	0.37	12.83	71.25	0.25	3.03	0.36		0.45	1.44									1.12			100	75
3	23	Sd+Chl+other	7.34	1.35	5.99	80.91		1.63	0.41		0.29	1.76												100	74
3	24	Py				28.19							70.94											100	207
3	39	Sd+Chl+other	4.72	0.70	4.43	41.93		1.19	0.32		0.17	1.03									1.52			57	91
3	46	Kfs+Chl+other	44.65	0.33	9.83	33.20		3.23	0.67		6.06										2.02			100	98
4	1	Brt (cont)											38.35						1.64	60.01				100	114
4	5	Sd+other				30.17	0.28		2.06	0.35											24.10			57	68
4	9	Sd+other				34.27	0.39		1.26	1.74			0.58								18.72			57	84
4	10	Sd	0.60			56.05	0.17		0.15															57	74
4	11	Sd+other				27.28	0.65		0.54	0.38			0.60								27.51			57	78
4	13	Kfs+Sd+Chl+other	50.14	0.25	11.77	27.61		2.93		0.43	5.85										1.01			100	97
4	19	Sd+Chl+other	11.06	1.13	13.15	66.25		2.37	0.98		0.54	1.86									2.62			100	82
4	26	Mag	0.81			97.45	1.19			0.55														100	141
4	46	Sd+other				24.33			0.55	1.01											31.09			57	76
4	51	Sd+other	5.99	0.52	6.10	81.43	1.07	1.19	1.08												2.64			100	85
4	52	Ilm+Chl+other	3.89	47.24	2.36	41.68	1.03	0.66	0.45				0.72								1.98			100	101
4	54	Kfs+Chl	55.43		7.44	25.11		3.65			8.38													100	95
5	1	Ab+Cal	57.87		26.28	0.41			8.81	6.12	0.48													100	130
5	5	Sd+other				16.19			3.55	0.72	0.19		0.74								35.58			57	80
5	6	Brt (cont)				0.32							37.78							61.91				100	115
5	25	Mag	0.56			98.39	1.06																	100	144
5	27	llm+Qz	8.36	83.89	3.74	2.64		0.53	0.28		0.55													100	106
6	1	Brt (cont)				0.32							38.06							61.64				100	124
6	10	Ms	45.54	0.69	32.96	1.38		0.60		0.57	10.12			1.12										93	124
6	13	Ру			0.43	46.07			0.57				47.49								5.44			100	125

Sito	Position	Minoral	SiO	TiO		E-O	MnO	MaO	C20	Na O	кO	PO	SO E	Cr O	C-00		<u></u>	ZnO	SrO	B ₂ O	WO		ΒO	Total	Actual
One	FUSILION	Willera	0102	1102	$\Lambda_2 O_3$	160	NIIIO	wigo	CaO	1Na ₂ O	120	1 ₂ 05	503 1	01203	000	NIO	CuO	2110	30	DaO	WO3	FUO	$D_2 O_3$	TOLAI	Total
6	17	Chl+Kfs+Sd+other	43.36	0.43	10.68	34.28		3.03	0.48	0.63	5.50										1.59			100	113
6	21	Sd+Chl+other	2.52	0.85	5.99	42.03	0.19	1.06	0.50			0.78		0.13							2.90			57	80
7	1	WO (cont)													3.26						96.73			100	100
7	2	Brt (cont)											37.96							62.06				100	100
7	8	Sd+Chl+Kfs+other	22.33	0.85	11.09	58.10		2.09	0.56		2.32	0.85									1.79			100	100
7	11	Kfs+Chl	56.37		7.99	22.35		3.48			8.82										1.00			100	100
7	14	Kfs+Chl	51.51		10.32	25.06		3.98			7.75										1.36			100	100
7	22	Chl	47.06	0	7.803	19.58	0	3.213		0	7.353													85	100
8	8	Kfs+Chl	55.36		9.18	23.03		3.78			8.65													100	110
8	17	Chl	0		0	0.714	0	0		1.573	0													85	102
9	1	F-Ap+Py				0.84			52.53	1.85		34.55	4.62 5.10						0.53					100	67
9	2	Rt		99.55		0.35			0.11															100	114
10	6	Tur	37.35	0.77	32.64	6.26		5.80	0.48	1.71														85	93
10	7	Brt (cont)											21.47							38.99			39.56	100	171
10	8	Sd+Chl+other	11.25	0.33	12.77	68.33		4.61	0.24		0.40	0.60									1.46			100	77
10	9	Mag	0.64			96.77	1.01							1.36										100	118
10	10	Sd+other				61.84	0.72		2.38				1.45								33.20			100	68
11	1	Kfs+Chl	57.69		10.26	20.11		3.45			8.49													100	91
11	2	F-Ap+other				0.63			54.04			41.64	3.24											100	67
11	3	Brt (cont)											38.21							61.80				100	116
11	4	Ank	1.48			14.41	4.08	40.21	39.84															100	54

Table 4-1A: SEM analyses from sample Mohawk B-93 4670 ft (1423.4 m).

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	NiO	CuO	SrO	BaO	WO_3	B_2O_3	Total	Actual Total
12	1	Mag				98.94	1.06															100	97
12	2	Mag				99.12	0.88															100	90
12	3	Fsp	64.90		17.63	1.98				1.67	13.80											100	114
12	4	Cal+other				4.41		0.73	50.38											0.45		56	59
12	5	Sd+other				49.67	0.45		0.99				0.89							4.79		57	74
13	1	Mag				99.03	0.97															100	97
13	2	Mag				99.37	0.63															100	90
13	3	Mag+other	4.81			87.71	0.49								0.64	5.50	0.84					100	115
13	4	Sd+other				47.65	0.50		96.00				66.00							7.21		57	73
13	5	Ank	1.80		0.89	16.90	0.32	0.55	33.87		0.20									1.42		56	63
13	6	Sd+other				52.00	0.51		0.62				0.46							3.38		57	76
14	1	Sd+other	0.92		0.43	53.75	0.67		0.53				0.65									57	74
14	2	Sd+other			0.59	44.43	0.33		1.24	0.42			0.48		0.39					9.08		57	77
14	3	Qz	96.84			3.16																100	231
14	4	Sd+other				42.93	0.58		1.37	0.50			0.48							11.16		57	55
15	1	Sd	0.92			53.89	0.70		0.48				0.85		0.13							57	73
15	2	Sd+other				45.83	0.87		1.10				0.79							8.40		57	75
15	3	Ank				23.59	0.61	0.52	28.16											3.10		56	66
15	4	Sd+Py+other			0.20	27.60	0.34		0.45				0.59		0.17					2.03		57	72
16	1	Sd+other			0.53	44.86	0.60		1.45				0.45							9.08		57	76
16	2	Sd+other				48.72	0.93	51.30	0.99				0.48							4.48		57	72
16	3	Sd+other	2.47		1.29	46.70	0.39	0.40	0.71											4.85		57	75
16	4	Sd+other	4.58		2.37	29.86	0.58	0.61	8.83		0.23									9.90		57	57
17	1	Cal				0.99		0.45	54.57													56	56
17	2	Sd+Chl+other	11.93		8.10	28.24	0.25	2.37	1.14		0.24									3.74		57	82
17	3	Sd+other	0.51			53.88	0.38		0.81				0.39							0.99		57	74
17	4	Sd+other	1.19			53.44	0.19		1.39				0.75									57	73
17	5	Sd+Chl+other	10.08		6.33	37.37	0.27	1.69	0.64		0.22		0.37									57	86
18	1	Sd+other	3.75	0.26	7.18	41.70	0.14	1.44	0.25		0.17	0.83								1.23		57	82
18	2	Sd+other	7.69	0.22	7.87	37.06		2.28	0.23		0.29	0.56								0.76		57	86
18	3	Sd+other	3.26	0.26	6.75	43.40	0.15	1.37	0.23			0.83								0.70		57	81
19	1	FeO	0.81			97.98	1.20															100	131
19	2	Sd+other				49.35	0.51		0.45	0.63			0.66						0.48	4.89		57	76
19	3	Sd+other	1.14			53.97	0.73		0.19				0.95									57	74
19	4	Sd+other	0.97			53.97	0.78		0.19				1.08									57	75
19	5	Sd+other	0.47			50.02	0.35		0.51											5.60		57	54
19	6	Cal				1.54		1.80	51.78				0.86									56	58
22	1	Sd+other				48.82	0.37		0.55											6.27		57	73
22	2	Sd+other				35.88	0.22		1.31	0.53			0.63							17.44		57	63
22	3	Sd+other			0.55	49.43	0.80		0.47											4.76		57	73
22	4	Sd+other			0.45	46.40	0.34		0.67				0.60							7.54		57	79
22	5	Sd+other	9.72		4.64	36.16	0.40	1.78	0.63	0.70			0.38	0.42	0.21					0.77		57	60

Table 4-1B SEM analyses from sample B-93 4670 ft (1423.4m)

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K_2O	P_2O_5	SO_3	F	Cr_2O_3	NiO	CuO	SrO	BaO	WO_3	B_2O_3	Total	Actual Total
22	6	Brt (cont)				7.94							35.48						56.21	0.35		100	117
22	7	Cal+other	2.72		1.34	28.11		2.12	65.72													100	45
22	8	Sd+other				49.69	0.64		0.44											5.24		57	74
22	9	Sd+other	6.62		2.55	35.63	0.66		1.69	0.50	0.35									7.97		57	80
22	10	Sd+other	1.52		0.99	45.37	0.77		0.54											6.82		57	77
22	11	Sd+other	1.53		1.04	45.70	0.69		0.53											6.51		57	78
22	12	Sd+other	3.35		1.77	46.92	0.79		0.72		0.14		0.36							1.95		57	79
22	13	Qz+other	75.13		1.98	21.16	0.35		0.21		0.39									0.76		100	122
22	14	Sd+other	1.79		0.96	49.62	1.02		0.27											2.35		57	77
23	1	Sd+Py+Qz	0.72			53.33	0.80		0.30				0.85									57	72
23	2	Qz+other	78.23		1.30	19.93		0.32			0.20											100	128
23	3	Sd+other	6.22		4.77	42.15		0.90	0.12	0.35	0.33	0.32								0.83		57	85
23	4	Sd+other	3.26	0.18	3.50	46.84		0.66				0.44								0.92		57	82
23	5	Kfs+Chl	58.12		16.74	14.60		1.99			8.54											100	117
23	6	Ms	46.57		33.69	8.71		0.41		0.85	9.78											100	113
23	7	Sd+other	4.91		4.56	44.96		0.86	0.11			0.37										57	86
23	8	Sd+Py+Qz	1.08			52.66	1.00		0.39				0.73		0.14							57	72
24	1	Brt (cont)				6.82							35.66					1.32	55.58	0.64		100	117
24	2	Sd+other	3.62	0.70	5.49	43.95	0.17	1.30	0.39			0.37										57	82
24	3	Cal+other			2.55	16.53		1.56	79.36													100	42
24	4	Ilm+ChI+Sd+other	23.60	12.34	4.97	44.25	1.19	3.48	4.90		0.64									4.62		100	89
24	5	Chl+Sd+Py+other	24.24		7.58	37.09	0.74	3.35	13.40	1.04	1.69		1.10							9.80		100	78
24	6	Sd+other	3.43		1.11	49.97	0.59	0.53	0.37													57	74
24	7	Qz+other	83.06	0.18	2.40	12.58		0.46			1.30											100	119
24	8	Chl+Kfs+other	39.38	0.35	12.28	38.75		3.07			4.94									1.22		100	97
24	9	Sd+other	3.63	0.35	5.22	45.42		0.75	0.10			0.55										57	81
24	10	Chl+Kfs+other	33.88	0.47	17.72	39.10		1.99		0.58	4.35	0.25								1.64		100	102
24	11	Sd+other	4.46		4.57	45.58		0.96				0.43										57	80
24	12	Chl+Kfs+other	38.31	0.98	11.85	39.78		2.82		0.47	4.35									1.41		100	98
24	13	Chl+Kfs+other	31.66	0.45	11.07	48.24		2.52	0.24		3.76	0.27			0.23					1.55		100	93
25	1	Sd+other	4.71	0.50	6.06	41.62	0.23	0.79	0.26			0.34								2.51		57	83
25	2	Sd+other	5.17	0.34	7.87	40.60	0.16	1.52	0.12		0.17	0.39								0.64		57	85
25	3	Sd+Py+Qz	1.02		0.35	52.79	0.78		0.39				0.52		0.16							57	79
25	4	Brt (cont)			0.32	0.89			0.59				21.30						43.09		33.82	100	150
25	5	Chl+Kfs+other	45.22		9.77	35.01		3.71	0.25		6.05											100	105
25	6	Chl+Kfs+other	35.15		5.48	47.60		1.69	0.66		7.97		1.05									100	35
25	7	Sd+other	10.10	0.34	4.30	38.07		1.41	0.17		1.15	0.46										57	87
25	8	Kfs+Chl	54.21		10.35	23.09		3.93			8.43											100	100

Table 4-1B SEM analyses from sample B-93 4670 ft (1423.4m)

Appendix 4-2 Back-scattered images and EDS geochemical mineral analyses of sample Mohawk B-93 5170 (ft) (1577.33 m)



Figure 4-2.1: Sample B-93 5170 (ft) (1577.33 m) site 1 (SEM). (Table 4-2)



3 llm 4 llm

- 5 Ilm+other
- 6 Tur
- 7 F-Ap
- 8 Rt
- 10 Ilm+other

Figure 4-2.2: Sample B-93 5170 (ft) (1577.33 m) site 2 (SEM). (Table 4-2)



Figure 4-2.3: Sample B-93 5170 (ft) (1577.33 m) site 3 (SEM). (Table 4-2)



Figure 4-2.4: Sample B-93 5170 (ft) (1577.33 m) site 4 (SEM). (Table 4-2)



- 1 Ilm 2 Ilm+Qz 3 (Alt IIm) Rt 4 Sd+Chl 5 Ilm+other 6 Ilm+other 7 Zrn 8 Zrn
- 13 Zrn 14 Zrn
- 17 Rt

Figure 4-2.5: Sample B-93 5170 (ft) (1577.33 m) site 5 (SEM). (Table 4-2)



Figure 4-2.6: Sample B-93 5170 (ft) (1577.33 m) site 6 (SEM). (Table 4-2)



- 1 Ilm+Qz
- 2 Ilm+other
- 3 TiO2 mineral
- 4 Ilm
- 6 Tur
- 8 Bt
- 9 Chl
- 10 Ms
- 17 Chl
- 18 Sd+ChI+Kfs+other

Figure 4-2.7: Sample B-93 5170 (ft) (1577.33 m) site 7 (SEM). (Table 4-2)



2 Rt 3 Sd

- 4 Ilm+Kfs
- 8 Ilm+Qz

Figure 4-2.8: Sample B-93 5170 (ft) (1577.33 m) site 8 (SEM). (Table 4-2)



1 Zrn

2 Sd+Chl+other

3 Sd+Chl+other

- 4 Chl+Sd+Kfs+other
- 5 (Alt Ilm) Rt+Chl

Figure 4-2.9: Sample B-93 5170 (ft) (1577.33 m) site 9 (SEM). (Table 4-2)



- 1 Tur 2 Glt
- 3 Glt
- 8 Kfs+Chl

Figure 4-2.10: Sample B-93 5170 (ft) (1577.33 m) site 10 (SEM). (Table 4-2)



Figure 4-2.11: Sample B-93 5170 (ft) (1577.33 m) site 11 (SEM).



Figure 4-2.12: Sample B-93 5170 (ft) (1577.33 m) site 12 (SEM). (Table 4-2)

Site	Position	Mineral	SiO_2	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	ZnO	SrO	Y ₂ O ₃	ZrO_2	BaO ⊦	lfO ₂ V	VO ₃	Total	Actual Total
1	1	Zrn	31.68																67.23	1	.08		100	135
1	2	Zrn	31.64																67.58	0).78		100	115
1	3	llm	1.24	75.18	1.32	20.89	0.85		0.52														100	89
1	4	llm	0.81	53.76	0.62	41.13	3.46		0.21														100	109
1	5	St	31.21	0.45	56.93	10.19	0.30	0.41								0.50							100	105
1	15	WO				0.41															98	3.95	100	112
1	16	Alm-Sps	39.66		21.13	27.80	8.17	1.97	1.27														100	121
1	17	llm	1.16	62.27		35.35	0.94		0.28														100	111
2	3	llm	0.90	64.74	0.40	32.78	0.71		0.48														100	114
2	4	llm	0.49	69.12	0.79	29.15	0.22		0.22														100	116
2	5	llm+other	6.23	57.88	0.51	34.22	1.16																100	95
2	6	Tur	37.54	1.00	31.58	4.35		6.98	0.84	1.87													85	98
2	7	F-Ap				0.23	1.02		47.13	1.13		37.49	3.22	9.48			0.32						100	125
2	8	Rt	1.26	97.40	0.42	0.31			0.63														100	100
2	10	llm+other	2.57	71.53	0.45	24.60	0.57		0.28														100	91
3	1	llm+other	3.06	58.65	0.40	35.82	2.09																100	94
3	2	Ilm+other	15.72	53.29	8.30	18.36	1.41	0.56			2.36												100	95
3	3	Sd+Chl	12.98		5.97	74.59		1.77	3.97		0.72												100	73
3	4	Tur	37.09	0.60	33.12	6.26		5.50	0.66	1.77													85	112
3	6	llm+Qz	19.62	52.21		27.70	0.25		0.24														100	133
3	8	TiO2 mineral	0.45	99.22	0.34																		100	97
3	9	Alm-Sps	39.70		21.05	23.12	10.91	1.18	4.04														100	107
3	10	llm+other	1.09	71.33	0.47	26.63	0.22		0.27														100	98
3	13	Zrn	30.46		0.85	0.58			0.80									1.63	63.39	1	.90		100	105
3	14	Chl	26.31		22.02	21.28	0.52	14.88															85	103
4	1	llm	0.86	64.37		31.87	2.90																100	113
4	2	llm+Qz	4.15	68.57	0.96	24.80	1.29		0.21														100	110
4	3	llm+other	2.78	63.42	1.68	31.03	1.08																100	114
4	4	llm	0.45	64.22		35.06	0.28																100	114
4	5	llm+Qz	1.65	66.61	0.77	30.75			0.22														100	110
4	6	llm	0.53	68.69		28.84	1.73		0.20														100	106
4	7	Kfs	65.69		18.06					0.43	15.43									0.37			100	118
4	9	llm+other	1.97	77.23	2.00	16.79	0.21		0.48												1	.32	100	104
4	15	Chl	26.33		21.36	22.98	0.41	13.92															85	111
4	19	Mag				99.32	0.68																100	104
4	20	TiO2 mineral+Qz	31.36	68.31					0.35														100	144
4	22	Glt	39.12	0.19	9.10	30.42		2.82			5.90	0.47											88	104
5	1	llm	0.60	65.52		33.45	0.43																100	118
5	2	llm+Qz	9.80	56.58	0.74	32.12	0.52		0.25														100	123
5	3	(Alt IIm) Rt	1.71	90.86	1.93	2.56			0.67						0.69						1	.59	100	114
5	4	Sd+Chl	9.97		6.50	78.59	0.49	1.11	0.90		0.22										2	.23	100	90
5	5	Ilm+other	1.33	60.53	0.62	34.99	2.00			0.51													100	113
5	6	Ilm+other	3.53	62.40	3.44	29.14	0.83		0.25		0.41												100	121

Table 4-2: SEM analyses from sample B-93 5170 ft (1577.33 m)

Cito	Desition	Minorol	SiO	TiO		F _0	Mao	Mao	6-0		КO	РO	50	г	Cr O	7-0	8-0	V O	7:0	BeO.	ЦfO	WO	Total	Actual
Sile	Position	Mineral	3102	10_2	Al_2O_3	FeO	MINU	ivigO	CaO	Na ₂ O	R ₂ 0	F_2O_5	303	F	CI ₂ O ₃	200	310	$1_{2}O_{3}$	2102	БаО		VVO ₃	Total	Total
5	7	Zrn	32.24		0.38	1.10													64.34		1.94		100	152
5	8	Zrn	31.60			0.30													66.92		1.19		100	144
5	9	llm	0.94	61.02	0.62	35.69	1.72																100	99
5	10	Zrn	31.81																67.04		1.16		100	115
5	13	Zrn	31.77																66.99		1.25		100	126
5	14	Zrn	31.75			0.21													67.19		0.86		100	119
5	17	Rt		99.83		0.18																	100	115
6	1	Zrn	31.64																67.01		1.36		100	130
6	2	llm	0.58	60.97	0.47	36.69	1.29																100	106
6	3	IIm+Qz	4.71	54.65	0.66	35.51	3.95		0.52														100	106
6	4	IIm+Qz	3.06	65.17	0.96	29.74	0.80		0.27														100	97
6	5	Sd+other	7.17		1.15	87.70	0.43	1.58	1.37				0.62										100	72
6	6	llm	0.71	68.82	0.36	29.41	0.32		0.38														100	111
6	8	Ilm+other	5.13	86.82	2.06	2.01			0.34		0.52		1.45			1.66							100	122
6	9	Chl	25.55		22.53	23.97	0.48	12.32	0.14														85	112
6	11	Tur	37.62	0.65	30.89	7.07		6.19	0.60	2.00													85	114
6	16	llm+other	1.09	73.76	1.34	22.02	1.17		0.34						0.26								100	110
7	1	llm+Qz	4.19	60.90	0.55	32.60	1.60		0.17														100	104
7	2	Ilm+other	2.46	59.40	1.13	34.61	1.20			1.17													100	110
7	3	TiO2 mineral	3.66	93.53	1.70	0.78			0.34														100	102
7	4	llm	1.78	63.62	0.42	32.46	1.47		0.25														100	105
7	6	Tur	37.37	0.60	28.36	9.25		6.34	0.90	2.18													85	111
7	8	Bt	35.37	1.06	25.02	25.88		1.75		0.88	5.16					0.23						0.64	96	118
7	9	Chl	28.08		21.86	20.65	0.84	13.32	0.25														85	103
7	10	Ms	47.87	0.40	31.03	3.56		0.66		0.95	8.53												93	97
7	17	Chl	25.70		22.84	23.13	0.14	13.21															85	114
7	18	Sd+Chl+Kfs+other	32.07		9.24	49.26	0.27	2.82	0.76	0.43	3.29		0.62									0.95	100	105
8	1	Tur	36.92	0.62	28.54	9.83		5.91	1.01	2.19													85	83
8	2	Rt		99.47		0.35			0.20														100	118
8	3	Sd				55.39	0.50		0.43				0.43										57	78
8	4	llm+Kfs	10.44	53.96	8.13	23.38	2.00	0.60			1.51												100	119
8	8	llm+Qz	3.76	65.22	0.77	26.15	0.68		0.27										3.13				100	106
9	1	Zrn	31.79																67.20		1.00		100	138
9	2	Sd+Chl+other	12.34	1.63	11.89	69.79		2.60	0.35		0.49	0.89											100	73
9	3	Sd+Chl+other	17.97	1.33	13.89	61.19		2.34	0.31		1.95	0.78			0.26								100	84
9	4	Chl+Sd+Kfs+other	38.81	0.32	9.09	40.54	0.36	3.17	0.36	0.47	5.35	0.32										0.97	100	105
9	5	(Alt IIm) Rt+Chl	12.56	72.43	4.44	4.43		1.08	0.49	0.46	1.28											2.85	100	101
10	1	Tur	37.77	0.51	30.21	7.60		6.21	0.30	2.41													85	100
10	2	Glt	50.56		5.59	20.79		3.18			7.88		İ										96	111
10	3	Glt	47.27		6.85	24.14		2.84			6.90		İ										96	111
10	8	Kfs+Chl	64.22	0.45	18.76	9.49		1.18			5.87												100	126
12	1	Glt	42.22	0.38	8.76	26.88		2.90			6.84												96	111
12	2	Glt	42.77	0.24	8.80	24.55		3.26	0.92		6.54	0.92											96	86

Table 4-2: SEM analyses from sample B-93 5170 ft (1577.33 m)

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr ₂ O ₃	ZnO	SrO	Y_2O_3	ZrO_2	BaO	HfO ₂	WO_3	Total	Actual Total
12	3	Chl	20.96	0.94	13.60	43.66	0.37	4.47	0.37		0.64												85	97
12	5	Qz+Kln	69.55		29.85	0.62																	100	123
12	7	Glt	50.04		7.18	21.21		3.30	0.62		4.46											1.20	88	99

Table 4-2: SEM analyses from sample B-93 5170 ft (1577.33 m)

Appendix 4-3 Back-scattered images and EDS geochemical mineral analyses of sample Mohawk B-93 5410 (ft) (1650.48 m)



Figure 4-3.1: Sample B-93 5410 (ft) (1650.48 m) site 1 (SEM). (Table 4-3)



Figure 4-3.2: Sample B-93 5410 (ft) (1650.48 m) site 2 (SEM). (Table 4-3)



Figure 4-3.3: Sample B-93 5410 (ft) (1650.48 m) site 3 (SEM). (Table 4-3)



1 Zrn 2 Tur 3 Tur

4 Tur

11 Ank

- 12 Chl
- 13 Chl
- 14 Sd+Chl+other
- 23 Tur
- 26 Zrn

Figure 4-3.4: Sample B-93 5410 (ft) (1650.48 m) site 4 (SEM). (Table 4-3)



Figure 4-3.5: Sample B-93 5410 (ft) (1650.48 m) site 5 (SEM). (Table 4-3)



Figure 4-3.6: Sample B-93 5410 (ft) (1650.48 m) site 6 (SEM). (Table 4-3)



Figure 4-3.7: Sample B-93 5410 (ft) (1650.48 m) site 7 (SEM). (Table 4-3)



Figure 4-3.8: Sample B-93 5410 (ft) (1650.48 m) site 8 (SEM). (Table 4-3)



Figure 4-3.9: Sample B-93 5410 (ft) (1650.48 m) site 9 (SEM). (Table 4-3)

Table 4-3: SEM analyses from sample B-93 5410 ft (1650.48 m)

1 1 Ab 656 0.207 642 1.22 1.03 0.2 0.	Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	ZnO	Y ₂ O ₃ ZrO	Gd ₂ O ₃	Dy ₂ O ₃	$\mathrm{Er}_{2}\mathrm{O}_{3}$	Yb ₂ O ₃	HfO ₂	WO_3	PbO	B_2O_3	Total	Actual Total
1 2 Ox 987 0.87 0.97 0.83 0.27 0.83 0.27 0.83 0.27 0.83 0.27 0.83 0.27 0.83 0.27 0.83 0.27 0.83 0.27 0.83 0.27 0.83 0.27 0.83 0.27 0.83 0.27 0.83 0.27 0.83 0.27 0.83 0.27 0.83 0.27 0.83 0.27 0.83 0.27 0.93 0.27 0.93 0.27 0.93 0.27 0.93 0.27 0.93 0.27 0.93 0.24 0.24 0.24 0.24 0.24 0.24 0.24 0.24 0.24 0.24 0.23 0.24 0.23 0.23 0.24 0.23 0.23 0.24 0.23 0.23 0.24 0.24 0.23 0.23 0.24 0.24 0.24 0.24 0.24 0.24 0.24 0.23 0.24 0.24 0.24 0.24 0.24 0.23 0.24 0.24 0.24 0.24 0.24 0.24 0.24 0.24 0.24 0.25 0.24	1	1	Ab	65.76		20.67	0.62			1.92	11.03																100	183
1 3 Tur 38.0 0.4.0 20.0 6.32 0.53 2.27 0 <td>1</td> <td>2</td> <td>Qz</td> <td>98.47</td> <td></td> <td>0.87</td> <td>0.39</td> <td></td> <td>0.27</td> <td></td> <td>100</td> <td>169</td>	1	2	Qz	98.47		0.87	0.39		0.27																		100	169
1 4 PRO (con) 100.11 100.11 100.01 <t< td=""><td>1</td><td>3</td><td>Tur</td><td>38.29</td><td>0.45</td><td>29.94</td><td>7.20</td><td></td><td>6.32</td><td>0.53</td><td>2.27</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>85</td><td>151</td></t<>	1	3	Tur	38.29	0.45	29.94	7.20		6.32	0.53	2.27																85	151
1 5 Zm 3.73 0.28 0.29 0.22 0.24 0.2	1	4	PbO (cont)																						100.01		100	144
1 6 lim-dz 2.20 6.29 1.23 31.6 2.21 0.22 0 </td <td>1</td> <td>5</td> <td>Zrn</td> <td>31.79</td> <td></td> <td></td> <td>0.28</td> <td></td> <td>66.4</td> <td>7</td> <td></td> <td></td> <td></td> <td>1.46</td> <td></td> <td></td> <td></td> <td>100</td> <td>210</td>	1	5	Zrn	31.79			0.28											66.4	7				1.46				100	210
1 7 Im-Qz 7.0 0.01 0.5 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.02 0.03 0.	1	6	llm+other	2.20	62.99	1.23	31.16	2.21		0.22																	100	165
I 8 lim-cher 3.08 6.128 0.22 0.22 0.22 0.21 0.01	1	7	llm+Qz	7.19	60.18	0.51	30.04	2.09																			100	162
1 9 0.2 9.2 0.2 </td <td>1</td> <td>8</td> <td>llm+other</td> <td>3.08</td> <td>61.92</td> <td>0.45</td> <td>33.86</td> <td>0.45</td> <td></td> <td>0.24</td> <td></td> <td>100</td> <td>156</td>	1	8	llm+other	3.08	61.92	0.45	33.86	0.45		0.24																	100	156
1 10 TO2 minearQ2 4.34 9.45 0.76 0.37 - - 0.23 - 0.23 - 0.23 0.03 0.00	1	9	Qz	99.07	0.62		0.32																				100	197
1 1102 minesHedge 37.84 61.88 63.41 11.9 0.23 0.23 0.24 0.24 0.25 0.24 0.24 0.25 0.25 0.24 0.24 0.24 0.25 0.25 0.25 0.24 0.24 0.25 0.25 0.25 0.25 0.24 0.25 0.25 0.25 0.24 0.24 0.25 0.26	1	10	TiO2 mineral+Qz	4.34	94.55	0.76	0.37																				100	153
1 13 Im-chr/Ks 18.8 4.11 1/3 0.28 1.9 0 <td>1</td> <td>11</td> <td>TiO2 mineral+Qz</td> <td>37.84</td> <td>61.38</td> <td>0.34</td> <td>0.19</td> <td></td> <td></td> <td></td> <td></td> <td>0.23</td> <td></td> <td>100</td> <td>146</td>	1	11	TiO2 mineral+Qz	37.84	61.38	0.34	0.19					0.23															100	146
1 13 PbC (cord) PbC	1	12	llm+Chl+Kfs	18.95	49.11	14.78	12.57	1.11	1.13		0.38	1.99															100	209
I Chi-Kisseler 33.97 0.65 1.40 0.24 0.41 0.45	1	13	PbO (cont)																						100.01		100	160
1 15 (At lim) Rubber 6.66 83.1 3.62 0.72 0.63 0.64 0.64 0.64 0.64 0.00 100 163 1 17 Ulm-other 2.00 82.49 2.55 1.30 0.55 0.64 0.64 0.64 0.64 0.77 100 163 1 18 Ulm-Attraction 3.73 1.52 1.23 3.42 0.55 0.75 0.71 0.64 0.77 0.00 163 1 19 Ulm-Motor 0.261 0.21 2.33 0.05 0.72 2.38 0.061 0.02 2.38 0.061 0.02 2.38 0.00 0.02 0.00 0.02 0.00 0.02 0.00 <td>1</td> <td>14</td> <td>Chl+Kfs+other</td> <td>33.97</td> <td>0.65</td> <td>13.40</td> <td>27.22</td> <td>0.24</td> <td>6.41</td> <td>0.24</td> <td>0.34</td> <td>2.41</td> <td></td> <td>85</td> <td>159</td>	1	14	Chl+Kfs+other	33.97	0.65	13.40	27.22	0.24	6.41	0.24	0.34	2.41															85	159
1 102 102 103 94.15 1.13 0.55 0.61 0.64 0.64 0.64 0.077 100 163 1 110	1	15	(Alt IIm) Rt+other	6.16	88.31	3.63	0.72		0.63			0.55															100	164
1 17 Ibm-other 20 82.49 2.55 11.39 0.21 0.53	1	16	TiO2 mineral+other	3.57	94.15	1.13	0.55				0.61																100	163
1 18 ImmKsonther 48.37 10.83 15.29 14.72 3.42 0.55 0.77 5.31 0 0 7.7 100 164 1 19 Im 0.60 7.39 1.045 2.58 2.05 0.60 0.42 2.88 0 0.67 100 163 1 20 Chi-other 2.981 0.271 1.795 0.24 0.67 14.85 0.67 1.895 0.67 1.00 163 1 29 St 2.971 0.53 5.29 1.24 0.67 1.44 0.67 1.44 0.67 1.46 0.30 0.30 0.47 0.83 1.00 163 1.00 163 1.00 163 1.00 163 1.00 163 1.00 163 1.00 163 1.00 163 1.00 163 1.00 163 1.00 163 1.00 163 1.00 163 1.00 163 1.00 163 1.00 163 1.00 1.00 164 1.00 166 1.00	1	17	Ilm+other	2.20	82.49	2.55	11.39	0.21		0.53						0.64											100	163
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1	18	Ilm+Kfs+other	48.37	10.83	15.29	14.72		3.42	0.55	0.77	5.31												0.77			100	164
1 20 Chlwother 261 0.21 17.36 0.24 0.67 14.95 0.67 14.95 0.07 16.95 100 182 1 29 St 29.3 St 29.3 55.29 12.50 0.21 14.4 0.55 0.53 0.52 100 182 1 32 IIIm 0.75 61.62 37.10 0.53 0.26 <td>1</td> <td>19</td> <td>llm</td> <td>0.60</td> <td>73.91</td> <td>0.45</td> <td>23.54</td> <td></td> <td></td> <td>1.50</td> <td></td> <td>100</td> <td>159</td>	1	19	llm	0.60	73.91	0.45	23.54			1.50																	100	159
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1	20	Chl+other	29.61	0.21	12.37	31.60	0.21	5.58	2.06	0.60	0.42	2.38														85	153
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	1	21	Kfs	66.19		17.95	0.24				0.67	14.95															100	182
1 32 IIm 0.75 61.62 37.10 0.63	1	29	St	29.73	0.53	55.29	12.50	0.21	1.44								0.30										100	193
2 1 Chi 26.84 0.32 21.56 0.26 1.869 0.17 N <td>1</td> <td>32</td> <td>llm</td> <td>0.75</td> <td>61.62</td> <td></td> <td>37.10</td> <td>0.53</td> <td></td> <td>100</td> <td>169</td>	1	32	llm	0.75	61.62		37.10	0.53																			100	169
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	1	Chl	26.64	0.30	22.39	21.56	0.26	13.69	0.17																	85	150
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	2	Chl	30.93	0.38	23.55	19.24	0.24	10.66																		85	148
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	3	Zrn	31.60			0.32											67.2	4				0.85				100	199
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	4	F-Ap (diag)+other				0.33			47.13	1.48		36.85	2.32	11.47												100	178
2 6 IIm+Qz 2.10 63.97 0.81 31.99 1.15 1.11 1.00 166 2 7 IIm+Kts 7.36 57.93 5.16 20.93 0.67 0.45 0.39 1.11 1.00 166 2 8 IIm 63.72 34.25 2.04 0 1.00 146 2 9 Sd+Chi+other 35.51 0.23 11.13 43.03 0.49 6.77 0.35 0.05 1.18 0 0 100 126 2 10 Im 0.83 66.77 0.35 0.05 1.18 0 0.67 85 181 2 11 Chi+Kis+other 31.95 0.89 13.14 26.60 0.29 7.11 0.27 0.37 3.70 0.67 85 181 2 14 Tur 38.17 0.52 1.71 0.54 0.54 0.54 0.54 100 155 100 </td <td>2</td> <td>5</td> <td>llm+Qz</td> <td>1.20</td> <td>66.92</td> <td></td> <td>30.72</td> <td>0.44</td> <td></td> <td>0.73</td> <td></td> <td>100</td> <td>164</td>	2	5	llm+Qz	1.20	66.92		30.72	0.44		0.73																	100	164
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	6	llm+Qz	2.10	63.97	0.81	31.99	1.15																			100	166
2 8 Ilm 100 63.72 34.25 2.04 100 146 2 9 Sd+Chl+other 35.51 0.23 11.13 43.83 0.49 6.77 0.35 0.50 1.18 100 146 2 10 Ilm 0.83 66.77 0.68 31.45 0.25 100 163 2 11 Chl+Kfs+other 31.95 0.89 13.14 26.60 0.29 7.11 0.27 0.37 3.70 100 163 2 14 Tur 38.17 0.62 31.20 5.72 6.77 0.48 2.03 100.01 100 145 2 17 Ilm 67.27 32.12 0.61 100 146 100 155 3 1 St 30.16 0.53 55.10 11.44 0.52 1.71 0.54 100 185 3 2 Tur 38.02 0.38 32.17 </td <td>2</td> <td>7</td> <td>llm+Kfs</td> <td>7.36</td> <td>57.93</td> <td>5.16</td> <td>26.93</td> <td>0.67</td> <td>0.45</td> <td>0.39</td> <td></td> <td>1.11</td> <td></td> <td>100</td> <td>156</td>	2	7	llm+Kfs	7.36	57.93	5.16	26.93	0.67	0.45	0.39		1.11															100	156
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	8	llm		63.72		34.25	2.04																			100	146
2 10 IIm 0.83 66.77 0.68 31.45 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.25 0.27 0.37 3.70 0.25 0.27 0.37 3.70 0.25 0.27 0.37 3.70 0.25 0.27 0.37 3.70 0.25 0.27 0.37 3.70 0.25 0.27 0.37 3.70 0.25 0.27 0.37 3.70 0.25 0.27 0.37 3.70 0.27 0.37 3.70 0.27 0.37 3.70 0.27 0.37 3.70 0.27 0.37 3.70 0.27 0.37 0.71 0.27 0.37 0.71 0.27 0.37 0.71 0.27 0.37 0.71 0.27 0.37 0.71 0.54 0.54 0.54 0.54 0.54 0.54 0.54 0.54 0.54 0.54 0.5	2	9	Sd+Chl+other	35.51	0.23	11.13	43.83	0.49	6.77	0.35	0.50	1.18															100	125
2 11 Chl+Kfs+other 31.95 0.89 13.14 26.60 0.29 7.11 0.27 0.37 3.70 0 0 0.67 85 181 2 13 Pb0 (cont) - - - - - - 0 100.01 100.01 100.01 100.01 100.01 100.01 145 2 14 Tur 38.17 0.62 31.20 5.72 6.77 0.48 2.03 - - - - 100.01 100 145 2 17 IIm - 6.73 5.74 0.32 1.90 - - - - 100 187 3 2 Tur 38.02 0.38 3.47 5.18 5.74 0.32 1.90 - - - - - 88 134 3 4 IIm 0.46 65.85 0.43 32.17 1.17 - -	2	10	Ilm	0.83	66.77	0.68	31.45			0.25																	100	163
2 11 Other other Other oth	2	11	Chl+Kfs+other	31.95	0.89	13 14	26.60	0.29	7 1 1	0.27	0.37	3 70												0.67			85	181
2 10 100 (100) 100 (100) 100 (100) 100 (100) 2 11 11 11 11 11 11 1100 (155) 3 1 St 30.16 0.53 55.10 11.44 0.52 (17) 0.48 2.03 11 0.54 1100 185 167 3 1 St 30.16 0.53 55.10 11.44 0.52 1.71 11 0.54 1100 187 3 2 Tur 38.02 0.38 33.47 5.18 5.74 0.32 1.90 1100 187 3 3 Git 43.97 0.46 9.85 24.12 2.95 6.67 1100 187 3 4 IIm 0.41 65.85 0.38 32.17 1.17 1100 188 180 3 5 IIm 0.56 65.85 0.43 32.14 0.99 6.67 100 145 100 145 100 145 3 6 Bt 35.96 1.46 </td <td>2</td> <td>13</td> <td>PbQ (cont)</td> <td>01100</td> <td>0.00</td> <td></td> <td>20.00</td> <td>0.20</td> <td></td> <td>0.27</td> <td>0.01</td> <td>0.10</td> <td></td> <td>0.01</td> <td>100.01</td> <td></td> <td>100</td> <td>145</td>	2	13	PbQ (cont)	01100	0.00		20.00	0.20		0.27	0.01	0.10												0.01	100.01		100	145
1 11 11 11 11 11 11 11 11 11 11 11 11 100 155 3 1 St 30.16 0.53 55.10 11.44 0.52 1.71 0.64 0.54 0.54 0.54 0.00 187 3 2 Tur 38.02 0.38 33.47 5.18 5.74 0.32 1.90 0.54 0.54 0.54 0.54 0.54 0.54 0.54 0.54 0.54 0.54 100 187 3 3 Glt 43.97 0.46 9.85 24.12 2.95 6.67 0.67 0.54 0.54 0.54 0.54 0.54 0.54 0.54 0.55 0.55 100 155 100 155 100 155 100 155 100 155 100 155 100 155 100 155 100 155 100 145 100 145 100 145 100 145 100 145 100 145 100	2	14	Tur	38 17	0.62	31.20	5 72		677	0.48	2.03																85	167
1 N	2	17	llm	00.11	67.27	020	32.12	0.61	0	0.10	2.00																100	155
3 2 Tur 38.02 0.38 33.47 5.18 5.74 0.32 1.90 0	3	1	St	30.16	0.53	55 10	11 44	0.52	1 71								0.54			1							100	187
0 1 0.00 0	3	2	Tur	38.02	0.38	33.47	5 18	0.02	5 74	0.32	1 90						0.01										85	180
0 0 0.00 0	3	3	Glt	43.97	0.46	9.85	24.12		2.95	0.02		6.67															88	134
0 1 0.10 0.03 0.03 0.03 0.09 0.00 100 145 3 6 Bt 35.96 1.46 16.27 14.43 0.14 10.29 6.44 0 0 0 0 145 3 6 Bt 35.96 1.46 16.27 14.43 0.14 10.29 6.44 0 0 0 0 145 3 6 Bt 35.96 1.46 16.27 14.43 0.14 10.29 6.44 0 0 0 0 146 3 7 IIm+Qz 2.18 66.39 0.98 30.10 0.35 0.29 0.29 0.29 0.29 0.00 146 3 9 IIm 0.79 65.27 0.51 32.45 0.50 0.48 0.19 100 136 3 10 Sd+Chl+other 21.56 0.98 10.07 58.16 0.40 5.72 0.60 0.19 1.17 100 136 3 11 Sd+Chl+other	3	4	llm	0.41	65.85	0.38	32 17	1 17	2.00			0.01															100	150
3 6 Bt 35.96 1.46 16.27 1.44 1.0.2 6.44 0 0 0 0 164 3 7 Ilm+Qz 2.18 66.39 0.98 30.10 0.35 0.29	3	5	llm	0.56	65.85	0.00	32.14	0.99																			100	145
0 100 146 3 9 Im 0.79 65.27 0.51 32.45 0.50 0.48 0 0 0 100 146 3 10 Sd+Chl+other 21.56 0.98 10.07 58.16 0.40 5.72 0.60 0.19 1.17 0 1.13 100 136 131 100 126 3 12 Bt 31.76 1.23 17.20 2.35 0.78 0.74 0.95 1.08 0.32 0.42 0.32 0.4	3	6	Bt	35.96	1 46	16 27	14 43	0.33	10.29			6 4 4															96	164
3 8 (Alt IIm) Rt+other 1.30 0.30 0.30 0.29 100 176 3 9 IIm 0.79 65.27 0.51 32.45 0.50 0.48 100 176 3 9 IIm 0.79 65.27 0.51 32.45 0.50 0.48 100 176 3 10 Sd+Chl+other 21.56 0.98 10.07 58.16 0.40 5.72 0.60 0.19 1.17 1.13 100 136 3 11 Sd+Chl+other 21.56 0.98 10.07 58.16 0.40 5.72 0.60 0.19 1.17 1.13 100 136 3 11 Sd+Chl 15.08 1.72 15.14 59.90 0.23 2.35 0.78 0.74 0.95 1.08 0.32 0.42 1.27 100 126 3 12 Bt 31.76 1.23 17.20 22.69 0.14 7.16 0.36 4.56 100 100 26 3 13 <	3	7		2 18	66 39	0.98	30.10	0.14	10.25			0.44															100	146
0 100 161 3 10 Sd+Chl+other 21.56 0.98 10.07 58.16 0.40 5.72 0.60 0.19 1.17 1.13 100 136 3 11 Sd+Chl 15.08 1.72 15.14 59.90 0.23 2.35 0.78 0.74 0.95 1.08 0.32 0.42 1 1.27 100 126 3 12 Bt 31.76 1.23 17.20 22.59 0.14 7.16 0.36 4.56	3	8	(Alt IIm) Rt+other	1.30	97.85	0.32	0.23	0.00		0.29										1							100	176
0 0	3	a		0.70	65.27	0.52	32 45	0.50		0.48									-								100	161
3 11 Sd+Ch1 15.08 1.72 15.14 59.09 0.23 0.74 0.95 1.08 0.32 0.42 1.13 100 136 3 11 Sd+Ch1 15.08 1.72 15.14 59.09 0.23 2.35 0.78 0.74 0.95 1.08 0.32 0.42 1.27 100 126 3 12 Bt 31.76 1.23 17.20 22.59 0.14 7.16 0.36 4.56 96 160 136 3 13 Tur 37.51 0.74 32.30 7.99 4.24 0.15 2.07 67.20 0.91 0.91 85 170 3 15 .7m 31.66 .74 0.24 0.15 2.07 67.20 0.91 0.91 100 266	3	9 10	Sd+Chl+other	21 56	0.0.27	10.07	58 16	0.00	5 72	0.40		0.10	1 17						-	1				1 1 2			100	136
3 11 Surrent 13.00 1.72 13.14 33.90 0.25 2.35 0.76 0.74 0.39 1.06 0.32 0.42 0.12 1.00 126 3 12 Bt 31.76 1.23 17.20 22.59 0.14 7.16 0.36 4.56 96 160 3 13 Tur 37.51 0.74 32.30 7.99 4.24 0.15 2.07 67.20 85 178 3 15 Zm 34.66 67.20 0.01 100 266	3	11	SdrChl	15.09	1 72	15.14	50.10	0.40	2.12	0.79	0.74	0.19	1.17			0.32	0.42							1.13			100	126
3 13 Tur 37.51 0.74 32.30 7.99 4.24 0.15 2.07 67.20 0.91 100 206	3	12	Rt	31 76	1.72	17.20	22 50	0.23	2.55	0.70	0.74	4.56	1.00			0.52	0.42		-					1.21			96	160
3 15 7m 3166 0.24 7.24 0.13 2.07 67.20 67.20 0.01 100 2.07	3	13	Tur	37.51	0.74	32 30	7 99	0.14	1.10	0.15	2.07	т.50							-	1							85	178
	3	15	Zrn	31.66	0.14	52.50	0.24		7.24	5.15	2.07							67.2	n	1			0.91				100	206

Table 4-3: SEM analyses from sample B-93 5410 ft (1650.48 m)

$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	ZnO	Y_2O_3	ZrO ₂	Gd_2O_3	Dy_2O_3	$\mathrm{Er}_{2}\mathrm{O}_{3}$	Yb_2O_3	HfO ₂	WO_3	PbO	B_2O_3	Total	Actual Total
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	3	22	Ab	72.88		1.19	0.14		4.48	7.09	13.62	0.60																100	209
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	4	1	Zrn	31.66			0.23												67.13					0.97				100	223
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	4	2	Tur	37.67	1.08	29.47	7.45		6.47	0.87	1.97																	85	159
4 4 Tur 38.00 0.61 32.86 5.08 6.21 0.24 2.01 85 18 4 11 Ank 4.12 0.89 10.16 0.25 11.44 29.14 56 11 4 12 Chl 27.69 20.59 23.50 0.30 12.91 65 17 4 13 Chl 28.80 10.40 36.79 0.26 6.47 0.51 0.47 0.11 0.23 0.75 85 17 4 14 Sd+Chl+other 37.63 0.33 11.77 42.47 0.19 57 0.42 1.71 0.23 0.43 0.75 85 17 4 26 Zrm 31.60 0.31 1.96 67.18 0.93 0	4	3	Tur	37.67	0.72	30.90	6.40		6.51	0.78	2.01																	85	171
4 11 Ank 4.12 0.89 10.16 0.25 11.44 21.14	4	4	Tur	38.00	0.61	32.86	5.08		6.21	0.24	2.01																	85	188
4 12 Chi 27.69 20.59 23.50 0.30 12.91 <	4	11	Ank	4.12		0.89	10.16	0.25	11.44	29.14																		56	118
4 13 Chl 28.80 10.40 36.79 0.26 6.47 0.51 0.31 0.23 1 1 0.75 85 17 4 14 Sd+Chl+other 37.63 0.38 11.77 42.47 0.19 5.72 0.42 0.70 0.51 0.51 0 0 0 0 0 0 0 100 17 4 26 Zm 31.60 0.31 0.31 0.42 0.70 0.51 0 67.18 0 0.93 100 19 5 1 Tur 37.75 0.48 31.74 6.86 5.91 0.31 1.96 0 0 0.75 85 19 5 3 Tur 37.75 0.48 31.74 6.86 5.91 0.31 1.96 0 0 0.75 85 100	4	12	Chl	27.69		20.59	23.50	0.30	12.91																			85	177
4 14 Sd+Chl+other 37.63 0.38 11.77 42.47 0.19 5.72 0.42 0.70 0.51 0 0 0 0 0 0 100 17 4 23 Tur 36.92 0.75 28.43 11.57 0.33 102 1.24 1.71 0 0 0 0 0 100 17 4 26 Zm 31.60 0.31 1.24 1.71 0 0 67.18 0 0.93 100 15 5 1 Tur 37.75 0.48 31.74 6.86 5.91 0.31 1.96 0 0 67.18 0 0.93 100 15 5 2 Tur 37.75 0.48 31.74 6.86 5.91 0.31 1.96 0 0 0 0.83 100 15 5 4 Tur 37.88 0.53 33.13 3.87 7.26 0.96 1.35 0 0 0 0 0 0 0	4	13	Chl	28.80		10.40	36.79	0.26	6.47	0.54	0.47	0.31					0.23								0.75			85	173
4 23 Tur 36.92 0.75 28.43 11.57 0.33 4.09 1.24 1.71 1 67.18 1 0.93 100 19 5 1 Tur 37.75 0.48 31.74 6.86 5.91 0.31 1 1 1 67.18 0 0.93 100 19 5 2 Tur 37.75 0.48 31.74 6.86 5.91 0.31 1.96 1 67.18 0 0.93 100 19 5 2 Tur 37.75 0.48 31.74 6.86 5.91 0.31 1.96 1	4	14	Sd+Chl+other	37.63	0.38	11.77	42.47	0.19	5.72	0.42	0.70	0.51																100	176
4 26 Zm 31.60 0.31 0	4	23	Tur	36.92	0.75	28.43	11.57	0.33	4.09	1.24	1.71																	85	172
5 1 Tur 37.75 0.48 31.74 6.86 5.91 0.31 1.96 0	4	26	Zrn	31.60			0.31												67.18					0.93				100	196
5 2 Tur 37.73 0.53 29.21 8.32 6.44 0.59 2.19 85 17 5 3 Tur 37.88 0.53 33.13 3.87 7.26 0.96 1.35 85 16 5 4 Tur 38.40 0.38 31.65 5.65 6.55 0.33 2.03 85 16 5 5 Kfs+Chl 50.89 0.28 10.37 27.07 3.80 7.58 85 16 5 11 Tur 37.53 0.24 32.57 6.54 0.41 5.05 2.50 0.20 85 16 5 13 Chl 27.66 22.36 20.16 0.19 14.63 67.19 85 15 6 1 Tur	5	1	Tur	37.75	0.48	31.74	6.86		5.91	0.31	1.96																	85	190
5 3 Tur 37.88 0.53 33.13 3.87 7.26 0.96 1.35 1 1 1 1 1 1 85 16 5 4 Tur 38.40 0.38 31.65 5.65 6.65 0.33 2.03 1	5	2	Tur	37.73	0.53	29.21	8.32		6.44	0.59	2.19																	85	170
5 4 Tur 38.40 0.38 31.65 5.65 6.55 0.33 2.03 0 0 0 0 0 0 0 100 15 5 5 Kfs+Chl 50.89 0.28 10.37 27.07 3.80 7.58 0.20 0.20 0 0 0 85 16 5 11 Tur 37.53 0.24 32.57 6.54 0.41 5.05 2.50 0.20 0.20 0 0 85 16 5 13 Chl 27.66 22.36 20.16 0.19 14.63 0 0.20 0 0 0 85 15 6 1 Tur 38.80 0.37 28.96 6.49 7.50 0.38 2.50 0 0.20 0 0 85 15 6 2 Zm 31.66 0 14.63 0 6.719 1.14 100 22 6 3 Kfs 65.20 17.69 0.19 1.26 0.61	5	3	Tur	37.88	0.53	33.13	3.87		7.26	0.96	1.35																	85	165
5 5 Kts+Chl 50.89 0.28 10.37 27.07 3.80 7.58 0.20	5	4	Tur	38.40	0.38	31.65	5.65		6.55	0.33	2.03																	85	155
5 11 Tur 37.53 0.24 32.57 6.54 0.41 5.05 2.50 0 0.20 1 <	5	5	Kfs+Chl	50.89	0.28	10.37	27.07		3.80			7.58																100	158
0 11 1100 0100 011 0100 0110 0	5	11	Tur	37.53	0.24	32 57	6.54	0.41	5.05		2 50						0.20											85	166
6 1 Tur 38.80 0.37 28.96 6.49 7.50 0.38 2.50 67.19 1.14 100 22 6 2 Zm 31.66 2 2 2 2 31.66 2 31.66 3 1.14 100 22 6 3 Kfs 65.20 17.69 0.19 1.26 0.61 15.04 2 67.19 2 1.14 100 22 6 4 Tur 37.48 0.68 28.44 9.45 6.02 1.01 1.94 2 2 2 2 36.60 36.5 15 6 7 Tur 37.71 0.78 0.73 2.67 0.65 2.07 2 66.42 1.60 100 21 6 14 Zm 31.47 0.51 2 18.68 19.14 1.72 2.81 1.75 1.29 54.63 100 21 6 18 Xtm 2 18.68 19.14 1.72 2.81 1.75 1.29	5	13	Chl	27.66	0.2.1	22.36	20.16	0.19	14 63		2.00						0.20											85	157
6 2 Zm 31.66 100	6	1	Tur	38.80	0.37	28.96	6 4 9	0.10	7.50	0.38	2 50																	85	191
6 3 Kfs 65.20 17.69 0.19 1.26 0.61 15.04 0.00 100 12 6 4 Tur 37.48 0.68 28.44 9.45 6.02 1.01 1.94 0.61 0.00 1 100 12 6 7 Tur 37.71 0.78 30.73 7.41 5.67 0.65 2.07 0.66 0.642 0.64 0.64 85 18 6 14 Zm 31.47 0.51 0.51 0.65 2.07 66.42 19.14 1.72 2.81 1.75 1.29 54.63 100 21 6 18 Xtm 0.51 0.51 0.51 0.51 0.51 0.51 54.63 100 21	6	2	Zrn	31.66	0.07	20.00	0.10		1.00	0.00	2.00								67 19					1 1 4				100	227
6 4 Tur 37.48 0.68 28.44 9.45 6.02 1.01 1.04 6 6 6 7 Tur 37.41 5.67 0.65 2.07 6 6 6 1.01 1.04 6 6 6 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.04 1.01 1.01 1.04 1.01	6	3	Kfs	65.20		17 69	0.19			1 26	0.61	15.04							00									100	198
6 7 Tur 37.71 0.78 30.73 7.41 5.67 0.65 2.07 85 18 6 14 Zm 31.47 0.51 66.42 1.60 100 21 6 18 Xtm 18.68 19.14 1.72 2.81 1.75 1.29 54.63 100 36	6	4	Tur	37.48	0.68	28.44	9.45		6.02	1.01	1.94																	85	157
6 14 Zm 31.47 0.51 100 2.07 66.42 1.60 100 21 6 18 Xtm 0.51 18.68 19.14 1.72 2.81 1.75 1.29 54.63 100 36	6	7	Tur	37.71	0.78	30.73	7 41		5.67	0.65	2.07																	85	186
6 18 Xtm 0.00 18.68 19.14 1.72 2.81 1.75 1.29 54.63 100 36	6	14	Zrn	31 47	0.10	00.10	0.51		0.01	0.00	2.07								66 42					1 60				100	214
	6	18	Xtm	•			0.01						18 68					19 14	00.12	1 72	2.81	1 75	1 29				54.63	100	367
7 1 Cbl 26 37 22 37 21 34 0.27 14 65 85 18	7	1	Chl	26.37		22 37	21 34	0.27	14 65				10.00					10.14		1.72	2.01	1.70	1.20				01.00	85	182
7 2 Tur 37.80 0.71 30.95 6.37 6.51 0.56 2.08	7	2	Tur	37.80	0.71	30.95	6.37	0.21	6.51	0.56	2.08																	85	175
7 3 Zm 3186 0.33 0.01 0.00 2.00 0.00 1.00 1.00 1.00 1.00	7	3	Zrn	31.86	0.71	00.00	0.33		0.01	0.00	2.00								66.81					0.84				100	218
	7	4	Q7	99.81			0.00												00.01					0.01				100	196
7 19 Chi-Kfe-tother 3164 054 1473 2553 024 636 033 040 237 288	7	19	Chl+Kfs+other	31.64	0.54	14 73	25 53	0.24	6.36	0.33	0.40	2 37		2.89														85	176
8 1 Zm 3170 100 0.07 110 2000 0.07 2.07 2.00 0.07 2.00 0.07 10 10 10 10 10 10 10 10 10 10 10 10 10	8	1	Zrn	31 70	0.04	14.70	20.00	0.24	0.00	0.00	0.40	2.07		2.00					67 15					1 16				100	222
8 2 Tur 37.99 0.77 29.10 7.57 6.66 0.93 1.98	8	2	Tur	37.99	0.77	29.10	7 57		6.66	0.93	1 98								07.10					1.10				85	175
8 3 Tur 37.02 053 30.06 7.94 6.70 0.54 2.21	8	3	Tur	37.02	0.53	30.06	7.94		6.70	0.50	2.21																	85	175
8 5 Tur 37.60 65 30.48 6.65 6.72 0.78 2.49	8	5	Tur	37.60	0.65	30.48	6.65		6.72	0.78	2.21																	85	147
8 7 AlmSnc 40.43 2145 25 67 5.46 2.50 4.48	8	7	Δlm-Sns	40.43	0.00	21.45	25.67	5.46	2.50	4.48	2.45																	100	103
	0	1	07	08.08		0.60	0.40	5.40	2.50	4.40																		100	213
0 1 Gez 0.00 0.00 0.00 0.00 0.00 1 9 2 Tur 37.73 0.68 2030 7.11 7.15 0.53 2.53 1 1 85 18	g	2	Tur	37.73	0.68	29.30	7 11		7 15	0.53	2.53																	85	180
0 2 101 0.00 2.00 101 0.00 <td>a</td> <td>2</td> <td>Zrn</td> <td>28.90</td> <td>0.00</td> <td>1.08</td> <td>2.15</td> <td></td> <td>1.15</td> <td>0.88</td> <td>2.00</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>2 20</td> <td>62 73</td> <td></td> <td></td> <td></td> <td></td> <td>1 20</td> <td></td> <td></td> <td></td> <td>100</td> <td>195</td>	a	2	Zrn	28.90	0.00	1.08	2.15		1.15	0.88	2.00							2 20	62 73					1 20				100	195
0 0 2.10 0.00 2.20 0.13 1.20 100 19 9 4 St 30.55 0.40 5.16 0.22 0.00 100 19	9	4	St	20.50	0.32	54.06	12.13	0 32	1.8/	0.00							0.20	2.20	52.13					1.20				100	180
0 5 7m 31.68 0.24 0.25 100	0	5		31.68	0.40	54.00	0.24	0.52	1.04								0.29		66.86					1 22				100	100
0 0 0 0 0 1.23 100 19 0 6 St 20.00 0.52 54.57 13.03 100 19	9	5	St	20 00	0.52	54 57	13.03	0.26	1.63										00.00					1.23				100	186
9 8 Tur 37.08 0.62 27.01 8.67 7.09 1.70 1.91	a	8	Tur	37.09	0.62	27.01	8.67	0.20	7.00	1 70	1 01																	85	152

Appendix 4-4 Back-scattered images and EDS geochemical mineral analyses of sample Mohawk B-93 5760 (ft) (1743.45 m)



Figure 4-4.1: Sample B-93 5760 (ft) (1743.45 m) site 1 (SEM). (Table 4-4)



Figure 4-4.2: Sample B-93 5760 (ft) (1743.45 m) site 2 (SEM). (Table 4-4)



Figure 4-4.3: Sample B-93 5760 (ft) (1743.45 m) site 3 (SEM). (Table 4-4)



1 Glt+other

- 2 Kfs
- 3 Ilm+other
- 4 Rsg (rosenbergite)
- 5 Ab
- 11 Ab

Figure 4-4.4: Sample B-93 5760 (ft) (1743.45 m) site 4 (SEM). (Table 4-4)



Figure 4-4.5: Sample B-93 5760 (ft) (1743.45 m) site 5 (SEM). (Table 4-4)



1 Tur

- 2 Ab
- 3 Ilm
- 4 Chl+Kfs+other
- 7 Kfs+Py+Chl

Figure 4-4.6: Sample B-93 5760 (ft) (1743.45 m) site 6 (SEM). (Table 4-4)



1 Tur

- 2 Kfs 3 Kfs
- 4 Rt+other
- 5 Ilm+other
- 6 Alm-Sps
- 7 Bt 8 Ms

Figure 4-4.7: Sample B-93 5760 (ft) (1743.45 m) site 7 (SEM). (Table 4-4)



- 1 llm
- 2 Chl+Kfs
- 3 Cal+Chl+Ab
- 5 Tur
- 6 (Alt IIm) Rt+other
- 7 Qz+Chl+Kfs
- 11 Chl+Fsp

Figure 4-4.8: Sample B-93 5760 (ft) (1743.45 m) site 8 (SEM). (Table 4-4)



1 Tur

2 Chl+Kfs

3 Ilm+Qz

5 TiO2 mineral

Figure 4-4.9: Sample B-93 5760 (ft) (1743.45 m) site 9 (SEM). (Table 4-4)



- 1 Tur
- 2 Dol
- 3 Sd+Chl+Kfs
- 4 TiO2 mineral+other

Figure 4-4.10: Sample B-93 5760 (ft) (1743.45 m) site 10 (SEM). (Table 4-4)

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	Cr_2O_3	ZnO	BaO	WO_3	Total	Actual Total
1	5	Qz	99.99																100	147
1	6	Ank+other	1.84		1.64	8.90	0.48	29.05	57.83		0.26								100	70
1	7	Qz	99.73			0.27													100	164
1	8	Sd+Kfs+other	24.84	1.88	19.52	47.51	0.58				4.10							1.58	100	112
1	15	Py	0.71			31.87							67.45						100	228
1	16	Qz	99.99																100	149
1	17	Sd+Chl+Kfs+other	24.45	3.94	11.09	55.20		1.64			1.49							2.16	100	116
1	19	Dol				3.30	2.34	18.47	31.88										56	69
1	29	St	29.18	0.43	55.42	13.19	0.28	1.48											100	132
1	30	TiO2 mineral	0.64	98.90		0.45													100	117
2	2	llm		66.27		33.00	0.74												100	104
2	4	Tur	38.18	0.81	32.52	5.15		5.78	0.43	2.14									85	114
2	5	llm	0.77	63.77		34.41	0.81		0.24										100	79
2	10	Ab	68.20		19.08	0.13			0.38	12.21									100	132
3	1	Ab	68.26		19.18	0.18			0.27	12.12									100	166
3	2	llm	0.60	68.49	0.98	27.71	2.23												100	127
3	3	Dol				6.13	0.44	18.30	31.13										56	82
3	4	Dol				3.62	2.04	18.85	31.48										56	82
3	5	llm+Qz	1.05	74.65		23.86	0.45												100	72
3	6	Ab	64.03		22.22	0.14			3.41	10.18									100	174
3	7	Chl+Fsp+other	35.38	1.73	20.58	34.28		3.95	0.56	1.08	0.98							1.48	100	108
3	8	IIm+Ab	13.09	51.46	5.10	24.19			0.49	5.66									100	127
4	1	Glt+other	36.58	0.27	7.65	19.19		2.43	8.42	0.45	5.24	9.79							90	126
4	2	Kfs	66.25		18.05	0.26				0.65	14.80								100	191
4	3	Ilm+other	2.67	64.29	1.08	30.98	0.45		0.36		0.20								100	123
4	4	Rsg (rosenbergite)			32.37	0.06				0.38				66.97		0.22			100	367
4	5	Ab	68.13		19.03	0.24			0.13	12.35	0.12								100	149
4	11	Ab	67.81		19.44	0.15			0.73	11.88									100	167
5	1	Kfs	66.61		18.20					0.82	14.37								100	148
5	2	llm+Qz	7.92	60.65		30.59	0.84												100	128
5	4	Chl	27.64		22.84	20.11	0.26	14.18											85	126
5	5	Chl+other	28.04	0.87	17.20	30.61	0.24	6.04	0.26	0.94	0.60					0.21			85	132
5	6	Bt	40.52	1.47	18.90	16.61	0.21	11.00			7.29								96	142
5	7	llm		64.49		33.19	2.32												100	137
6	1	Tur	38.37	0.49	30.55	6.49		6.34	0.43	2.33									85	134
6	2	Ab	68.22		19.18	0.18			0.27	12.16									100	171
6	3	llm		66.29	1.02	31.61	1.08												100	112
6	4	Chl+Kfs+other	36.49	1.06	17.19	16.52		8.09			5.47					0.16			85	141
6	7	Kfs+Py+Chl	59.62		24.58	3.19		1.63		3.61	4.82		2.55						100	171
7	1	Tur	38.35	0.37	30.05	6.94		6.49	0.37	2.43									85	137
7	2	Kfs	66.32		18.12	0.15				0.63	14.77								100	168
7	3	Kfs	66.36		18.01					0.66	14.55						0.41		100	173
7	4	Rt+other	14.20	78.78	4.35	0.71			0.24	0.94	0.78								100	134

Table 4-4: SEM analyses from sample B-93 5760 ft (1743.45 m)

Sito	Position	Mineral	SiO.	TiO.	AL-O-	FeO	MnO	MaO	C2O	Na-O	K-0	P.O.	SO.	F	Cr.O.	ZnO	BaO	WO.	Total	Actual
One	1 0311011	Williela	0102	1102	74203	160	WINO	ivigo	CaO	14420	1420	1 205	003	1	01203	2110	Dao	WO 3	Total	Total
7	5	llm+other	7.74	54.75	6.12	28.03	2.76				0.60								100	151
7	6	Alm-Sps	41.93		21.94	16.09	13.08	1.01	5.95										100	164
7	7	Bt	39.80	1.44	18.99	19.13	0.20	9.82		0.40	6.21								96	149
7	8	Ms	48.22	0.35	30.76	2.46		1.33		0.49	9.38								93	149
8	1	llm	0.75	64.07	0.68	33.96	0.53												100	126
8	2	Chl+Kfs	32.02	1.26	13.74	20.03	0.16	6.44			5.42			4.24		0.66		1.02	85	139
8	3	Cal+Chl+Ab	41.59		11.03	3.07	2.07	12.65	22.07	7.54									100	136
8	5	Tur	38.45	0.31	30.42	6.60		6.30	0.48	2.43									85	139
8	6	(Alt IIm) Rt+other	2.18	95.21	1.44	1.16													100	122
8	7	Qz+Chl+Kfs	85.44	2.79	5.84	2.48		1.29			2.17								100	146
8	11	Chl+Fsp	27.49		21.02	30.91		0.82		0.91	2.64		0.77			0.47			85	60
9	1	Tur	37.89	0.43	31.31	6.26		6.43	0.56	2.15									85	161
9	2	Chl+Kfs	33.11	0.47	19.79	23.16		4.06	0.39	0.73	1.41				0.19	0.47		1.21	85	108
9	3	llm+Qz	16.49	49.27		32.88	1.34												100	134
9	5	TiO2 mineral	1.13	97.26	0.76	0.85													100	121
10	1	Tur	38.39	0.31	29.90	8.08		5.71	0.29	2.33									85	156
10	2	Dol				4.16	3.35	18.59	29.90										56	86
10	3	Sd+Chl+Kfs	19.62	1.47	16.87	53.26		4.51	0.35	0.65	1.04	0.96						1.30	100	105
10	4	TiO2 mineral+other	2.27	95.31	1.42	0.68					0.33								100	123

Table 4-4: SEM analyses from sample B-93 5760 ft (1743.45 m)
Appendix 4-5 Back-scattered images and EDS geochemical mineral analyses of sample Mohawk B-93 5860 (ft) (1787.64 m)



Figure 4-5.1: Sample B-93 5860 (ft) (1787.64 m) site 1 (SEM). (Table 4-5A)



Figure 4-5.2: Sample B-93 5860 (ft) (1787.64 m) site 2 (SEM). (Table 4-5A)



2 IIm+Chl 3 IIm 4 Chl 5 Ms 6 Chl+Kfs 7 Sd+Cal

Figure 4-5.3: Sample B-93 5860 (ft) (1787.64 m) site 3 (SEM). (Table 4-5A)



- 1 Tur
- 2 Ilm
- 3 llm+Qz
- 4 Sd+ChI+Kfs+other
- 5 Sd+Chl+Kfs+other

Figure 4-5.4: Sample B-93 5860 (ft) (1787.64 m) site 4 (SEM). (Table 4-5A)



Figure 4-5.5: Sample B-93 5860 (ft) (1787.64 m) site 5 (SEM). (Table 4-5A)



- 1 St
- 2 Ank
- 3 Chl+other
- 4 Ilm
- 5 (Alt Ilm) Rt
- 6 Chl+Kfs

Figure 4-5.6: Sample B-93 5860 (ft) (1787.64 m) site 6 (SEM). (Table 4-5A)



Figure 4-5.7: Sample B-93 5860 (ft) (1787.64 m) site 7 (SEM). (Table 4-5A)



Figure 4-5.8: Sample B-93 5860 (ft) (1787.64 m) site 8 (SEM). (Table 4-5A)



Figure 4-5.9: Sample B-93 5860 (ft) (1787.64 m) site 9 (SEM). (Table 4-5A)



1 Tur 2 Chl

- 3 Ilm
- 4 Sd+Chl
- 5 Chl+Cal+Fsp
- 6 Qz

Figure 4-5.10: Sample B-93 5860 (ft) (1787.64 m) site 10 (SEM). (Table 4-5A)



Figure 4-5.11: Sample B-93 5860 (ft) (1787.64 m) site 11 (SEM). (Table 4-5B) see location in Fig.4-5.1



Figure 4-5.12: Sample B-93 5860 (ft) (1787.64 m) site 12 (SEM). (Table 4-5B) see location in Fig.4-5.1



Figure 4-5.13: Sample B-93 5860 (ft) (1787.64 m) site 13 (SEM). (Table 4-5B) see location in Fig.4-5.1



Figure 4-5.14: Sample B-93 5860 (ft) (1787.64 m) site 14 (SEM). (Table 4-5B) see location in Fig.4-5.1

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	ZnO	ZrO_2	Nb_2O_5	HfO ₂	WO_3	Total
1	1	Tur	38.00	0.60	30.79	6.75		6.41	0.48	1.98									85
1	2	Tur	37.70	0.72	28.99	8.48		6.21	0.80	2.10									85
1	3	llm	0.58	97.85	0.38	1.21													100
1	4	Kfs	65.35	4.52	16.36	0.36				0.31	13.08								100
1	5	TiO2 mineral	0.64	99.35															100
2	1	St	30.06	0.57	54.02	13.32	0.19	1.53						0.31					100
2	2	Tur	37.62	0.75	31.00	6.95		5.95	0.50	2.24									85
2	3	Chl+Kfs	48.00	0.50	10.71	29.58		3.68		0.35	6.93			0.25					100
2	4	(Alt IIm) Rt	1.39	91.38	1.72	5.07			0.46										100
2	5	Ilm+other	1.52	49.32	0.60	46.57	1.98												100
3	1	St	29.78	0.58	54.51	12.43	0.46	1.72						0.52					100
3	2	Ilm+Chl	13.95	54.91	8.75	17.24	1.67	2.98			0.52								100
3	3	llm	0.71	65.27		33.24	0.76												100
3	4	Chl	26.02		21.72	22.94	0.30	14.04											85
3	5	Ms	47.17	1.00	28.03	4.18		1.62		0.60	10.39								93
3	6	Chl+Kfs	30.57	0.44	13.02	29.82	0.24	7.48	0.41	0.52	1.47			0.33				0.70	85
3	7	Sd+Cal	1.67		0.91	68.44	0.76	15.93	12.28										100
4	1	Tur	37.78	0.53	30.86	7.22		6.36	0.51	1.75									85
4	2	IIm		65.24		31.58	3.18												100
4	3	llm+Qz	41.71	40.60		16.22	0.84		0.62										100
4	4	Sd+Chl+Kfs+other	33.67	1.90	15.66	36.02		5.82		0.69	5.12			0.29				0.84	100
4	5	Sd+Chl+Kfs+other	29.01	1.85	13.04	47.68	0.34	4.53		0.58	2.99								100
5	1	St	30.76	0.52	56.65	10.21	0.57	0.68						0.62					100
5	2	Ms	46.85	0.35	31.61	3.06		0.85		1.00	9.27								93
5	3	Py				28.73							71.29						100
5	4	Chl+Kfs+other	30.97	1.42	16.18	14.25	0.15	8.78	3.87	0.42	5.71	3.26							85
5	5	Chl	25.95		19.01	25.74	0.20	12.16		0.99	0.22								85
5	6	Chl+Kfs	29.78	1.06	15.73	30.04	0.19	3.82		0.68	3.71								85
5	7	llm		71.29		27.35	1.36												100
6	1	St	29.69	0.52	54.85	12.98	0.21	1.76											100
6	2	Ank				6.51	4.46	15.83	29.19										56
6	3	Chl+other	26.51	5.41	18.22	21.68	0.55	12.63											85
6	4	llm		57.88		40.27	1.85												100
6	5	(Alt Ilm) Rt		95.63		1.17										3.19			100
6	6	Chl+Kfs	31.22	1.55	13.97	26.38	0.16	6.30			5.44								85
7	1	Kfs	68.30		19.08	0.26			0.31	12.04									100
7	2	Ms	47.36	0.51	32.67	2.01		0.49		1.52	8.44								93
7	3	Ilm		63.50		35.37	1.14										1		100

Actual

Total

Table 4-5A: SEM analyses from sample B-93 5860 ft (1787.64 m)

100			ap.o =				/													
Sito	Position	Mineral	SiO	TiO	Al _o O _o	FeO	MnO	MaO	CaO	Na _o O	K ₂ O	P ₂ O ₂	SO	ZnO	ZrO ₂	Nb ₂ O ₂	HfO	WO	Total	Actual
One	1 0311011	Wincrai	0.02	1102	7203	100		MgO	040	11020	120	. 205	003	2110	2.02	110205	1102		Total	Total
7	4	Bt	42.02	3.31	15.03	16.71	0.31	9.90			8.71								96	154
7	5	llm		62.74		35.67	1.60												100	143
8	1	Tur	37.40	0.44	31.34	6.76		6.66	0.53	1.91									85	139
8	2	Chl+Kfs	45.18	0.48	10.35	33.82		3.47			6.47								100	117
8	3	Tur	37.88	0.51	29.25	8.42		6.15	0.51	2.30									85	147
8	4	Chl	25.36		22.03	24.82		12.78											85	170
8	5	llm		53.23		44.98	1.79												100	141
8	6	Bt	37.54	4.55	12.77	24.62	0.22	7.07		0.52	8.29								96	188
8	7	Zr	31.45			0.30									67.23		1.03		100	195
9	1	St	30.01	0.43	53.95	12.92	0.40	2.04						0.25					100	163
9	2	St	29.63	0.50	55.02	12.75	0.23	1.64						0.20					100	190
9	3	Chl	26.18		22.07	23.04		13.71											85	154
9	4	llm		62.64	0.42	33.51	3.43												100	161
9	5	Sd+Chl+Kfs+other	27.25	1.93	13.32	47.42	0.30	5.07	0.29		2.78			0.40				1.22	100	147
9	6	Bt	41.17	2.76	18.50	16.47	0.31	8.68			8.12								96	152
9	7	Ms	46.23	0.53	33.13	2.67		0.42		1.26	8.76								93	182
9	8	Bt	45.75	1.27	26.30	10.88		6.63			5.15								96	144
9	9	Sd+Chl+Kfs+other	22.27	1.83	10.60	56.63	0.37	4.78	0.36	0.71	2.42								100	128
10	1	Tur	38.10	0.37	30.34	7.68		5.91	0.45	2.15									85	142
10	2	Chl	34.84		26.56	15.20	0.22	7.95			0.21								85	147
10	3	llm	0.64	69.27		28.60	1.48												100	155
10	4	Sd+Chl	9.03	1.42	7.56	73.59	0.43	2.06	0.60		0.39	1.60		0.59				2.24	100	103
10	5	Chl+Cal+Fsp	37.24		12.09	8.56	5.53	8.62	21.60	6.03	0.31								100	159
10	6	Qz	99.86			0.14													100	188

Table 4-5A: SEM analyses from sample B-93 5860 ft (1787.64 m)

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Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	Cr_2O_3	ZnO	ZrO_2	WO_3	Total	Actual Total
1	Sd+Py+other	1.90		0.50	50.87	0.31		0.60	0.62			0.74			0.28			57	69
2	Ms	36.47	0.40	26.17	21.69		0.49		1.04	6.31		0.42						93	98
3	Sd+other	13.63	0.32	8.37	29.10		0.37	0.22	0.45	0.90		0.32			0.40		1.90	57	84
4	Qz	99.11			0.89													100	114
5	Chl+other	34.33	0.40	18.13	24.85		1.42	0.21	0.62	3.15					0.31		1.56	85	102
6	Ms	46.21	0.39	29.59	6.51		0.73		0.75	8.82								93	106
7	Sd+other	13.49	0.35	7.43	29.95		0.64	0.27	0.41	0.96		0.32			0.41		1.75	57	84
8	Qz	98.53			1.47													100	113
9	Sd+Zrn+other	14.71	0.28	5.89	22.94		0.48	0.18	0.38	0.92					0.34	8.23	1.64	57	87
1	Chl+Kfs+other	31.49	0.24	13.91	25.77	0.41	6.25	0.48	0.47	2.95	0.86						1.94	85	81
2	Sd+other	4.21	1.67	4.73	42.42		1.25	0.37		0.14	0.45	0.56		0.21				57	75
3	Sd+other	5.40	1.36	5.14	40.08	0.22	1.34	0.43		0.24		0.53		0.17			1.09	57	70
4	Chl+other	31.97	0.24	18.09	21.64		5.58	0.48	0.73	0.60			3.20				2.29	85	90
5	Sd+other	9.33	1.38	6.52	31.91		1.75	0.50	0.63	0.52	0.55						2.92	57	76
6	Chl+Fsp	30.40	0.83	14.99	28.47	0.20	4.45	0.62	1.03	1.26							2.56	85	86
1	Sd+other	4.91	1.60	6.28	38.68	0.24	1.19	0.51	0.33	0.18	0.62			0.20	0.48		0.78	57	72
2	Cal			0.36	3.72	0.43	0.91	50.60										56	56
3	Sd+other	8.15	0.97	7.71	35.55	0.22	2.13	0.43	0.35						0.49			57	80
4	Sd+other	2.09		0.44	45.29	2.02		0.80	1.00						0.99		3.35	57	66
5	Sd+other	1.88		0.81	44.69	1.94		0.58	0.87			0.57			0.96		3.24	57	47
6	Sd+other	1.99			46.18	2.14		0.59	0.78			0.59			0.93		2.54	57	55
7	Sd+other	1.74		0.49	47.24	1.75		0.55	0.78			0.46			0.90		1.94	57	68
8	Cal				0.71		1.41	53.22				0.66						56	53
9	Chl+Kfs+other	25.08	1.17	20.96	31.34	0.19	1.96	0.36	0.63	2.35	0.51				0.43			85	103
1	Qz+Sd	89.74	0.23		10.01													100	113
2	Sd+other	8.67	0.63	3.24	42.88					0.59								57	86
3	Ms	29.58	0.76	21.49	35.67		0.82			4.70								93	100
4	Ms	30.14	0.30	20.11	30.73		0.84		1.29	5.77		0.47			2.02		1.17	93	90
5	Sd+other	9.22	0.17	4.84	35.87		0.67	0.12		0.87		0.50			2.90		0.83	57	78
6	Chl+Kfs+other	28.89	0.47	11.92	37.60		2.24			2.49					1.38			85	87
7	Fsp+other	43.92	0.22	17.86	21.92			0.80	10.39	0.99					1.24		2.50	100	108
8	Sd+other	14.58	0.78	6.14	32.89	0.28	0.58	0.08		0.48					0.19			57	82
9	Kfs+Chl	40.24	0.93	22.01	29.01		1.74	0.21	0.86	3.36					0.42		1.00	100	91
10	Sd+Kfs+Chl+other	14.08	0.82	7.72	30.81	0.20	0.78	0.10	0.29	1.02					0.20			57	82
11	Sd+other	16.69	0.76	8.88	24.71	0.18	1.76	0.11	0.52	1.68					0.17		0.54	57	92

Table 4-5B: SEM analyses from sample B-93 5860 ft (1787.64 m)

Table 4-5B: SEM analyses from sample B-93 5860 ft (1787.64 m)

12	Sd+other	5.69	0.63	3.15	46.17		0.34				57	85

Appendix 4-6 Back-scattered images and EDS geochemical mineral analyses of sample Mohawk B-93 6210 (ft) (1892.8 m)



- 1 llm
- 2 (Alt IIm) Rt
- 3 (Alt IIm) Rt+Chl+Kfs
- 4 Ilm+other
- 5 Zrn
- 8 (Alt IIm) Rt+ChI+Kfs
- 10 Mnz
- 11 Chl
- 12 Bt
- 13 Bt

Figure 4-6.1: Sample B-93 6210 (ft) (1892.8 m) site 1 (SEM). (Table 4-6)



Figure 4-6.2: Sample B-93 6210 (ft) (1892.8 m) site 2 (SEM). (Table 4-6)



Figure 4-6.3: Sample B-93 6210 (ft) (1892.8 m) site 3 (SEM). (Table 4-6)



Figure 4-6.4: Sample B-93 6210 (ft) (1892.8 m) site 4 (SEM). (Table 4-6)



5 Chl 6 llm+Qz 7 llm 9 Sd+other 11 Sd+other 12 llm+Qz 13 Bt 14 Chl 15 Bt 16 Chl+Sd+other 17 F-Ap (diag) 18 Ilm+Qz+other

1 Zrn

Figure 4-6.5: Sample B-93 6210 (ft) (1892.8 m) site 5 (SEM). (Table 4-6)

25 Tur

23 Tur

21 TiO2 mineral



6 Ilm 8 Alm-Sps

- 10 Tur
- 11 Tur 18 Chl
- 21 Chl+other
- 22 Chl+other

Figure 4-6.6: Sample B-93 6210 (ft) (1892.8 m) site 6 (SEM). (Table 4-6)



Figure 4-6.7: Sample B-93 6210 (ft) (1892.8 m) site 7 (SEM). (Table 4-6)



Figure 4-6.8: Sample B-93 6210 (ft) (1892.8 m) site 8 (SEM). (Table 4-6)



Figure 4-6.9: Sample B-93 6210 (ft) (1892.8 m) site 9 (SEM). (Table 4-6)

Table 4-6: SEM analyses from sample B-93 6210 ft (1892.8 m)

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	SrO	Y_2O_3	ZrO ₂	BaO	La ₂ O ₃	Ce ₂ O ₃	Nd_2O_3	Gd_2O_3	HfO ₂	WO_3	ThO_2	B_2O_3	Total Actual Total
1	1	llm		60.03		37.41	2.56																				100 102
1	2	(Alt Ilm) Rt		95.53		4.48																					100 101
1	3	(Alt IIm) Rt+ChI+Kfs	28.62	55.75	8.03	4.30		1.72			1.59																100 106
1	4	Ilm+other	1.30	56.90	0.62	39.33	1.55		0.31																		100 96
1	5	Zrn	31.55			0.23											66.80						1.42				100 115
1	8	(Alt IIm) Rt+ChI+Kfs	30.31	33.04	9.11	19.82	0.22	3.30	0.59		3.63																100 87
1	10	Mnz							1.23			36.32		-0.89		1.70			14.85	28.63	10.63	0.89			6.66		100 97
1	11	Chl	26.14		21.73	24.40	0.12	12.57																			85 101
1	12	Bt	41.50	3.06	20.31	16.48	0.16	6.86			7.63																96 103
1	13	Bt	40.02	3.25	19.68	17.93	0.22	7.16			6.54		0.96														96 98
2	1	llm		62.85		34.72	2.43																				100 96
2	2	(Alt IIm) Rt+Qz	2.37	95.48	1.34	0.28			0.27		0.25																100 106
2	3	Zrn	31.34			0.22											67.43						1.00				100 112
2	5	Ab	67.56	1.55	18.82	0.14				11.66	0.28																100 119
2	6	(Alt IIm) Rt	1.86	97.66		0.28			0.20																		100 91
2	7	(Alt IIm) Rt+Qz	18.87	79.67	0.72	0.44			0.18		0.13																100 118
2	9	(Alt IIm) Rt+Qz	48.67	48.56	1.36	0.71			0.22		0.48																100 110
2	10	Chl	25.16	0.45	22.11	27.67	0.98	8.86																			85 102
2	11	Chl	25.18	0.61	22.27	25.68	0.25	10.82			0.17																85 92
2	12	llm	0.77	75.73	0.51	20.98	1.56		0.46																		100 96
2	13	llm		63.45		33.76	2.80																				100 100
2	14	(Alt IIm) Rt+Qz	13.88	84.99	0.32	0.53			0.28																		100 106
2	17	(Alt Ilm) Rt+Qz	1.90	96.40	0.72	0.75					0.24																100 100
2	18	TiO2 mineral+Qz	3.98	92.03	2.44	0.50			0.35		0.71																100 107
2	21	Chl	25.63		22.66	27.24	1.12	8.17	0.15																		85 101
2	23	Chl+Sd	37.46	0.77	10.39	42.26		2.80	0.46	0.39	4.64													0.84			100 98
2	24	Chl	25.20		22.42	26.21	0.28	10.88																			85 105
3	1	(Alt IIm) Rt	0.96	93.18	2.32	2.75			0.28																		100 98
3	2	Ilm+other	1.20	79.12	1.17	17.65	0.52		0.36																		100 96
3	3	llm	0.45	65.99		32.37	1.20																				100 101
3	4	llm		64.45		30.70	4.85																				100 100
3	5	llm		60.40		37.94	1.67																				100 106
3	6	(Alt IIm) Rt+Qz	10.16	85.44	1.53	2.26		0.40	0.20																		100 95
3	7	IIm+Qz	1.07	62.57	0.70	32.72	2.94																				100 109
3	8	IIm+Qz	1.56	63.05		31.58	3.80																				100 107
3	9	(Alt IIm) Rt+Qz	20.73	74.45	2.14	0.39			0.36	1.93																	100 99
3	24	Tur	36.31	1.03	26.23	9.65		7.69	3.04	1.02																	85 93
3	26	Tur	36.87	0.61	33.34	9.68	0.14	2.17	0.15	1.99																	85 92
3	32	Chl	26.62	0.38	22.08	23.93	0.21	11.62	0.14																		85 101
4	1	llm+Qz	1.20	53.64	0.64	43.61	0.89																				100 94
4	2	llm	0.43	65.49		33.11	0.98																				100 96
4	4	(Alt Ilm) Rt+Qz	34.55	58.23	0.81	5.51	0.54		0.21		0.14																100 125
4	5	(Alt Ilm) Rt	1.84	96.63	0.91	0.63																					100 111
4	7	Chl	26.58		22.11	26.65	0.64	8.79	0.20																		85 80
4	8	Chl	26.70		21.79	25.63	0.30	10.55																			85 99
4	10	Tur	37.76	0.79	30.56	7.59		5.84	0.45	1.98																	85 95
4	11	Tur	37.47	0.79	28.77	7.78		6.18	0.51	2.40																	85 105
4	12	F-Ap (diag)				0.44			46.55	1.11		39.46	1.27	9.02										2.01			100 90
4	13	Chl	25.52	0.49	21.74	25.41	0.22	11.58																			85 98

Table 4-6: SEM analyses from sample B-93 6210 ft (1892.8 m)

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	SrO	Y_2O_3	ZrO ₂	BaO	La_2O_3	Ce_2O_3	Nd_2O_3	Gd_2O_3	HfO ₂	WO_3	ThO ₂	B_2O_3	Total	Actual Total
4	14	(Alt IIm) Rt+Kfs	14.59	75.36	7.61	0.53				0.46	1.45																100	116
4	15	Chl+Sd+Kfs	48.26	0.28	11.79	30.05		2.95	0.42	0.34	5.90																100	95
4	16	Alm-Sps	39.68	0.17	20.82	20.85	13.40	1.39	3.67																		100	104
5	1	Zrn	31.62			0.18											67.12						1.08				100	125
5	2	Zrn	32.13			0.20											66.69						1.23				100	132
5	3	Zrn	31.51			0.32											66.92						1.24				100	127
5	4	llm+Qz	1.20	65.57	1.08	31.93	0.23																				100	99
5	5	Chl	29.41	0.86	19.35	30.10		3.03	0.41	0.45	1.36																85	98
5	6	llm+Qz	6.93	61.87		29.06	2.16																				100	113
5	7	llm		65.15	0.38	32.56	1.52		0.38																		100	99
5	9	Sd+other	9.93	1.10	9.92	70.37	0.45	2.39	1.44	0.88	0.59	1.33												1.59			100	74
5	11	Sd+other	4.28	2.64	10.05	75.21		2.19	0.90			2.20												1.60			100	61
5	12	llm+Qz	9.48	72.68	3.23	13.29	0.32		0.34	0.40	0.29																100	101
5	13	Bt	42.28	1.60	20.70	15.95		7.40		0.30	6.73		0.83														96	102
5	14	Chl	25.84	0.18	22.11	24.50	0.29	12.06																			85	91
5	15	Bt	37.61	2.61	19.69	19 11	0.25	5.42			8 72			2 56													96	106
5	16	Chl+Sd+other	21.52	1.53	14 61	56 14	0.20	2.67	0.35	0.58	1.82			2.00										0.79			100	88
5	17	F-Ap (diag)	202		11101	5.90		2.01	39.78	1 12		31.28	12 14	8 09										1.69			100	116
5	18	llm+Oz+other	11.89	2.00	9.07	67 94	0.40	3 52	0.76	0.81	0 47	1.01	0.55	0.00										1 30			100	79
5	19	Alm-Sns	35.94	2.00	18 52	32.81	7 23	2.12	2 39	0.55	0.47	1.01	0.45											1.00			100	95
5	20	F-An	00.04		10.02	0.23	1.20	2.12	18 38	0.00		11 52	0.40	6 3/						0.50				0.01			100	109
5	20	TiO2 mineral	0.45	98.95		0.23			0.17			44.52		0.04						0.50				0.01			100	96
5	21	Tur	37.20	1.07	31 34	7.44		5 20	0.64	1 08																	85	103
5	23	Tur	37.20	0.60	22.07	7.44 5.27		5.29	0.04	1.90																	00	103
6	25	7 m	21 72	0.05	52.07	0.24		0.70	0.00	1.01							67.16						0.96				100	100
6	1	ZIII	31.72			0.24											66 72						0.00				100	109
6	2	ZIII	21 55			0.31											67.22						1.13				100	100
0	3	2111	31.00	05 50		0.30	2.01										07.23						0.92				100	133
6	4		20.00	00.00	20.07	30.69	3.01	0.20	2.67																		100	95
0	5	Aill-Sps	39.00	0.32	20.07	10.07	4 70	0.30	2.07																		100	120
6	6	lim Also On a	0.62	59.88	00.00	37.80	1.70	0.50	0.00			0.04		0.00													100	91
6	8	Aim-Sps	38.16	0.18	20.39	7.31	27.38	0.56	3.33	0.50		0.64		2.06													100	100
6	10	Tur	38.03	0.35	30.16	0.27	0.45	7.30	0.23	2.56																	85	102
6	11	Tur	37.51	0.28	28.97	1.31	0.15	7.38	1.03	2.26																	85	88
6	18	Chl	26.23		22.44	20.45	0.56	15.31																			85	107
6	21	Chi+other	23.03	1.46	12.67	38.18	0.22	6.83	0.48	0.62	1.45		0.00														85	82
6	22	Chi+other	33.80	2.50	17.51	19.35	0.23	7.10		0.33	3.17		0.38				07.45						1.00				85	87
7	1	Zrn	31.60			0.21											67.16						1.03				100	124
7	2	∠rn	32.30										-				66.92						1.04				100	128
7	3	Zrn	31.77			0.33											66.78						1.12				100	99
7	4	Tur	38.00	0.48	29.55	7.91		6.40	0.30	3.29																	85	90
7	6	Tur	37.36	0.55	33.22	7.42		4.14	0.26	2.03																	85	91
7	15	Sd+Chl	30.06	1.33	18.61	37.41		6.52	0.70	0.84	2.14													2.37			100	83
7	17	TiO2 mineral+Qz	5.31	94.30		0.40																					100	104
8	1	Zrn	31.70			0.28											67.09						0.92				100	134
8	2	Chl	26.29		22.31	24.49	0.30	11.60																			85	107
8	3	Brt											25.92		1.02			44.12								28.96	100	137
8	4	llm		59.62	0.38	38.39	1.61																				100	90
8	5	Tur	41.19	0.25	27.99	7.08		5.84	0.58	2.01																	85	101
8	6	Chl	27.40		21.45	23.58	0.16	12.39																			85	92

Table 4-6: SEM analyses from sample B-93 6210 ft (1892.8 m)

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	SrO	Y_2O_3	ZrO_2	BaO	La ₂ O ₃	Ce_2O_3	Nd_2O_3	Gd_2O_3	HfO_2	WO_3	ThO ₂	B_2O_3	Total	Actual Total
8	7	Tur	37.40	0.80	30.31	8.36		5.44	0.82	1.84																	85	93
8	12	Chl+other	18.49	1.00	11.75	46.46		2.10	0.48	0.52	1.16	0.79												0.90			85	96
9	1	Zrn	32.04														66.69						1.18				100	132
9	2	Zrn	31.42		0.98	0.62			0.36		0.26					1.49	63.74						1.11				100	105
9	6	Mnz	1.56		1.08				0.34			38.79		-0.35					7.55	30.55	20.49						100	85
9	12	TiO2 mineral		99.72		0.28																					100	109
9	13	Tur	38.02	0.68	31.92	4.32		7.31	0.89	1.84																	85	98
9	14	Chl	28.10		23.99	24.04	0.26	8.03	0.21		0.34																85	92

Appendix 4-7 Back-scattered images and EDS geochemical mineral analyses of sample Mohawk B-93 6340 (ft) (1932.43 m)



Figure 4-7.1: Sample B-93 6340 (ft) (1932.43 m) site 1 (SEM). (Table 4-7)



Figure 4-7.2: Sample B-93 6340 (ft) (1932.43 m) site 2 (SEM). (Table 4-7)

1 Ilm+Qz 2 Ilm+Qz 3 Ilm 4 Ilm+Qz 5 Ilm+Qz 6 Ilm+Qz 8 llm 9 Ilm 10 Ilm+Qz 11 llm 12 Zrn 13 llm 14 Sd+other 15 Chl+other 16 Sd+other 17 llm 18 Rt 19 Chl 20 Chl+other 21 Chl 22 Alm-Sps 25 St 26 Tur 27 Qz 28 Glt 29 Rt 30 Ilm 31 llm 33 Ilm 36 Ilm+Qz 1 Ilm+Qz

2 Ilm 3 Ilm 4 Rt 5 Ilm 6 Ilm 7 Tur 8 Spl 9 Alm-Sps 10 F-Ap 11 llm 14 llm 15 F-Ap 17 Rt+Qz 18 llm 19 Chl 20 Bt+other 21 Chl+other 22 Bt 23 Chl 24 Sd 25 Ilm 30 Ilm 33 Kfs



Figure 4-7.3: Sample B-93 6340 (ft) (1932.43 m) site 3 (SEM). (Table 4-7)



Figure 4-7.4: Sample B-93 6340 (ft) (1932.43 m) site 4 (SEM). (Table 4-7)

- 2 Ilm 3 Ilm 4 Ilm+Qz 5 llm 6 llm 7 Ilm+Qz 8 Ilm+Qz 9 Ilm+Qz 10 Ilm+other 11 llm 12 Bt+Py 13 Tur 14 llm 15 llm 16 Rt+other 17 llm 18 llm 19 Ilm+other 20 Sd+other 21 llm 22 Sd+other 23 Ilm 24 Bt 25 Chl 26 Chl 27 Chl+Kfs 28 Chl 29 Ilm+other 30 F-Ap (diag)+other 31 Ilm+Qz 32 Alm-Sps
- 1 Ilm+other
- 2 Ilm+other
- 3 llm
- 4 Ilm+Qz
- 5 llm+Qz
- 6 Ilm+other
- 7 Ilm+other
- 8 llm+Qz
- 9 Ilm+other
- 10 llm
- 11 Sd+other
- 12 Tur 13 llm
- 14 llm
- 15 Chl+other
- 16 llm
- 17 Sd+Chl
- 18 Alm-Sps
- 19 Chl+other
- 20 Chl+other
- 21 Ms
- 22 Chl
- 23 Ab



Figure 4-7.5: Sample B-93 6340 (ft) (1932.43 m) site 5 (SEM). (Table 4-7)



Figure 4-7.6: Sample B-93 6340 (ft) (1932.43 m) site 6 (SEM).

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr ₂ O ₃	ZnO	SrO	ZrO ₂	SnO ₂	BaO	Ce ₂ O ₃	HfO ₂	WO_3	Total	Actual Total
1	1	llm+Qz	2.82	63.44		30.93	2.81																	100	97
1	2	llm+Qz	3.42	60.18	0.91	33.01	2.48																	100	94
1	3	llm	0.79	66.67	0.43	30.43	1.41		0.28															100	89
1	4	llm+Qz	3.57	60.87	0.93	31.11	3.36				0.17													100	101
1	5	llm+Qz	3.91	65.59	0.57	29.37	0.56																	100	97
1	6	llm+Qz	3.14	50.56	0.43	38.68	2.57											4.62						100	103
1	8	llm	0.62	59.28		39.73	0.39																	100	99
1	9	llm		63.19		33.74	3.06																	100	104
1	10	llm+Qz	5.65	62.59	1.51	28.89	0.34			1.01														100	97
1	11	llm	0.81	59.08	0.53	39.12	0.44																	100	96
1	12	Zrn	31.55			0.46												67.09				0.88		100	129
1	13	llm	0.62	65.54	0.43	32.83	0.57																	100	91
1	14	Sd+other	8.64	1.10	3.27	67.26		0.88	1.69	2.64	1.06		1.67		0.25								11.11	100	67
1	15	Chl+other	25.46	2.02	15.53	48.37	0.22	1.24	0.45	0.85	2.84	1.95											1.06	100	79
1	16	Sd+other	23.98	1.63	9.20	57.00		0.71	0.52	1.28	0.79		0.55		0.42	0.54							3.39	100	82
1	17	llm	0.49	63.34	0.40	35.42	0.35																	100	87
1	18	Rt	0.83	98.12		1.05																		100	90
1	19	Chl	25.65	0.34	22.69	22.82	0.16	13.31																85	88
1	20	Chl+other	21.57	1.05	9.83	15.94	0.29	5.44	7.36	0.29	2.54	0.53	7.40											85	91
1	21	Chl	25.69	0.17	22.64	24.22	0.22	12.03																85	101
1	22	Alm-Sps	39.96	0.17	21.56	30.41	2.90	3.30	1.68															100	117
1	25	St	25.97	0.97	49.68	17.64		1.49	0.31	0.61	0.33		1.02						1.70					100	64
1	26	Tur	37.37	0.75	33.52	4.85		5.91	0.44	1.95														85	107
1	27	Qz	99.99																					100	122
1	28	Glt	49.69		7.10	19.03		3.10		0.50	7.22					0.59							0.77	88	107
1	29	Rt		99.72		0.30																		100	109
1	30	llm		63.40		31.69	4.91																	100	101
1	31	llm		61.99		35.88	2.14																	100	87
1	33	llm		64.07	0.38	32.03	3.51																	100	96
1	36	llm+Qz	1.11	55.41	0.62	41.71	1.12																	100	99
2	1	llm+Qz	1.67	53.18	0.74	44.05	0.35																	100	86
2	2	llm		65.32		33.82	0.85																	100	92
2	3	llm	0.51	63.49	0.36	29.76	5.90																	100	100
2	4	Rt	0.34	99.10		0.31			0.25															100	108
2	5	llm		67.86	0.38	29.98	1.79																	100	91
2	6	llm		64.42		31.97	3.61																	100	87
2	7	Tur	36.76	0.51	31.99	10.85	0.20	2.20		2.24						0.22								85	89
2	8	Spl			53.81	11.26		19.72							14.78	0.21								100	96
2	9	Alm-Sps	40.05		21.28	27.56	6.06	2.07	3.01															100	110
2	10	F-Ap				1.20		0.33	48.97	0.88		41.36		6.66			0.48							100	110
2	11	llm		63.92		32.07	4.02																	100	98
2	14	llm	0.51	49.24	0.40	48.45	1.38																	100	88
2	15	F-Ap				0.81	0.15	0.50	46.75	1.29		37.95	2.60	9.55			0.40							100	105
2	17	Rt+Qz	1.78	95.81	0.62	0.46								1.32										100	110
2	18	llm	0.51	63.75	0.43	31.06	4.26																	100	89
2	19	Chl	22.82	1.67	11.39	41.11	0.45	3.73	0.43	0.32	1.94					0.26							0.88	85	84
2	20	Bt+other	30.59	2.23	13.30	17.40	0.35	8.44	2.69	0.35	4.90	0.99	13.47	2.28										96	118
2	21	Chl+other	18.82	1.56	13.06	44.07	0.27	4.47	0.41		1.40	0.95												85	71

Table 4-7: SEM analyses from sample B-93 6340 ft (1932.43

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO ₃	F	Cr ₂ O ₃	ZnO	SrO	ZrO ₂	SnO ₂	BaO	Ce ₂ O ₃	HfO ₂	WO_3	Total	Actual Total
2	22	Bt	39.80	1.08	16.42	27.62		5.40		0.56	3.92													96	102
2	23	Chl	31.17	0.15	22.44	19.24		11.43			0.56													85	95
2	24	Sd	0.54			54.56	0.27		0.15				0.48											56	67
2	25	Ilm		63.80		32.59	3.61																	100	95
2	30	llm		64.45		34.25	1.30																	100	85
2	33	Kts	65.46	00.10	18.06	0.17	4 70	0.50		0.78	14.70									0.83				100	105
3	1	lim	0.75	63.10	0.62	30.14	4.79	0.58																100	101
3	2	lim	0.49	87.04	0.47	12.48	4.00									0.00								100	94
3	3		0.92	59.00	0.47	37.91	1.33									0.36								100	91
3	4	IIM+QZ	5.69	59.83	0.00	32.01	1.80																	100	95
3	5	lim	0.66	59.22	0.38	39.51	0.90																	100	89
2	7		2.00	42.60	1 22	51.72	3.02																	100	90
2	7		11 70	43.09	1.23	20.62	1.06																	100	13
3	0		6.95	60.35		20.03	3.52																	100	86
3	10	llm+other	1 00	65.04	2 10	29.10	0.30		0.31															100	78
3	11	Ilm	1.33	55.68	2.10	40.38	3.94		0.51															100	91
3	12	Bt+Pv	37 71	2.06	15 54	18.03	0.24	11.08			7 13		4 21											96	97
3	13	Tur	38.39	0.53	31.02	7.02	0.21	5.95	0.15	1.96	7.10		1.21											85	92
3	14	Ilm	0.62	59.50	0.42	38.61	0.87	0.00	0.10	1.00														100	92
3	15	llm	0.51	59.42	0.47	36.59	3.01																	100	97
3	16	Rt+other	1.16	94.93	1.85	1.85	0.01		0.22															100	103
3	17	IIm	0.86	58.28	0.38	39.04	1.43																	100	99
3	18	llm	0.47	68.01		30.75	0.77																	100	94
3	19	Ilm+other	3.12	31.24	1.55	63.75	0.32																	100	97
3	20	Sd+other	18.29	1.85	11.81	59.85		2.54	0.56	0.73	1.34	0.87			0.35	0.50							1.32	100	83
3	21	llm		61.72	0.42	35.22	2.65																	100	95
3	22	Sd+other	2.97		1.38	69.50	0.32	13.91	11.91															100	62
3	23	llm		63.59		29.73	6.69																	100	95
3	24	Bt	43.14	3.19	18.31	14.53	0.22	8.68			7.93													96	87
3	25	Chl	29.37	0.15	23.74	18.73		11.05	0.84			1.11												85	86
3	26	Chl	25.95		22.05	23.44		13.54																85	98
3	27	Chl+Kfs	24.62	1.83	13.38	37.42	0.18	4.11	0.23	0.33	2.25												0.66	85	95
3	28	Chl	26.96		21.92	19.28	0.37	16.47																85	94
3	29	llm+other	7.25	54.35	2.55	33.56	0.94	0.43			0.90													100	103
3	30	F-Ap (diag)+other	1.43		0.72	1.29			44.48	1.20	0.19	36.66	1.92	9.85		0.27					0.93		1.08	100	109
3	31	IIm+Qz	4.64	69.04	0.51	24.66	0.75		0.39															100	85
3	32	Alm-Sps	40.26	50.40	21.33	29.46	4.16	2.09	2.67		0.07													100	103
4	1	llm+other	3.72	59.12	2.53	31.49	2.47				0.67													100	92
4	2	llm+other	5.13	38.92	1.64	53.65	0.32				0.35				0.05									100	92
4	3	lim	0.66	64.02	0.55	33.19	1.32								0.25									100	97
4	4	IIm+Qz	2.12	60.12	0.49	34.40	2.87																	100	105
4	5	IIM+QZ	1.45	61.57	0.57	35.40	0.97				0.55													100	104
4	6 7	IIm+otner	8.02	26.98	1.61	30.17	2.69		0.20		0.55												2.04	100	94
4	0	IIm+other	1.00 5.4F	50.37	00.1	20.09	00.0		0.28														3.04	100	89 97
4	0	IIIII+QZ	2.40	39.07	1.40	31.79	2.90			0.50														100	01
4	9		3.14	44.94	1.40	49.05	0.27			0.59														100	10
4	10	11111		51.91		40.40	00.1	1		1	1		1	1	1	1	1	1	1	1	1		1	100	59

Table 4-7:	SEM analyses	from sample B-	-93 6340 ft ((1932.43 m)
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Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	Cr_2O_3	ZnO	SrO	ZrO_2	SnO_2	BaO	Ce_2O_3	HfO ₂	WO_3	Total	Actual Total
4	11	Sd+other	8.15	2.15	10.26	71.08		2.80	0.53	0.86	0.35	1.70			0.28	0.62							1.21	100	80
4	12	Tur	37.51	0.62	31.74	6.07		6.38	0.62	2.07														85	107
4	13	llm	0.56	61.12		34.64	3.68																	100	92
4	14	llm		63.85		32.70	3.45																	100	93
4	15	Chl+other	34.33	2.09	11.43	42.57		2.52	0.63	0.55	4.26	1.28			0.31									100	72
4	16	llm		59.45		36.02	4.53																	100	92
4	17	Sd+Chl	21.88	1.27	12.00	57.42		2.55	0.27	0.73	2.23	1.12			0.23									100	79
4	18	Alm-Sps	39.08	0.27	21.01	5.47	26.17	0.66	5.08					2.27										100	101
4	19	Chl+other	25.73	0.92	13.99	18.16	0.13	8.30	4.88	0.31	2.81	4.17	5.60											85	97
4	20	Chl+other	24.73		20.93	23.35	0.21	10.60	0.89		0.16		3.63										0.53	85	101
4	21	Ms	44.72	0.82	31.42	2.00		1.40		0.50	8.20									3.92				93	112
4	22	Chl	26.91		22.18	22.22	0.16	13.54																85	95
4	23	Ab	64.22		21.90	0.35			3.41	9.95	0.18													100	124
5	1	Chl+Sd	19.30	1.87	10.85	46.65	0.26	4.68	0.27		1.12													85	72
5	2	llm		62.79		30.09	7.11																	100	89
5	3	llm		63.99		34.92	1.11																	100	92
5	4	Sd	1.72		0.91	42.90	0.30		0.69	1.28	0.13		1.04							0.58			6.46	56	69
5	5	Alm	39.25	1.45	22.15	21.41	0.17	8.64		0.44	6.49													100	94
5	6	Chl+other	24.02	1.50	11.23	40.96		4.37		0.40	2.35					0.14								85	93
5	7	llm		62.94		35.76	1.29																	100	98
5	8	Ms	46.65	0.37	31.63	2.87		0.86		1.11	9.50													93	104
5	9	llm		60.53		38.17	1.29																	100	88
5	10	Chl	26.46		22.63	21.11	0.31	13.90	0.25				0.36											85	99
5	11	Bt	36.00	2.93	15.24	16.90	0.24	8.22	3.00	0.40	6.75	1.50	4.17											96	91
5	12	Alm-Sps	39.96		21.43	24.91	9.68	2.97	1.06															100	119
5	13	llm		60.78		31.51	7.71																	100	98
5	14	Sd+Chl	13.71		5.90	61.30	0.46	10.83	5.32		0.94					0.47							1.06	100	67
5	15	Sd+Chl	24.17	1.15	11.53	56.55		2.29	0.36		2.59	1.12				0.24								100	83

Appendix 4-8 Back-scattered images and EDS geochemical mineral analyses of sample Mohawk B-93 6540 (ft) (1993.41 m)



Figure 4-8.1: Sample B-93 6540 (ft) (1993.41 m) site 1 (SEM). (Table 4-8)



Figure 4-8.2: Sample B-93 6540 (ft) (1993.41 m) site 2 (SEM). (Table 4-8)



- 8 Kfs+Chl+other
- 12 Alm-Sps
- 14 TiO2 mineral+other

Figure 4-8.3: Sample B-93 6540 (ft) (1993.41 m) site 3 (SEM). (Table 4-8)



Figure 4-8.4: Sample B-93 6540 (ft) (1993.41 m) site 4 (SEM). (Table 4-8)



Figure 4-8.5: Sample B-93 6540 (ft) (1993.41 m) site 5 (SEM). (Table 4-8)



Figure 4-8.6: Sample B-93 6540 (ft) (1993.41 m) site 6 (SEM). (Table 4-8)



1 Tur 2 Ilm+other

3 Zrn

- 4 Alm-Sps
- 5 Ilm+other
- 8 Tur
- 9 Ab

Figure 4-8.7: Sample B-93 6540 (ft) (1993.41 m) site 7 (SEM). (Table 4-8)



Figure 4-8.8: Sample B-93 6540 (ft) (1993.41 m) site 8 (SEM). (Table 4-8)



- 1 Tur
- 2 Tur
- 3 Ilm+other
- 4 Py
- 5 Alm-Sps
- 7 Alm-Sps
- 8 Alm-Sps
- 13 Tur
- 21 F-Ap

Figure 4-8.9: Sample B-93 6540 (ft) (1993.41 m) site 9 (SEM). (Table 4-8)

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	ZnO	ZrO ₂	SnO ₂	HfO ₂	Total	Actual Total
1	1	Tur	37.62	0.49	30.98	6.42		6.58	0.66	2.24										85	109
1	2	Ab	68.71		19.01				0.31	11.99										100	109
1	3	llm	0.92	63.92	0.45	32.51	2.19													100	100
1	4	Qz	99.79			0.19														100	122
1	5	TiO2 mineral+Qz	42.21	55.41	0.34	0.21			0.78			1.05								100	110
1	6	Alm-Sps	39.51		21.31	30.13	4.78	2.57	1.71											100	108
2	1	Ab	65.57		21.22	0.15			2.78	10.10	0.18									100	107
2	2	(Alt IIm) Rt+other	14.59	77.16	3.33	2.23			0.29	1.27			1.15							100	96
2	3	Ms	46.87	0.48	31.16	2.93		0.88		0.91	9.79									93	99
2	4	Alm-Sps	39.66		21.05	31.20	1.39	2.16	4.53											100	108
2	5	Alm-Sps	39.34		20.84	29.09	3.90	2.06	4.76											100	123
2	6	Qz	99.84			0.15														100	133
3	1	Tur	37.46	0.82	30.39	6.17		7.22	0.60	2.35										85	101
3	4	llm		63.27		35.76	0.98													100	90
3	6	F-Ap							49.29			44.27		6.34						100	125
3	7	Tur	36.49	1.11	31.99	7.96		4.75	0.82	1.90										85	97
3	8	Kfs+Chl+other	41.54		18.37	15.44		1.06	3.02		2.60		9.71	4.94		3.31				100	45
3	12	Alm-Sps	39.43	0.23	20.73	27.60	6.35	2.50	3.16											100	121
3	14	TiO2 mineral+other	23.89	53.14	13.51	4.80		1.53	0.50	0.61	2.00									100	108
4	1	Ab	66.36		20.33	0.82			1.36	10.99	0.13									100	129
4	2	Ab	68.39		19.03	0.18			0.59	10.87	0.96									100	142
4	3	Alm-Sps	39.47		21.28	26.50	9.17	2.26	1.34											100	104
4	4	Zrn	31.60														67.28		1.12	100	128
4	5	llm	0.88	56.25		41.93	0.94													100	94
4	6	llm+Qz	60.26	27.86		11.45	0.43													100	120
4	8	F-Ap				0.22			49.34			44.87		5.71						100	129
4	9	Tur	37.71	0.65	31.32	6.27		6.55	0.51	1.98										85	109
4	14	Chl	25.81		21.89	23.14	0.30	13.87												85	99
5	2	Tur	37.88	0.83	30.06	6.14		6.83	0.86	2.26					0.14					85	112
5	3	Tur	38.07	0.49	30.08	7.74		6.10	0.19	2.30										85	101
5	4	llm+Qz	10.27	56.46		32.86	0.41													100	84
5	5	Ilm+other	2.05	63.14	0.77	33.38	0.65													100	102
5	6	St	29.50	0.58	54.38	13.78	0.26	1.51												100	118
5	7	Ab	68.73		18.97				0.32	11.97										100	129
5	10	Ab	67.51		19.97				1.46	11.06										100	125
5	18	Zrn	31.85			0.27											66.73		1.13	100	127
6	1	Tur	37.64	0.58	30.93	6.26		6.75	0.69	2.14										85	112
6	6	Grt?	44.99	1.63	20.41	26.73		1.58	0.32	0.67	3.66									100	118
6	10	Tur	37.49	1.15	31.58	6.76		5.61	0.60	1.81										85	94

Table 4-8: SEM analyses from sample B-93 6540 ft (1993.41 m)

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	Cr_2O_3	ZnO	ZrO_2	SnO ₂	HfO ₂	Total	Actual
6	11	Ab	69 33		18 56	0.19				11 92										100	105
6	13	Ab	68 73		18.90	0.10			0.32	11.86										100	110
7	10	Tur	37.02	0.45	31 42	10 17		3 5 3	0.02	2 24										85	96
7	2	Ilm+other	2.89	52.48	1.04	41.71	1.90	0.00	0.10	2.21										100	89
7	3	Zrn	31.51	02.10		0.30											67.13		1.06	100	119
7	4	Alm-Sps	39.28		21.05	31.31	4.34	3.12	0.91											100	126
7	5	Ilm+other	1.75	84.82	1.68	10.18	0.49	-	0.52						0.57					100	110
7	8	Tur	37.48	0.55	31.76	7.81		5.03	0.60	1.79										85	105
7	9	Ab	64.92		21.65	0.19			3.34	9.87										100	128
8	1	Tur	37.08	0.81	32.38	8.32		4.22	0.26	1.92										85	89
8	2	Tur	37.44	0.26	30.63	6.66		7.13	0.80	2.08										85	101
8	3	Alm-Sps	39.40		21.26	31.40	3.21	2.93	1.78											100	115
8	4	Ilm+other	9.18	49.47	5.90	29.19	0.48	3.23	1.41			1.15								100	107
8	5	(Alt IIm) Rt+other	9.48	86.49	1.87	1.65					0.51									100	115
8	6	Kfs	65.40		17.89	0.33				0.50	15.89									100	112
8	7	Chl	25.46		22.05	23.44	0.42	13.64												85	101
8	11	Chl+Kfs+other	37.09	1.40	17.97	37.48		2.02	0.50		3.53									100	91
8	12	F-Ap				0.19			48.05			44.64		7.13						100	118
8	13	F-Ap				0.68			49.00	0.84		39.11	1.30	8.91						100	111
9	1	Tur	38.04	0.64	29.28	5.14		8.74	0.36	2.56					0.26					85	105
9	2	Tur	44.47	0.44	25.55	4.27		3.36	1.22	5.70										85	109
9	3	Ilm+other	2.33	58.93	0.45	33.11	2.89										2.28			100	98
9	4	Py				28.42							71.59							100	222
9	5	Alm-Sps	39.47		20.80	31.65	3.65	2.42	2.00											100	113
9	7	Alm-Sps	32.43		14.46	28.42	10.61	2.24	2.76	2.51	0.82		1.35					4.19		100	58
9	8	Alm-Sps	39.68		21.18	33.23	1.63	2.65	1.62											100	101
9	13	Tur	37.59	0.66	30.50	6.89		6.53	0.63	2.21										85	90
9	21	F-Ap				0.24			47.70			44.66		7.39						100	116

Table 4-8: SEM analyses from sample B-93 6540 ft (1993.41 m)
Appendix 4-9 Back-scattered images and EDS geochemical mineral analyses of sample Mohawk B-93 6750 (ft) (2058.92 m)



4 Qz 5 Zrn 6 Ilm+other

7 Bt

8 Mag+Qz+Py

9 Chl

10 Ilm+other

11 F-Ap

12 Ank

14 Ms

Figure 4-9.1: Sample B-93 6750 (ft) (1993.41 m) site 1 (SEM). (Table 4-9)



Figure 4-9.2: Sample B-93 6750 (ft) (1993.41 m) site 2 (SEM). (Table 4-9)



Figure 4-9.3: Sample B-93 6750 (ft) (1993.41 m) site 3 (SEM). (Table 4-9)



Figure 4-9.4: Sample B-93 6750 (ft) (1993.41 m) site 4 (SEM). (Table 4-9)



1 Ab

3 Ilm+other

- 4 Tur
- 5 Qz

Figure 4-9.5: Sample B-93 6750 (ft) (1993.41 m) site 5 (SEM). (Table 4-9)



Figure 4-9.6: Sample B-93 6750 (ft) (1993.41 m) site 6 (SEM). (Table 4-9)



1 Tur 2 St

3 Ilm+other

6 llm

Figure 4-9.8: Sample B-93 6750 (ft) (1993.41 m) site 8 (SEM). (Table 4-9)

Figure 4-9.7: Sample B-93 6750 (ft) (1993.41 m) site 7 (SEM). (Table 4-9)



3 Ilm 11 Zrn



Figure 4-9.9: Sample B-93 6750 (ft) (1993.41 m) site 9 (SEM). (Table 4-9)

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	V_2O_5	ZnO	SrO	ZrO_2	Ce_2O_3	HfO ₂	WO_3	Total	Actual Total
1	1	Fsp	67.75		19.69	0.22			0.70	9.32	2.32											100	128
1	2	llm+Qz	22.10	58.35		19.30	0.27				-											100	154
1	3	Mag+other	9.05	0.70	9.11	73.78		2.34	0.42	0.74	0.40	1.47			0.37	0.50					1.13	100	108
1	4	Qz	99.99		-				-	-											-	100	148
1	5	Zrn	31.32			0.30												67.08		1.31		100	169
1	6	llm+other	10.74	49.39	6.80	25.70	0.22	0.45	1.55		3.29	1.86										100	132
1	7	Bt	41.19	2.40	16.29	17.06	0.36	7.62		0.42	8.01			2.67								96	133
1	8	Mag+Qz+Py	2.29	-		95.30			0.69	-			1.72									100	89
1	9	Chl	25.70		22.30	23.40	0.21	13.42														85	127
1	10	llm+other	1.93	63.94	0.93	32.78	0.43															100	122
1	11	F-Ap				1.18		0.38	49.25	0.85		40.60		7.06			0.67					100	123
1	12	Ank	0.63		0.43	9.33	1.30	12.34	31.98													56	75
1	14	Ms	45.56	0.51	32.24	2.71		0.89		0.29	10.28		0.51									93	131
2	1	Tur	37.15	0.74	30.84	7.32		6.12	0.50	2.34												85	133
2	2	St	29.33	0.52	55.04	13.25	0.18	1.69														100	150
2	3	Mag+other	3.38		0.64	90.80	0.57		0.74	0.94											2.94	100	102
2	4	llm+other	1.52	54.10	0.91	40.72	2.76															100	112
2	5	Chl+Kfs+other	25.19	1.08	11.37	16.34	0.21	8.29	8.96		4.01	9.56										85	108
2	6	Ms	46.40	0.42	34.13	0.91				1.97	7.88			1.32								93	124
2	9	St	29.61	0.35	54.91	13.39		1.72														100	145
2	10	Qz	99.79			0.21																100	158
2	12	Sd+other	4.30			92.97	0.36		0.74	0.92			0.72									100	85
3	1	llm+other	14.46	57.40	1.40	26.17	0.30				0.28											100	140
3	2	llm+other	26.10	52.39	1.17	19.68	0.34				0.33											100	135
3	3	Alm-Sps	38.95		21.22	28.73	6.60	2.07	2.42													100	151
3	4	llm+other	2.52	78.70	1.91	16.18	0.44		0.25													100	127
3	5	llm		63.24		35.24	1.52															100	127
3	6	Ab	67.19		20.33	0.98			0.20	10.84	0.47											100	160
3	17	Ms	46.17	0.53	34.37	1.01		0.37		1.69	8.84											93	133
4	2	Tur	36.60	0.98	29.04	9.49		5.83	1.31	1.75												85	142
4	3	Ab+Py	65.07		18.82	1.16			0.15	11.37	0.48		2.92									100	164
4	4	Ms	46.71		32.02	2.88				0.49	10.89											93	122
4	5	llm+other	5.71	56.86	3.00	32.65	0.94				0.82											100	112
4	6	F-Ap							49.08			44.66		6.26								100	154
4	10	Ab	65.67		21.05	0.22			2.49	10.58												100	144
4	11	llm+other	0.51	60.72	0.47	36.06	2.23															100	137
5	1	Ab	68.86		18.84	0.24			0.20	11.85												100	134
5	2	Alm-Sps	39.64		21.07	27.74	8.24	2.16	1.18													100	157
5	3	Ilm+other	16.56	53.24	7.54	21.43	1.23															100	160
5	4	Tur	38.55	0.49	31.53	4.90		7.11	0.29	2.11												85	135
5	5	Qz	99.77			0.22																100	144
6	1	Ab	68.56		19.12	0.37				11.81	0.14		-					-				100	135

Table 4-9: SEM analyses from sample B-93 6750 ft (2058.92 m)

Site	Position	Mineral	SiO	TiO	Al ₂ O ₂	FeO	MnO	MaQ	CaO	Na ₂ O	K ₂ O	P ₂ O ₂	SO2	F	VaOr	ZnO	SrO	ZrO ₂	CeoOo	HfO	WO ₂	Total	Actual
One	1 0311011	Winterda	0102	1102	7 4203	100	WINO	MgO	ouo	11020	1020	1 205	003	•	•205	2110	010	2102	00203	11102		Total	Total
6	2	F-Ap+other				1.29			46.09	1.29		38.04	4.49	7.89			0.17		0.74			100	153
6	4	Ilm+other	14.31	46.97	8.58	25.85	0.74	0.48			3.07											100	129
6	5	llm		23.67		76.33																100	114
6	6	St	30.01	0.45	57.03	11.05	0.32	0.71								0.45						100	146
7	1	Tur	36.89	0.43	31.08	8.05		5.96	0.54	2.07												85	117
7	2	St	30.23	0.48	54.59	12.81	0.18	1.72														100	138
7	3	llm+other	1.13	60.52	0.43	34.21	3.71															100	124
7	6	llm		61.78		34.62	3.60															100	147
8	2	St	29.44	0.57	54.31	13.86	0.17	1.69														100	148
8	3	llm		62.67		32.96	4.38															100	114
8	11	Zrn	31.42			0.36												67.19		1.04		100	163
9	1	Tur	37.59	0.79	30.23	7.89		6.15	0.41	1.96												85	143
9	2	Ms	44.08	0.62	33.60	2.34		0.54		0.69	11.10											93	103
9	3	llm+other	27.79	46.87	1.83	22.35	0.99				0.18											100	154
9	4	Cal				0.22			52.47	0.42				2.89								56	68
9	5	Qz	99.99																			100	161
9	6	Pv	0.19			28.50							71.32									100	325

Table 4-9: SEM analyses from sample B-93 6750 ft (2058.92 m)

Appendix 5-1 Back-scattered images and EDS geochemical mineral analyses of sample Mohican I-100 5990 (ft) (1798.32 m)



Figure 5-1.1: Sample I-100 5990 (ft) (1798.32 m) site 1 (SEM). (Table 5-1A)



Figure 5-1.2: Sample I-100 5990 (ft) (1798.32 m) site 2 (SEM). (Table 5-1A)



Figure 5-1.3: Sample I-100 5990 (ft) (1798.32 m) site 3 (SEM). (Table 5-1A)



Figure 5-1.4: Sample I-100 5990 (ft) (1798.32 m) site 4 (SEM). (Table 5-1A)



Figure 5-1.5: Sample I-100 5990 (ft) (1798.32 m) site 5 (SEM). (Table 5-1A)



1 And 2 Bt 3 Bt 10 (Alt IIm) Rt 12 Kfs 16 Kfs

Figure 5-1.6: Sample I-100 5990 (ft) (1798.32 m) site 6 (SEM). (Table 5-1A)



Figure 5-1.7: Sample I-100 5990 (ft) (1798.32 m) site 7 (SEM). (Table 5-1A)



1 Ab 2 (Alt IIm) Rt+Chl

Figure 5-1.8: Sample I-100 5990 (ft) (1798.32 m) site 8 (SEM). (Table 5-1A)



Figure 5-1.9: Sample I-100 5990 (ft) (1798.32 m) site 9 (SEM). (Table 5-1A)



- 1 St
- 4 Kfs
- 8 Tur
- 9 (Alt IIm) Rt+ChI+Kfs
- 16 Kfs
- 18 llm
- 20 Ilm

Figure 5-1.10: Sample I-100 5990 (ft) (1798.32 m) site 10 (SEM). (Table 5-1A)



Figure 5-1.11: Sample I-100 5990 (ft) (1798.32 m) site 11 (SEM). (Table 5-1A)



Figure 5-1.12: Sample I-100 5990 (ft) (1798.32 m) site 12 (SEM). (Table 5-1A)



Figure 5-1.13: Sample I-100 5990 (ft) (1798.32 m) site 13 (SEM). (Table 5-1B) see location in Fig.5-1.1



1 Sd+other 2 Sd+other

- 3 Kln+Sd+other
- 4 Qz+other
- 5 Qz+other

Figure 5-1.14: Sample I-100 5990 (ft) (1798.32 m) site 14 (SEM). (Table 5-1B) see location in Fig.5-1.1



1 Sd+other

2 Sd+other

3 Sd+other

Figure 5-1.16: Sample I-100 5990 (ft) (1798.32 m) site 16 (SEM). (Table 5-1.B) see location in Fig.5-1.3

Figure 5-1.15: Sample I-100 5990 (ft) (1798.32 m) site 15 (SEM). (Table 5-1.B) see location in Fig.5-1.1



- 1 Sd+other
- 2 Sd+other
- 3 Qz+other
- 4 Sd+other 5 Sd+other
- 6 Sd+other
- 6 Sa+otne



Figure 5-1.17: Sample I-100 5990 (ft) (1798.32 m) site 17 (SEM). (Table 5-1B) see location in Fig.5-1.3



- 1 Py+Qz+Cal
- 2 Sd+other
- 3 Qz
- 4 Sd+other
- 5 Qz+Sd+other

Figure 5-1.18: Sample I-100 5990 (ft) (1798.32 m) site 18 (SEM). (Table 5-1B) see location in Fig.5-1.4



Figure 5-1.19: Sample I-100 5990 (ft) (1798.32 m) site 19 (SEM). (Table 5-1B) see location in Fig.5-1.5



1 Sd+other 2 Sd+other

3 Cal+other

- 4 Sd+Kfs+Chl
- 5 Sd+Kfs+Chl
- 6 Sd+Kfs+Chl

Figure 5-1.20: Sample I-100 5990 (ft) (1798.32 m) site 20 (SEM). (Table 5-1B) see location in Fig.5-1.7



Figure 5-1.21: Sample I-100 5990 (ft) (1798.32 m) site 21 (SEM). (Table 5-1B) see location in Fig.5-1.7



Figure 5-1.22: Sample I-100 5990 (ft) (1798.32 m) site 22 (SEM). (Table 5-1B) see location in Fig.5-1.8

Table 5-TA. Selvi analyses nom sample 1-100 5990 n (1790.32 n	Table 5-1A:	SEM analy	ses from	sample I-	100 5990 ft	(1798.32 m
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Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	V_2O_5	Cr_2O_3	ZrO ₂	BaO	Ce ₂ O ₃	HfO ₂	WO_3	Total	Actual Total
1	1	llm	0.77	82 45	0.79	14 25	0.85		0.34			0.55										100	95
1	2	llm+other	0.86	76 43	1 10	18.63	0.35	0.56	0.45			0.64									1 00	100	89
1	3	Sd+Kfs+other	19.51	0.70	8 4 1	63 48	0.00	1.86	0.35	0.61	2.30	1.37			0.30						0.87	100	87
1	7	Ilm+other	6.63	58.83	1.49	29.22	2.60	0.51	0.18	0.01	0.52	1.07			0.00						0.07	100	109
1	. 11	Glt	42 64	00.00	9 14	25.70	2.00	2.99	0.10	0.35	6.42	0 47										88	109
1	16	Kfs	65.63		18.01	0.15		2.00		0.69	15.13	0						0.38				100	120
1	18	Kfs	65.63		17.91	0.21				1.31	14.19							0.74				100	125
1	21	Sd+Kfs+other	16.39	0.40	7.12	69.38		2.07	0.35		1.70	1.72						0			0.87	100	82
1	25	Kfs	66.10		17.65	0.18				0.65	15.41											100	128
2	1	Kfs	65.48		17.93	0.15				1.15	14.53							0.76				100	134
2	8	Tur	40.09	0.40	29.95	5.80		6.40	0.30	2.07												85	115
2	12	Kfs	65.12		18.08	0.37				0.77	14.92							0.75				100	124
2	15	Kfs	65.31		18.10	0.21				0.90	14.78							0.71				100	130
2	18	Pv	1.22		0.79	28.35							69.62					-				100	243
3	1	Zrn	31.08			0.39			0.42								66.55			1.54		100	135
3	4	Sd+Kfs+other	14.44	0.77	10.05	68.02		1.97	0.38		1.05	1.74									1.59	100	79
3	5	Kfs	65.91		17.93	0.24				0.94	14.97											100	118
3	10	F-Ap (diag)+other	13.33		1.51	1.31		0.32	40.31		0.24	35.82		6.71					0.48			100	129
3	16	Tur	37.62	0.66	32.97	6.95		4.69	0.26	1.84												85	114
3	17	Kfs	65.50		18.12	0.18				1.36	13.95							0.89				100	125
3	24	Chl	26.27		23.24	21.74	0.33	13.08	0.33													85	106
3	28	Kln	48.25	2.40	32.24	0.84								2.26								86	53
4	1	llm+other	2.05	70.98	0.77	24.02	0.39	1.01	0.25			0.55										100	94
4	2	Sd+Kfs	14.12	0.33	6.75	71.99		1.48	0.46		1.51	1.60									1.77	100	78
4	3	Kfs	66.74		17.82	0.31					15.12											100	112
4	4	Kfs+Chl	65.20	0.78	18.31	5.03		4.11	0.42	0.51	5.63											100	123
4	13	Sd+Kfs	18.25	0.70	8.75	65.60		1.81	0.48		1.52	1.74									1.15	100	93
4	15	Bt	38.34	2.71	16.64	22.19	0.34	7.67			7.95											96	113
5	1	F-Ap (diag)				0.84	0.15		48.87	1.35		38.04	0.60	9.32					0.78		0.05	100	122
5	2	Kfs	65.33		18.01	0.23				0.90	14.78							0.75				100	135
5	3	llm+Qz	5.09	66.02		25.70	3.01		0.18													100	109
5	4	St	29.29	0.37	56.20	13.10		0.81														100	107
5	10	llm+other	0.98	78.45	1.13	16.99	0.72		0.39			0.53									0.79	100	112
6	1	And	37.56		61.96	0.48																100	108
6	2	Bt	37.33	4.94	13.09	25.21	0.21	6.27			8.54											96	100
6	3	Bt	38.74	3.59	16.50	17.41	0.35	10.64			8.80											96	120
6	10	(Alt IIm) Rt	1.18	97.40		1.42																100	99
6	12	Kfs	66.06		17.67	0.46				1.27	14.55											100	125
6	16	Kfs	66.32		17.86	0.42				0.24	15.15											100	117
7	1	Ab	68.69		18.84	0.18			0.15	12.15												100	112
7	2	(Alt IIm) Rt	2.59	96.30	0.49	0.63																100	96
7	3	F-Ap (diag)	4.68		3.19	19.39	0.22	1.09	35.26	1.04	0.26	28.92		5.93								100	97

	Table 5-1A:	SEM analyses from	n sample I-100	5990 ft (1798.32 m
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Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	V_2O_5	Cr_2O_3	ZrO_2	BaO	Ce_2O_3	HfO ₂	WO ₃	Total	Actual
7	0	llas	0.47	C1 C0	0.00	25 47		1 07		_	_		-			0.45	_			_	-	100	I otal
/	6	lim	0.47	61.68	0.36	35.17		1.87	0.04	44.00	0.44					0.45						100	96
8	1		68.24	70.00	19.05	0.30		4.04	0.64	11.66	0.11	0.74										100	132
8	2		10.25	73.39	6.18	6.64	4.05	1.31	0.52	0.62	0.36	0.71										100	93
9	1	lim	2.37	69.94	0.81	24.98	1.65		0.22													100	109
9	2	IIM Otto	0.96	18.97	0.81	18.30	0.59	0.00	0.28	0.00	F 70										0.05	100	112
9	3	Git	40.77	0.25	9.16	28.19		2.86	0.05	0.39	5.72	1 10			0.40						0.65	88	90
9	4	Sd+Kfs	13.88	1.08	7.41	70.82		1.97	0.35	0.00	1.32	1.40			0.46						1.30	100	93
9	5	Kfs+Chl	60.11		8.11	19.64		4.38		0.36	7.41											100	101
10	1	St	29.63	0.60	54.19	13.48	0.21	1.61														100	131
10	4	Kts	65.40		18.08	0.22				0.96	14.76							0.57				100	130
10	8	Tur	37.51	0.53	31.13	7.18	0.12	6.06	0.27	2.19												85	98
10	9	(Alt Ilm) Rt+Chl+Kfs	22.76	58.83	10.35	2.59		1.41			3.58		0.50									100	136
10	16	Kfs	65.74		17.89	0.15				0.55	15.67											100	114
10	18	llm	0.88	86.27	2.55	7.71			0.56	0.42		0.99									0.66	100	101
10	20	llm	0.75	67.07		28.88	2.90		0.39													100	88
11	2	(Alt IIm) Rt	6.12	93.33		0.57																100	130
11	3	llm+Qz	15.47	54.93	1.57	26.37	1.23				0.43											100	89
11	10	Qz+Fsp	84.05		8.88	0.32				6.51	0.24											100	126
11	14	Ilm	0.81	62.25	0.38	32.96	3.43		0.15													100	94
11	16	F-Ap (diag)+other	4.83		2.66	1.67			48.99	1.56	0.59	34.72	0.95	4.01								100	71
11	24	Ab	61.87		25.40	0.35			4.42	7.46	0.52											100	122
12	1	llm	1.09	72.64	0.36	22.69	2.94		0.28													100	114
12	2	llm		67.76		30.25	2.00															100	80
12	3	llm	0.77	76.36	0.59	21.01	1.01		0.28													100	103
12	4	Ilm+other	3.32	70.21	1.34	21.97	1.42	0.73	0.24		0.26	0.53										100	95
12	14	Kfs	65.97		18.08	0.22				1.44	14.29											100	117
12	17	Kfs	65.95		17.63	0.28				0.39	15.74											100	128

Site	Position	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MnO	MaO	CaO	Na ₂ O	K₂O	P ₂ O ₅	SO ₃	V ₂ O ₅	BaO	WO ₃	Total	Actual
		0.1.1//	2	2	2 0					-	-	2 0	Ű	2 0		0		Total
13	1	Sd+Kfs+other	9.98	0.60	6.59	36.47	0.15	0.99	0.26	0.40	0.56	0.99					57	85
13	2	Chl+Sd+other	21.48	0.77	15.08	57.03		1.48		0.75	1.96	1.44					100	91
13	3	Chl+Sd+other	23.83	0.43	18.35	50.85		1.63		0.70	2.53	1.42		0.29			100	96
13	4	Qz+Sd+other	58.76	0.42	3.33	35.49		0.76			0.49	0.73					100	108
13	5	Qz+Sd+other	63.19	0.37	3.38	31.07		0.76			0.45	0.78					100	111
13	6	Sd+Chl+Kfs	9.05	0.48	6.49	37.80		1.33	0.22		0.54	1.09					57	81
14	1	Sd+other	2.67		0.60	42.06	0.63	5.07	4.10			0.90				0.77	57	65
14	2	Sd+other	1.46		0.74	43.11	0.58	5.39	4.83			0.89					57	61
14	3	Kln+Sd+other	52.95		33.43	11.05	0.17	1.69	0.43		0.26						100	96
14	4	Qz+other	95.66		1.38	2.69			0.25								100	112
14	5	Qz+other	64.41		13.57	15.28		1.13	1.48		0.89	1.28				1.97	100	70
15	1	Sd+other	8.83	0.23	4.79	39.36		1.29	0.19		1.04	1.27					57	83
15	2	Sd+other	8.82	0.30	3.31	41.24		1.04			1.76	0.52					57	53
15	3	Sd+other	10.18	0.26	4.87	37.83		1.31	0.23		1.14	1.19					57	83
16	1	Sd+other	10.01	0.21	4.32	39.31		1.18			0.87	1.11					57	87
16	2	Sd+other	9.68	0.20	3.85	39.63		1.35	0.19		0.93	1.15					57	84
16	3	Qz+other	77.70	0.25	1.02	17.73	0.19	0.53	1.90		0.14	0.53					100	122
16	4	Sd+other	7.56		1.25	37.93	0.40	1.36	3.87		0.18	2.46				2.01	57	77
16	5	Sd+other	7.73		2.42	37.25	0.39	1.81	3.76		0.23	1.98				1.41	57	77
16	6	Sd+other	5.35		1.71	38.66	0.51	4.29	4.37			2.10					57	69
17	1	Fsp+other	55.23	0.22	16.46	15.46				11.82	0.35	0.46					100	131
17	2	Sd+other	10.72	0.41	6.59	35.10		1.06	0.24		0.74	1.03		0.21		0.91	57	84
17	3	Sd+Chl+other	12.86	0.23	7.89	28.08	0.15	6.98			0.24	0.58					57	95
17	4	Qz+Sd	92.78		0.74	6.48											100	117
17	5	Sd+other	8.80	0.41	5.04	38.86		0.98	0.25		0.59	1.16				0.90	57	80
17	6	Sd+other	8.61	0.42	6.20	37.65		1.18	0.23		0.63	1.08				0.99	57	81
17	7	Sd+Fsp+other	17.63	0.30	6.09	30.02		0.85	0.16		0.55	0.78				0.62	57	94
17	8	Sd+Fsp+other	11.19	0.50	7.69	33.57		1.04	0.22		0.71	0.94				1.12	57	80
18	1	Py+Qz+Cal	1.75		0.42	34.17			1.33			0.64	61.70				100	164
18	2	Sd+other	3.86		1.32	32.64	0.32	3.92	8.46		0.26	6.22					57	71
18	3	Qz	99.28			0.71											100	120
18	4	Sd+other	8.01		0.98	32.74	0.30	0.43	6.44	0.55	0.14	4.47				2.96	57	78
18	5	Qz+Sd+other	79.54		0.72	9.80		1.39	3.85			4.70					100	111
19	1	Sd+Kfs+Chl	27.13		6.41	17.53		1.96		0.34	3.64						57	101
19	2	Sd+Kfs+Chl	27.06		6.10	18.10		1.87			3.86						57	94
19	3	Sd+Kfs+Chl	25.06		5.92	20.06		1.82		0.35	3.39	0.40					57	93

Table 5-1B: SEM analyses from sample I-100 5990 ft (1798.32 m)

Site	Position	Mineral	SiO	TiOa	Al ₂ O ₂	FeO	MnO	MaO	CaO	Na₂O	K₂O	P₂O₅	SO ₂	V₂O₅	BaO	WO ₂	Total	Actual
Onto	1 0010011	Milliora	0.02		1.203			mgo	040	1.020		. 205	•••3	.203	Duo		Total	Total
19	4	Sd+Kfs+Chl	20.50	0.18	5.73	25.70		1.58			2.80	0.52					57	91
19	5	Sd+Kfs+Chl	26.53		5.99	18.62		1.86			4.00						57	90
19	6	Sd+Kfs+Chl	15.77	0.21	5.88	31.48		1.38			1.68	0.63					57	78
19	7	Sd+Kfs+Chl	26.24		6.05	18.79		1.81		0.40	3.69						57	92
20	1	Sd+other	4.78		1.79	47.44		1.07			0.27	1.66					57	79
20	2	Sd+other	7.20		3.29	43.51		1.04			0.59	1.16		0.19			57	84
20	3	Cal+other	5.03		2.12	13.47		1.21	77.73		0.47						100	58
20	4	Sd+Kfs+Chl	21.93	0.20	6.25	23.65		1.62			2.79	0.56					57	94
20	5	Sd+Kfs+Chl	19.94	0.18	5.73	26.16		1.67			2.55	0.78					57	92
20	6	Sd+Kfs+Chl	19.06	0.18	5.89	27.33		1.42			2.46	0.66					57	87
21	1	Qz	99.34			0.66											100	127
21	2	Sd+other	1.57		0.83	45.33	0.51	4.30	3.68			0.78					57	62
21	3	Sd+other	7.81		1.33	41.66	0.42	0.59	1.17	0.66		0.69	0.43			2.21	57	78
21	4	Sd+other	13.74		4.88	29.06	0.33	0.89	1.11	0.92	0.51		0.71		0.43	4.43	57	86
21	5	Kfs+Chl	59.83		10.73	18.74		3.48		0.42	6.77						100	105
21	6	Sd+other	13.29		3.15	32.35	0.34	0.59	1.07	0.86	0.34	0.59				4.42	57	74
21	7	Sd+other	9.37	0.23	3.33	34.91	0.34	0.47	1.26	1.06	0.30	0.71				5.04	57	71
21	8	Sd+other	14.99		3.71	30.61	0.28	0.93	1.45	0.75	0.31					4.00	57	72
22	1	Sd+Chl+other	9.39		6.21	30.94	0.37	4.32	3.60		1.08	1.08					57	81
22	2	Sd+Chl+Cal+other	7.32		1.41	32.02	0.63	1.75	9.18	0.62	0.56	1.25				2.25	57	75
22	3	Sd+other	4.27		1.43	36.94	0.56	3.45	5.54	0.62	0.17	2.81				1.21	57	72
22	4	Brt+Py+other	19.17		9.30	30.99	0.46	2.60	4.55	1.31	0.54	1.67	13.56		13.80	2.03	100	87
22	5	Qz+other	89.25			8.81		1.19	0.76								100	97
22	6	Sd+Chl+other	6.28		2.03	35.36	0.58	1.82	6.61		0.47	2.25				1.61	57	72
22	7	Sd+other	4.83		1.24	38.04	0.52	3.89	4.93		0.17	1.93				1.44	57	72
22	8	Sd+other	10.57	0.19	4.06	38.91		1.06			1.09	1.12					57	81
22	9	Sd+other	10.44	0.20	4.20	38.69		1.17	0.20		1.08	1.02					57	83
22	10	Sd+other	8.04	0.26	3.62	33.35	0.45	4.05	3.90		0.61	1.80				0.93	57	73

Table 5-1B: SEM analyses from sample I-100 5990 ft (1798.32 m)

Appendix 5-2 Back-scattered images and EDS geochemical mineral analyses of sample Mohican I-100 7230 (ft) (2203.7m)



Figure 5-2.1: Sample I-100 7230 (ft) (2203.7) site 1 (SEM). (Table 5-2A)



Figure 5-2.2: Sample I-100 7230 (ft) (2203.7) site 2 (SEM). (Table 5-2A)



Figure 5-2.3: Sample I-100 7230 (ft) (2203.7) site 3 (SEM). (Table 5-2A)



Figure 5-2.4: Sample I-100 7230 (ft) (2203.7) site 4 (SEM). (Table 5-2A)



Figure 5-2.5: Sample I-100 7230 (ft) (2203.7) site 5 (SEM). (Table 5-2A)



Figure 5-2.6: Sample I-100 7230 (ft) (2203.7) site 6 (SEM). (Table 5-2A)



Figure 5-2.7: Sample I-100 7230 (ft) (2203.7) site 7 (SEM). (Table 5-2A)



Figure 5-2.8: Sample I-100 7230 (ft) (2203.7) site 8 (SEM). (Table 5-2A)



Figure 5-2.9: Sample I-100 7230 (ft) (2203.7) site 9 (SEM). (Table 5-2A)



- 1 Alm 3 Ilm+other
- 4 Mag

Figure 5-2.10: Sample I-100 7230 (ft) (2203.7) site 10 (SEM). (Table 5-2A)



Figure 5-2.11: Sample I-100 7230 (ft) (2203.7) site 11 (SEM). (Table 5-2A)



Figure 5-2.12: Sample I-100 7230 (ft) (2203.7) site 12 (SEM). (Table 5-2A)



Figure 5-2.13: Sample I-100 7230 (ft) (2203.7) site 13 (SEM). (Table 5-2A)



- 2 Zrn
- 3 Zrn
- 4 F-Ap (diag)+other
- 5 F-Ap

Figure 5-2.14: Sample I-100 7230 (ft) (2203.7) site 14 (SEM). (Table 5-2A)



Figure 5-2.15: Sample I-100 7230 (ft) (2203.7) site 15 (SEM). (Table 5-2B) For location see analysis 10 in Fig.5-2.6



Figure 5-2.16: Sample I-100 7230 (ft) (2203.7) site 16 (SEM). (Table 5-2B) For location see analyses 89 and 90 in Fig.5-2.6



Figure 5-2.17: Sample I-100 7230 (ft) (2203.7) site 17 (SEM). (Table 5-2.B) For location see analyses 104 and 105 in Fig.5-2.6.



- 1 Sd+Py+other
- 2 Sd+other
- 3 Sd+Py+other
- 4 Sd+Chl
- 5 Sd+other
- 6 Sd+Fsp
- 7 Fsp
- 8 Qz

Figure 5-2.18: Sample I-100 7230 (ft) (2203.7) site 18 (SEM). (Table 5-2B) For location see analyses 114 and 115 in Fig.5-2.6.



Figure 5-2.19: Sample I-100 7230 (ft) (2203.7) site 19 (SEM). (Table 5-2.B) For location see analysis 119 in Fig.5-2.6.

Table 5-2A: SEM analyses from sample I-100 7230 ft (2203.7 m)

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	CI	V ₂ O ₅	Cr_2O_3	NiO	CuO	ZnO	SrO	Y ₂ O ₃	ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
1	1	Brt (cont)											38.40								1.21			60.40				100	132
1	2	Sd+Qz+other	2.07		0.48	50.20	0.37		0.32	0.37					0.19		0.18			0.25						1.45	1.11	57	87
1	3	Qz	99.99																									100	136
1	4	Mag	0.58			98.30	1.12																					100	110
1	5	Brt (cont)																									100.01	100	100
1	6	Brt (cont)				0.77								4.62													94.62	100	95
1	7	IIm+other	1.22	34.23	1.08	62.00			0.14								0.47											100	102
1	8	Mag				98.87	1.14																					100	108
1	9	Ms+other	54.33	0.50	31.08	8.93		1.87	0.23	0.67	2.34																	100	104
1	10	Sd+other	2.56		1.67	43.92	0.53	5.59	2.58		0.17																	57	64
1	11	(Alt IIm) Rt	1.37	96.01	0.91	1.71																						100	82
1	12	Brt (cont)																									100.01	100	95
1	13	Ank	2.55		1.80	15.41	0.75	12.43	23.04																			56	56
1	14	Brt (cont)																									100.01	100	88
1	15	Py+Qz	2.33			28.19							69.49															100	218
1	16	Qz	99.79			0.21																						100	124
1	17	Sd+Chl+Kfs	18.29	0.46	6.66	26.86		1.57	0.15		2.18	0.46			0.10		0.11											57	107
1	18	Mag	0.53			98.35	1.11																					100	115
1	19	Sd+Fsp+Py	7.64		3.05	38.58	0.25	0.43	0.60	0.86	0.29		0.64							0.36						3.90		57	88
1	20	F-Ap (diag)+other	2.29		1.42	2.57			48.66	1.25		36.23	2.35	4.44												0.78		100	73
1	21	llm		67.42		31.79	0.77																					100	109
1	22	llm		52.91		44.96	2.13																					100	118
1	23	Sd+Chl+Kfs+Cal	19.62	0.87	11.36	53.49	0.84	7.63	2.71	0.63	1.17									0.35						1.35		100	96
1	24	Sd+Qz+other	2.56		0.36	51.48	0.68		0.20				0.43		0.20				0.23	0.47								57	83
1	25	Py	0.98		0.49	31.33			0.08	0.22			66.72							0.17								100	215
1	26	Kfs+Chl	64.00	0.63	21.60	6.51		1.09		0.35	5.81																	100	116
1	27	Sd+Fsp+other	3.61		1.22	46.53	0.55	0.39	0.22	0.59					0.14		0.42		0.29	0.80						2.25		57	81
1	28	Mag				98.54	1.46																					100	104
1	29	Qz	99.77			0.22																						100	131
1	30	Ilm+other	1.58	81.77	2.27	13.83	0.36		0.20																			100	107
1	31	Mag				99.07	0.93																					100	99
1	32	Sd+Chl+Kfs	11.07		6.46	30.23	0.32	5.87	2.19		0.86																	57	72
1	33	Chl+Kfs	34.44	0.74	9.74	31.72		2.49		0.39	4.62				0.16											0.64		85	97
1	34	llm+Chl	13.54	63.74	8.48	11.50		1.56	0.35	0.69	0.16																	100	90
1	35	Sd+Py+other	6.61	0.78	1.80	41.11			0.63	0.56	0.18		0.70						0.38	0.84						2.50	0.91	57	76
1	36	Qz+llm	69.72	26.87	0.32	2.96					0.12																	100	141
1	37	Sd+Qz	15.13			31.26	0.37	5.92	4.31																			57	85
1	38	llm+Chl+Kfs	15.00	69.06	6.33	6.28		1.14	0.15		1.40															0.66		100	119
1	39	Qz+Kfs	90.66	0.20	5.71	0.72		0.73			1.99																	100	132
1	40	Py+Qz	2.82		0.42	46.42			0.52				46.80							0.49						2.09		100	119
1	41	Sd+Fsp	2.83		0.92	48.27	0.83		0.19	0.67										0.41						2.89		57	69
1	42	Sd+Fsp	1.57		0.73	50.91	0.99		0.22	0.63			0.43													1.52		57	68
1	43	Sd+Chl+Kfs	15.13		9.11	25.17	0.50	4.06	2.09	0.35	0.58																	57	86
1	44	CuO (cont)	1			0.58													99.42									100	112
1	45	(Alt IIm) Rt	1.20	89.44	2.78	4.90			0.50			0.64					0.53											100	97
1	46	Cal	-			5.03		1.40	48.86			0.69																56	40
1	47	Sd+Chl+Kfs+TiO2	10.97	0.75	4.82	37.37		1.06	0.14		1.21	0.34			0.11													57	89
1	48	Mag	-			99.03	0.97																					100	110
1	49	Sd+Chl+Kfs+other	15.04	0.52	5.14	32.83		1.07	0.16		1.58	0.27			0.19		0.13			0.06								57	98
1	50	Sd+other	2.25		0.51	52.29	0.56		0.19	0.38									0.39	0.42								57	81
1	51	Ank				15.94	0.74	13.98	25.32																			56	52
1	52	Brt (cont)				0.63							4.5.1														99.38	100	95
1	53	Cal	-			3.27	0.28	0.62	50.11				1.71															56	41
1	54	Py	0.47			29.07			3.40				67.05															100	178
1	55	Mag				99.06	0.94																					100	97
1	56	Py+Qz	2.33		0.94	37.89		0.28	0.90	0.39			54.21						0.20	0.75						1.77		100	179
Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CI	V ₂ O ₅	Cr_2O_3	NiO CuO	ZnO	SrO	Y_2O_3	ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total	
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1	57	Ilm+Chl+Cal	1.24	56.73	1.78	5.13	0.44	1.36	33.31																		100	67	
1	58	Ms+other	56.86	0.43	28.02	5.61		1.21	2.22	0.51	4.54		1	0.59													100	111	
1	59	Qz	99.99																								100	137	
1	60	Sd+other	2.79		0.39	45.86	0.87	2.77	1.58	0.66		0.27							0.31						1.49		57	77	
1	61	Sd+Chl+Kfs	7.87		4.61	32.63	5.90	2.82	0.39	0.40	1.17														1.20		57	75	
1	62	Spl+other			22.33	22.77		8.27									46.02		0.25								100	117	
1	63	Sd+other	7.42		2.08	35.96	0.23		0.93	1.20															7.27	1.92	57	73	
1	64	Sd+other	12.94	0.79	5.77	35.03	0.53	0.90	0.25		0.38		0.29	1	0.14												57	92	
1	65	Qz	99.62			0.36																					100	136	
1	66	Rt	0.36	98.95	0.43	0.24																					100	120	
1	67	cont			5.35	2.32			2.28					2.67	1.16			1.08	13.35						42.06	29.76	100	50	
1	68	Sd+Chl+Fsp	6.02		4.28	37.20	0.43	4.47	2.62	0.59	0.13	0.29													0.97		57	71	
1	69	Sd+Chl+Kfs	15.28	0.46	4.43	28.18	0.48	5.27	2.25		0.68																57	58	
1	70	Sd+Fsp	2.84		1.09	43.54	0.47		0.42	0.82							0.26		0.50						4.80	2.26	57	80	
1	71	Mag				98.66	1.34																				100	113	
1	72	Cal+Chl	11.34		8.86	8.04	0.61	1.74	69.40																		100	43	
1	73	Py				27.61			1.50				70.92														100	200	
1	74	Ab	67.47		18.84	1.02			0.14	11.80	0.26		0.47														100	135	
1	75	Py	15.25		11.96	21.21			0.07	0.30	0.70		50.52														100	138	
1	76	Sd+Chl	1.69	0.17	0.75	50.14	0.36	1.00	0.32	0.50							0.19	0.00 0.22	0.52						1.11		57	74	
1	77	Sd+other	2.06		0.72	50.33	0.53		0.27	0.46							0.38		0.31						0.91	1.04	57	84	
1	78	(Alt IIm) Rt+other	1.39	93.46	1.78	2.55			0.35			0.48															100	104	
1	79	Brt (cont)+other	1.73		0.93	9.26	0.36		0.27				32.64							1.08			53.22		0.54		100	96	
1	80	Mag				98.88	1.12																				100	101	
1	81	Ab+Sd+Chl	45.09	0.22	12.66	26.36	0.44	3.17	2.17	9.64	0.25																100	101	
1	82	Sd+other	5.46		2.31	44.28	0.97	1.26	0.26		0.19		0.48						0.79						1.00		57	83	
1	83	Chl+Fsp	41.16	0.55	19.24	28.41	0.43	1.29	0.76	1.33	1.41								0.61						4.80		100	73	
1	84	Mag				98.56	1.20										0.25										100	100	
1	85	Sd+other	1.33		0.46	52.00	0.68	0.46	0.22	0.56							0.13		0.26						0.88		57	87	
1	86	Cal+Ms+other	41.39		16.57	8.22	0.25	1.38	30.89	0.55	0.76																100	69	
1	87	Py	0.24			29.42			0.18				69.84														100	217	
1	88	Sd+Chl+Py	7.99	0.16	3.73	40.36	0.91	0.66	0.26	0.32	0.31		1.21						0.26						0.83		57	88	
1	89	Ank	1.40		0.62	15.72	0.64	12.89	24.38		0.35																56	59	
1	90	Mag+Qz	3.87			91.19	1.51		0.22										0.98							2.22	100	89	
1	91	Sd+Chl+Cal	11.72		8.15	26.32	0.32	6.58	2.49	0.32	0.31														0.53		57	90	
1	92	QZ	99.84			0.17	0.70	11.05	1.01																		100	143	
1	93	Sd+Cal	00.00	0.00	5.00	40.98	0.78	11.05	4.21		0.00																57	70	
1	94	QZ+ChI+Kfs	89.82	0.32	5.90	2.66		0.46	4.04	0.74	0.82				0.40				0.00								100	134	
	95	Mis+Chi+other	44.43	0.47	20.33	26.17	0.00	3.61	1.01	0.74	2.85				0.19				0.20								100	115	
1	90	RhQ (MQ (cont)				99.08	0.92		0.20					2.27											27.24	69.20	100	02	
1	97	PbO+WO (cont) PbO+WO (cont)				0.85			0.39					2.31											21.34	08.30	100	93	
1	90	Mag		0.42		0.00	0.88							5.00												33.47	100	105	
1	33	(Alt ilm) Pt	1 16	80.50	0.80	8 25	0.00		0.12																		100	112	
1	100	(Ait IIII) Rt	1.10	09.39	1.16	16.69	0.65		0.13	0.44								0.40	0.60						1 24	1 16	57	70	
1	101		4.23	0.27	0.76	40.00	0.05		0.52	0.44	0.17							0.40	0.00						1.34	1.10	100	126	
1	102	Mag	31.10	0.37	0.70	0.55	1 10				0.17																100	90	
1	103	Pul Oz	6 1 2	0.27	0.55	96.54	0.17		0.27				45.57						1 21								100	99	
	104	C JT QZ Sd I Dv I K fe	7.26		2.05	40.12	0.17		0.27	1.06			0.67					0.42	0.42				1		2.08	1 1 1	57	62	
	105	Sd+other	5.08		0.74	43 30	0.31		0.02	1.00			0.07		0.18		0.15	0.43	1.34				1		2.30	4.89	57	87	
	107	Sd+other	1 73		0.74	49 11	0.68		0.20	1					0.10		0.13	0.00	0.34				1		2.02	1 12	57	72	
	107	Sd+other	5.32		0.73	46 75	0.32		0.36	0.43			0.57		0.18		0.43	0.40	0.54				1		1.65	1.14	57	87	
	100	Sd+Chl+Pv	3.90		0.00	47.26	0.25	1 12	2.26	0.43			1.32		0.13				0.00				1		1.00		57	83	
	110	Oz+other	94.85		1 45	2.96	5.25	0.48	2.20	1	0.25		1.02		0.13								1				100	119	
1	111	Mag+07	7 29		0.66	89.98	1 54	0.40			0.23						0.53										100	105	
	112	Pv	1.20	<u> </u>	0.00	26.24	1.54	0.51	25.61	1			47 64				0.00		<u> </u>				1				100	102	
	112	i y	1	1		20.24		0.01	20.01	1			FU.UF					I I	1				1				100	104	

Site Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CI V ₂ O ₅	Cr_2O_3	NiO	CuO	ZnO	SrO	Y_2O_3	ZrO_2	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
1 113	Cal+Sd+Chl+Kfs	12.71	0.48	7.29	16.74	0.37	3.83	56.29		1.04		1.25														100	54
1 114	PbO (cont)				2.35								2.17											3.71	91.78	100	98
1 115	Qz+Chl+Kfs	70.81	0.72	19.50	5.00		1.34	0.17	0.44	1.98																100	126
1 116	Py				27.93							72.07														100	259
1 117	Cal+Ms+other	37.37		25.96	2.82		0.76	32.39				0.67														100	74
1 118	Sd+Qz	1.79			52.21	0.51		0.13	0.42					0.34				0.52							1.06	57	87
1 119	Sd+Qz	3.21		0.64	49.24	0.40		0.21									0.27	0.66						0.76	1.62	57	86
1 120	Sd+Qz	2.46		0.74	50.13	0.66		0.19	0.42			0.50			0.20			0.40						1.31		57	81
1 121	Ank+other	1.75		1.30	28.74	1.19	22.95	44.06																		100	57
1 122	llm	0.79	84.45	0.55	14.06			0.15																		100	92
1 123	Kfs+Chl+Py	55.51	0.92	22.18	9.19		2.27	0.22	0.55	3.24		5.89														100	104
2 1	Ms+Kfs+other	62.64	1.03	20.60	4.99		1.71	4.27	1.19	3.58																100	115
2 2	Sd+Fsp+Py	11.02		3.97	35.81	0.26	0.47	0.27	0.72	0.28		0.60												3.59		57	100
2 3	Py	1.39		0.68	29.02			5.51				63.40														100	193
2 4	Qz	99.73			0.26																					100	147
2 5	Mag	0.68			98.18	1.12																				100	118
2 6	Kfs	65.63		18.10	0.24				0.93	15.09																100	141
2 7	PbO (cont)												4.11												95.89	100	102
2 8	Mag+Qz	3.89		0.77	93.33	1.39		0.29										0.32								100	102
2 9	llm+other	4.04	72.33	2.14	20.09	1.30		0.10																		100	121
2 10	Mag		0.28		98.72	0.99																				100	118
2 11	Sd+other	2.90		1.44	41.14	0.44	8.52	2.38		0.18																57	75
2 12	Mag+Qz	4.75			94.03	1.23																				100	114
2 13	Py+Cal	0.34			29.56			8.13				61.98														100	174
2 14	Mag			0.49	98.17	1.34																				100	116
2 15	Sd+Chl+Py	9.64		4.24	39.77	1.09	0.71	0.32		0.38		0.84														57	96
2 16	Mag				98.74	1.27																				100	116
2 17	Mag			1.00	98.90	1.10																				100	115
2 18	Qz+Fsp	91.96	0.20	4.63	1.76		0.43			1.00																100	134
2 19	Mag+Qz	4.86		0.70	90.44	0.80		0.28	0.82									0.49							1.64	100	100
2 20	Sd	0.52		0.44	54.83	0.63	10.00	0.16						0.14				0.27								57	89
2 21	Ank	0.85			15.84	1.05	13.32	24.95																		56	57
2 22	Kin	44.93		33.02	7.11		0.94																			86	75
2 23	Qz+Cnl+Fsp	75.26	0.42	16.10	4.25		1.63		0.46	1.89																100	123
2 24	KIS	65.74	0.22	17.84	0.49		4.04		0.61	15.12	0.05															100	135
2 25	Sa+Cni+Fsp	20.88	0.47	6.4Z	24.34	4.05	1.61		0.40	2.63	0.25															57	97
2 20	Mag	0.60		40.00	98.15	1.25		0.00	0.07	0.04			0.50											0.00	E 44	100	107
2 27	rsp Du Col	01.10		12.20	2.23		0.20	0.99	2.07	0.01		60.1E	0.56											0.30	5.11	100	119
2 20	Fy+Cal	0.02		1.60	33.94	0.64	0.30	0.00	0.51			60.15					0.24	0.59						1.46	1 5 2	57	100
2 29	Su+Q2	4.10		1.00	40.90	5.05	1.06	0.29	0.51								0.34	0.56						1.40	1.55	57	01 70
2 30	Mag	-			40.91	0.95	1.90	0.10																		100	112
2 37	Sd±other	1.60		0.57	51 10	0.92		0.20	0.46									0.38						1 71		57	87
2 32	Sd+other	2 90		0.37	50.95	0.74		0.20	0.40			0.41		0.22				0.50						1.71		57	87
2 34	Pv+Cal	0.71		0.55	20.95	0.74	90.0	36.44				40.65		0.22		-		0.51								100	07
2 35	Pv+Cal	0.71		0.64	10.23	0.30	1 14	65.57				22.05														100	52
2 36	Cbl+Cal	35.13		23.00	26.24	0.00	3.91	8 50	0.53	0.70		22.00												0.98		100	92
2 37	Ank	55.15		20.00	14 68	1.64	13.96	25.73	0.00	0.70														0.00		56	55
2 38	PbO (cont)				1 07	1.04	10.00	20.10					3 20												95.66	100	99
2 30	Sd+other	4 29		1 71	46.56	0.51		0.34				0.95	0.20				0.48	0.84						1 29	55.00	57	85
2 40	00700100	98.42		1.71	1 58	0.01		0.04				0.33					0.40	0.04						1.20		100	139
2 41	Mag	30.42			98.97	1.03																				100	112
2 42	Mag	1 67			96.59	1.00									0.28											100	113
2 43	07	99.69			0.31										0.20	1										100	138
2 44	Pv	0.24			28.86							70.92				-										100	240
2 45	Sd+Fsp+other	1.82		0.62	44.56	0.40		0.42	0.64					0.19			0.36	0.43						6.12	1.44	57	78

Site Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na₂O	K₂O	P_2O_5	SO₃	F	CI V ₂ O ₅	Cr ₂ O ₃	NiO	CuO	ZnO	SrO	Y_2O_3	ZrO ₂	BaO	HfO ₂	WO ₃	PbO	Total	Actual
2 46	Sd+other	1.95		-	51 /3	0.43	0.40	0.16	0.49			0.30		0.13				0.32						1 30		57	10121
2 40	Sd+other	1.95		0.93	51.43	0.43	0.40	0.10	0.49			0.30		0.13			0.55	0.52						1.59	0.75	57	79
2 48	Sd+other	1.40		0.55	49.69	0.51	0.64	0.15	0.54			0.72		0.16			0.55	0.33						2 4 3	0.75	57	81
2 49	Sd+other	1.00		0.00	53.91	0.86	0.04	0.17	0.00					0.10				0.41						0.95		57	88
2 50	Sd+other	2.80		0.46	47.58	0.64		0.54	0.57								0.29	0.52						3.63		57	80
2 51	F-Ap (diag)+other	7.34		2.97	1.24			45.85	1.27	0.26	34.97	1.82	4.28				0.00							0.00		100	79
2 52	Qz	97.80		1.53	0.46					0.19																100	130
2 53	Sd+Fsp	19.59	0.19	7.72	23.21	0.26	2.14	1.88	0.51	0.63				0.09										0.78		57	99
2 54	Sd+other	8.22		2.54	42.16	0.78	0.38	0.29		0.50		0.70		0.17				0.60						0.69		57	89
2 55	Sd+other	1.46		0.72	40.41	0.40	8.82	5.18																		57	68
2 56	Mag				98.89	1.11																				100	109
2 57	Tur	37.70	1.67	26.26	7.37		8.93	1.61	1.45																	85	111
2 58	Ab	68.65		18.71	0.36				12.09	0.19																100	135
2 59	llm+Fsp	19.98	60.70	7.54	6.59		0.88	0.32	0.47	2.07				0.17												100	107
2 60	Py	0.58			34.18			0.10				63.65						0.21						0.61		100	184
2 61	Ank	1.43		0.72	16.07	0.60	13.54	23.64																		56	47
2 62	Py	0.64		0.38	27.97							71.02														100	238
2 63	Sd+other	2.55		0.74	48.96	0.66		0.27	0.55								0.23	0.40						1.76	0.87	57	79
2 64	Sd+Fsp	5.33	0.17	1.32	43.41	0.17		0.30	0.84			0.71					0.39	0.58						2.34	1.44	57	83
2 65	Sd+other	1.70		0.58	40.57	0.51	9.33	4.30																		57	65
2 66	Sd+other			0.42	40.75	0.62	10.57	4.65																		57	64
2 67	Mag				98.97	1.03						74 47														100	106
2 68	Py	0.00		0.40	28.53	4.04	0.40	0.07	0.54	0.00		/1.4/					0.40	0.04						4 77		100	235
2 69	Satother	6.93		2.13	41.59	1.21	0.43	0.27	0.51	0.20		0.74					0.19	0.64						1.77		5/	83
2 70	Mag Dw.Col	0.47			99.10	0.90	0.70	12.05				F1 00														100	107
2 71	Fy+Cal Movether	0.47	0.52	29.10	52.59	0.40	1.52	13.65	0.50	2.46		51.99														100	123
2 72	PbQ (cont)	1.00	0.55	20.10	10/1	0.30	1.55	0.21	0.50	2.40		31.00										46.50		0.63		100	125
2 73		99.47			0.53	0.55						51.33										40.00		0.05		100	133
2 75	Sd+Esp+Pv	6.11		3.23	41 57	1 97		0.26	0.62	0.32		0.66												2 27		57	83
2 76	Mag	0.66		0.20	98.02	1.32		0.20	0.02	0.02		0.00														100	94
2 77	PbQ (cont)	0.00			00.02																				100.01	100	97
2 78	Sd+other	1.15		0.41	42.76	0.63	8.10	3.96																		57	66
2 79	Sd+Fsp+Pv+other	3.21		1.20	41.36		0.53	0.74	1.34			1.77		0.23	0.21			0.67						4.20	1.56	57	74
2 80	Sd+Fsp+Py+other	5.80	0.15	2.23	44.71	1.09	0.50	0.22		0.20		0.70		0.18				0.71							0.49	57	87
2 81	Sd+Fsp+Py+other	2.05		0.46	50.35	0.48		0.14	0.79			0.61		0.21				0.55						1.37		57	81
2 82	Sd+Py+other	9.45		2.18	41.34	0.40		0.22		0.27		0.86						1.60							0.70	57	91
2 83	Sd+ChI+Fsp+other	4.41		2.76	33.89	0.43	9.08	5.37		0.26														0.80		57	66
2 84	Brt (cont)				0.28							38.16										61.56				100	123
2 85	Ру	0.62		0.40	28.60							70.39														100	231
2 86	Brt (cont)												3.35												96.67	100	93
2 87	Py				28.01			0.45				71.54														100	232
2 88	Chl+Fsp+Py+Brt	49.63		13.51	5.27		3.03	0.62	1.11	2.08		5.79	1.19									17.79				100	75
2 89	Ank				15.55	0.86	13.87	25.73																		56	51
2 90	Mag+Qz	3.83		0.66	93.91	1.16		0.20							0.25											100	99
2 91	Mag				98.87	1.12																				100	103
2 92	Py+Ms+other	27.66	0.37	17.95	25.28		1.41	0.42	0.53	1.47		23.30			L									1.64		100	123
2 93	Mag	- 15			98.89	1.11																				100	102
2 94	Sd+Fsp+Py+other	1.47		1.44	39.63	0.59		0.51	0.92			0.98					0.23	0.67						4.08		57	/9
2 95	Mag				98.93	1.06	01.01	00.00																		100	99
2 96	ANK	4.00		0.40	23.94	1.13	21.01	38.90				1 1 1						0.56								57	51
2 9/	Dur Cal	4.22		0.46	49.32	0.96		0.38				1.11						0.56						0.97		5/	19
2 90		69.07		0.30	34.33		1 70	2.00		0.10		1 1 2		0.20										0.07		100	100
2 100		6.78		1 1 2	14.74	0.31	1.19	4.03	0.31	0.19		0.68		0.23				0.20								57	81
2 100	SUT QZTF Y Sd±Een±Dv	14.69	0.58	5.61	32.00	0.51	1 16	0.01	0.31	1.50	0.25	0.00						0.20						0.50		57	87
2 IVI	оитгэртгу	14.00	0.00	0.01	32.09		1.10	0.22	0.55	1.09	0.20		1		1	1	1							0.00		51	01

2 102 PPO(cond) 0.07 0.07 0.08 0.08 0.0 0.00 0.	Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CI V ₂ O ₅	Cr_2O_3	NiO	CuO ZnO	SrO	Y_2O_3	ZrO_2	BaO	HfO_2	WO_3	PbO	Total	Actual Total
2 103 Py 0.65 Py 0.67 0.67 0.75 0	2	102	PbO (cont)				0.77								0.80											98.42	100	94
2 104 Occ. 75.5 13.86 4.97 0.16 0.21 0.21 0.22 0 0.22 0 0.22 0 0.22 0 0.22 0 0.22 0 0.22 0 0.22 0 0.22 0 0.22 0 0.22 0 0.22 0 0.22 0 0.22 0 0.23 0 0.23 0 0.24 0 0.24 0 0.24 0 0.24 0 0.24 0 </td <td>2</td> <td>103</td> <td>Ру</td> <td>0.26</td> <td></td> <td></td> <td>27.61</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>71.62</td> <td></td> <td></td> <td></td> <td></td> <td>0.52</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>100</td> <td>223</td>	2	103	Ру	0.26			27.61							71.62					0.52								100	223
2 106 Succenter 0.61 1.62 0.21 1.6 0.22 1.6 0.22 1.6 0.21 1.6 0.21 1.6 0.22 1.6 0.21 1.6 0.21 1.6 0.21 1.6 0.23 1.6 0.21 1.6 0.23 0.21 0.4 0.23 0.21 0.4 1.6 0.23 0.21 0.4 <	2	104	Qz	79.15		13.96	4.97		1.06		0.31	0.55															100	112
2 166 Mag 1 9 9 1 <td>2</td> <td>105</td> <td>Sd+other</td> <td>0.61</td> <td></td> <td></td> <td>52.20</td> <td>0.60</td> <td></td> <td>0.21</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.82</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1.69</td> <td>0.88</td> <td>57</td> <td>73</td>	2	105	Sd+other	0.61			52.20	0.60		0.21									0.82						1.69	0.88	57	73
2 100 Shifesympone 6.8 109 5.8 100 100 0.48 0.49 0.48 0.49 0.48 0.49 0.48 0.49 0.48 0.49 0.48 0.49 0.48 0.49 0.48 0.49 0.48 0.49 0.48 0.49 0.48 0.49	2	106	Mag				98.83	1.17																			100	102
2 108 Set+geyChetPyenter 1.11 7.36 7.36 0.20 0.56 0.26 0.26 0.26 0.26 0.26 0.26 0.26 0.27 0.26 0.27 0.26 0.27 0.26 0.27 0.26 0.27 0.26 0.27 0.26 0.27 <th0.27< th=""> <th0.27< th=""> <th0.27< th=""></th0.27<></th0.27<></th0.27<>	2	107	Mag	0.64			97.99	1.15									0.23										100	94
2 108 CH-HSH-Public 451 109 115 108 107 108 107 108 107 108 107 108 107 108 107 108 107 108 107 108 108 107 108 107 108 107 108 107 108 107 108 107 108 107 108 107 108 107 108 107 108 107 108 107 108 107 108 107 108 107 108 107 107 108 107 108 107 108 107 108 107 108 107 108 107 108 <th< td=""><td>2</td><td>108</td><td>Sd+Fsp+Chl+Py+other</td><td>11.31</td><td></td><td>7.36</td><td>27.06</td><td>0.97</td><td>0.56</td><td>2.01</td><td>0.55</td><td>0.26</td><td>1.24</td><td>0.70</td><td></td><td></td><td></td><td></td><td>0.49</td><td></td><td></td><td></td><td></td><td></td><td>3.63</td><td>0.87</td><td>57</td><td>89</td></th<>	2	108	Sd+Fsp+Chl+Py+other	11.31		7.36	27.06	0.97	0.56	2.01	0.55	0.26	1.24	0.70					0.49						3.63	0.87	57	89
2 110 Startur y-1700 1158 125 375 0.35 0.05 0.38 0 <	2	109	Chl+Kfs+Py+other	54.51	0.90	11.22	10.92		12.30	5.05	1.81			1.15	1.06	1.07											100	38
2 111 SH=ge-QH-100z 128 128 528 576 0.55 0.47 0.47 0.50 0.58 0.47 0.47 0.55 0.55 0.47 0.47 0.55	2	110	Tur	37.75	0.70	32.77	5.75		5.71	0.32	2.01																85	106
2 113 SH-Fg-CHucher 7.8 0.20 3.85 0.36 0.84 0.74 0 </td <td>2</td> <td>111</td> <td>Sd+Fsp+Py+TiO2</td> <td>11.56</td> <td>1.28</td> <td>5.28</td> <td>37.06</td> <td>0.35</td> <td>0.47</td> <td>0.14</td> <td></td> <td>0.50</td> <td></td> <td>0.38</td> <td></td> <td>57</td> <td>93</td>	2	111	Sd+Fsp+Py+TiO2	11.56	1.28	5.28	37.06	0.35	0.47	0.14		0.50		0.38													57	93
2 114 Stade 116 Stade 117 116 Stade 126 136 0.53 0.60 0.61 0.60<	2	112	Sd+Fsp+Chl+other	7.38	0.20	3.85	33.88	0.46	6.74	1.94	0.63	0.74													1.18		57	71
2 1110 Grad 125 126 123 124 134 123 <td>2</td> <td>113</td> <td>Sd+Qz</td> <td>1.81</td> <td></td> <td>0.55</td> <td>40.68</td> <td>0.64</td> <td>9.86</td> <td>3.47</td> <td></td> <td>57</td> <td>61</td>	2	113	Sd+Qz	1.81		0.55	40.68	0.64	9.86	3.47																	57	61
2 115 Solution 120 0.40 0.41 0.40	2	114	Mag	4.05			98.62	1.37		0.00				0.54											0.70		100	101
2 110 Stephene 2.43 0.88 0.80 0.80 0.87 0 0 0 0.40 0 0 1.94 0.7 7.4 1110 Stephene 128 20.13 2.13 31.17 0.81 1.16 0.88 0	2	115	Sd+Qz	1.25		0.00	53.40	0.43		0.22	0.40			0.51					0.40						0.76		57	81
2 111 Satistications 113 114 230 114 230 114 230 114 230 114 230 115 0.38 1160 116 0.38 116 0.38 116 0.38 116 0.38 116 0.38 116 0.38 116 0.38 116 0.38 116 0.38 116 0.38 116 0.38 116	2	116	Sa+other	2.45		0.86	49.82	0.80	4.74	0.31	0.40	0.57							0.40						1.94		57	74
2 118 Schulting 14.2 14.3 14.4 14.0 14.1 0.4 15 0.8 1 0 1 0 </td <td>2</td> <td>117</td> <td>Sd+Chl+Kfs</td> <td>12.33</td> <td>0.50</td> <td>7.83</td> <td>28.90</td> <td>0.35</td> <td>4.74</td> <td>2.29</td> <td>0.04</td> <td>0.57</td> <td>0.00</td> <td></td> <td>57</td> <td>51</td>	2	117	Sd+Chl+Kfs	12.33	0.50	7.83	28.90	0.35	4.74	2.29	0.04	0.57	0.00														57	51
2 19 Add 207 2 2 2 0 4 0 4 0 4 0 <td>2</td> <td>118</td> <td>Sd+Chl+Kts</td> <td>14.92</td> <td>0.52</td> <td>6.53</td> <td>30.99</td> <td>0.04</td> <td>1.43</td> <td>0.17</td> <td>0.91</td> <td>1.15</td> <td>0.38</td> <td></td> <td>57</td> <td>93</td>	2	118	Sd+Chl+Kts	14.92	0.52	6.53	30.99	0.04	1.43	0.17	0.91	1.15	0.38														57	93
2 100 Medg 0 9878 0.9 0.21 4007 0 0 29.2 24.8 0 100 003 2 122 Pp 0.53 9791 150 2.00 66.12 0<	2	119	Ank Det (see at)	2.07			22.74	0.91	24.03	35.24				40.07						00.40			04.04				56	39
a 12 mag 0.43 800.6 0.99 2.60 6.612 0	2	120	Brt (cont)				09.70	0.00		0.01				46.07						29.12			24.81				100	103
2 153 179 0.88 979 150 2.00 00.2 00.2 0	2	121	May	0.42			90.79	0.99		0.21				66 10						-							100	90
1 1/2 0.00 0 <td>2</td> <td>122</td> <td>Fy</td> <td>0.43</td> <td></td> <td></td> <td>30.00</td> <td>1 50</td> <td></td> <td>2.00</td> <td></td> <td></td> <td></td> <td>00.12</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>100</td> <td>102</td>	2	122	Fy	0.43			30.00	1 50		2.00				00.12						-							100	102
2 123 Carcuit 123 Carcu	2	123	CaluCh	0.00		9.07	97.91	1.50	2.07	69.79		0.52								-							100	97
2 123 Cali Cali <th< td=""><td>2</td><td>124</td><td>Cal+Chi</td><td>12.28</td><td></td><td>8.07</td><td>1.38</td><td></td><td>2.97</td><td>50.04</td><td></td><td>0.53</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>100</td><td>40</td></th<>	2	124	Cal+Chi	12.28		8.07	1.38		2.97	50.04		0.53															100	40
z 120 Ann. 65.59 12.9 1.98 1.00 1.88 1.00 1.88 1.00 1.88 1.00 1.88 1.00 1.88 1.00 1.88 1.00 1.88 1.00 1.88 1.00 1.88 1.00 1.13 1.10 1.13 1.10 1.13 1.10 1.13 1.10 1.13 1.10 1.13 1.10 1.13 1.10 1.13 1.10 1.13 1.10 1.13 1.10 1.13 1.10 1.13 1.10 1.13 1.10 1.13 <th< td=""><td>2</td><td>125</td><td>Cal</td><td></td><td></td><td></td><td>4.38</td><td>1.00</td><td>1.57</td><td>25.24</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>50</td><td>35</td></th<>	2	125	Cal				4.38	1.00	1.57	25.24																	50	35
2 127 Ab 65.39 21.99 - 2.06 0.74 0.75 0.75 75 75 75 2 130 S44Py-other 7.10 2.22 4.36 0.90 0.70 0.77 0.74 0.74 0.74 0.74 0.76 0.77 76 2 133 S44Q2 1.94 55.34 0.91 0.76 0.77 0.02 0.52 0.77 70 2 133 S44Q2 1.94 0.21 4.05 3.07 0.27 0.63 0.62 0.52 0.02 1.02 100 113 2 136 S44F5p+Pyother 7.73 0.26 0.27 0.63	2	120	Ank	05.50		04.00	15.95	1.00	13.82	25.24	40.40	0.40								-							56	47
128 $024r sprtchin 70.14 0.07 1.09 0.34 2.06 0.23 0.25 0.39 0.67 65.7 75.6 2 130 Sd+Kp+other 7.10 2.24 33.6 0.90 0.29 0.63 0.23 0.25 0.39 0.39 0.67 65.6 66 2 131 Ank 0.78 15.94 0.74 32.2 25.04 0.17 0.23 0.25 0.39 0.67 65.6 46 2 132 Mag 0.88 98.07 1.66 0.30 0.27 0.52 0.52 0.52 0.52 1.29 57 70 2 134 02e+oher 96.67 1.66 1.02 0.30 0.67 0.63 0.67 0.52 0.29 0.51 51 0.27 0.30 54.26 0.25 0.99 57 81 2 138 2127ADOn (Far (Oh)00.090.4721.9940.570.454 702.0610.190.16-100115$	2	127	AD On (Far (Oh)	00.09	0.47	21.99	40.57	0.45	4 70	2.06	10.19	0.16								-							100	115
2 129 0.04 40.0 0.04 0.02 0.02 0.03 0.02 0.03 0.0	2	128	QZ+FSp+Chi Sd : Kfo : other	2.00	0.17	14.66	10.57	0.15	1.79	0.20	0.44	2.06				0.22	0.25			-					0.75		57	113
2 130 30/FPyrOline 7.10 2.28 43.50 0.39 0.16 0.03 0.16 0.39 0.16 0.16 0.16 1.10	2	129	Su+Kis+olitiei	2.99		0.07	40.00	0.40		0.30	0.02	0.19		0.62		0.23	0.25		0.20	-					2.75		57	70
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	130	Su+Py+Olliel	0.79		2.92	43.30	0.90	12.22	0.29	0.39	0.10		0.65					0.39	-					0.07		57	10
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	131	Allk	0.70			15.94	1.06	13.32	25.04		0.17								-							100	40
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	122	Mag Sdu Oz	1.04			52.24	0.01											0.52							1 20	57	30
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	133	Sut-Q2	1.94		1.66	32.34	0.91	0.26			0.20							0.52	-						1.29	57	114
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	134		90.07	0.21	1.00	1.00	0.51	0.30	2.22		0.30													1.04	0.51	57	F2
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	130	Sdi Espi Byj othor	9.07	0.21	4.05	20.22	0.51	0.67	2.32	1.61	0.30		0.97					0.25						1.24	0.51	57	01
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	2	130	Spl+other	0.73		3.21	16 78	1.00	0.07	0.27	0.63	0.15		0.87			13 /0	1 31	0.25						3.04		100	01
130 1742404161 2.10 1.00 0.30 0.30 0.30 0.420 0.420 0.37 0.03 0.33 0.00 102 2 140 Py+Qz 4.45 27.70 0.06 67.80 0.37 0 0.28 100 102 2 141 Kfs 65.80 18.16 0.27 1.36 14.02 0 0.34 0.38 100 102 2 142 Py+Cal 1.75 39.68 9.71 0.58 45.90 0.34 0.34 0.38 100 100 102 2 143 Cal+Py+Chl 4.64 2.82 5.85 2.29 83.07 1.35 0.18 0.31 0.26 1.00 38 2 144 Sd+other 0.83 0.55 51.60 0.55 0.39 0.26 0.21 0.26 1.24 57 64 2 146 (Attlin) Rt+Qz 23.38 73.89 0.98 1.36 0.13 0.26 0.21 0.26 1.24 57 57 1	2	138	By+Oz+other	2.76		1.64	37.00	1.20	0.36	0.20	0.00			54.26			40.40	1.51	0.40						1 / 2		100	1/1
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	130		90.08	0.22	1.04	1.03		0.50	8.28	0.50			0.37					0.03						1.42		100	102
2 140 1702 140 0.00 0.00 0.00 0.00 0.00 0.00 0.00 100 30 100 100 100 30 100 100 30 100 100 30 100 100 30 100 100 30 100 100 30 100 100 30 100 100 30 100 100 30 100 100 30 100 100 30 100 100 100 100 100 <td>2</td> <td>140</td> <td></td> <td>1 45</td> <td>0.22</td> <td></td> <td>27.70</td> <td></td> <td></td> <td>0.20</td> <td></td> <td></td> <td></td> <td>67.80</td> <td></td> <td>100</td> <td>102</td>	2	140		1 45	0.22		27.70			0.20				67.80													100	102
2 141 1100 1000 <th< td=""><td>2</td><td>140</td><td>Kfs</td><td>65.80</td><td></td><td>18 16</td><td>0.27</td><td></td><td></td><td>0.00</td><td>1 36</td><td>14 02</td><td></td><td>07.00</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.38</td><td></td><td></td><td></td><td>100</td><td>116</td></th<>	2	140	Kfs	65.80		18 16	0.27			0.00	1 36	14 02		07.00									0.38				100	116
2 142 142 142 144 146 146 146 2.29 83.07 1.35 100 <td< td=""><td>2</td><td>1/2</td><td>Py+Cal</td><td>1 75</td><td></td><td>10.10</td><td>30.68</td><td></td><td></td><td>0.71</td><td>0.58</td><td>14.02</td><td></td><td>45.90</td><td></td><td></td><td></td><td></td><td>0.34</td><td></td><td></td><td></td><td>0.50</td><td></td><td>1.63</td><td></td><td>100</td><td>106</td></td<>	2	1/2	Py+Cal	1 75		10.10	30.68			0.71	0.58	14.02		45.90					0.34				0.50		1.63		100	106
2 1.00 <t< td=""><td>2</td><td>143</td><td>Cal+Pv+Chl</td><td>4 64</td><td></td><td>2.82</td><td>5 85</td><td></td><td>2 29</td><td>83.07</td><td>0.00</td><td></td><td></td><td>1.35</td><td></td><td></td><td></td><td></td><td>0.04</td><td></td><td></td><td></td><td></td><td></td><td>1.00</td><td></td><td>100</td><td>38</td></t<>	2	143	Cal+Pv+Chl	4 64		2.82	5 85		2 29	83.07	0.00			1.35					0.04						1.00		100	38
2 1.1 0.10 0.1	2	144	Sd+other	0.83		0.58	51 47	1.01	2.25	0.30				1.00			0.18		0.31						2.30		57	70
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	145	Sd+Qz+other	1.78		0.56	51.60	0.55		0.39							0.21		0.26						1.24		57	64
2 147 Sd-other 1.61 0.62 0.61 0.10 0.13 0.10 0.13 0.10 0.13 0.10 0.13 0.10 0.13 0.10 0.13 0.10 0.13 0.10 0.13 0.10 0.13 0.10 0.13 0.10 0.13 0.10 0.13 0.10 0.13 0.10 0.13 0.10 0.13 0.10 0.13 0.10	2	146	(Alt IIm) Rt+Oz	23.38	73 89	0.98	1.36	0.00		0.13	<u> </u>	0.26					0.21		0.20	1							100	84
2 148 Py+Cal 0.53 2.968 0.14 6.53 0.40 62.70 0 0 153 2 149 Py+other 7.12 6.69 25.88 0.91 0.43 58.96 0.19 0.37 100 184 2 150 Sd+Esp+other 2.51 0.78 48.58 0.56 0.29 0.66 0.54 0.19 0.37 2.54 57 68 2 151 Brt (cont) 38.23 61.78 100 108 2 152 Qz 99.75 0.26 0.36 100 108 2 153 Mag+Qz 4.54 0.57 91.31 1.08 0.36 0.60 1.55 100 103 2 154 F-Ap (diag)+other 4.73 3.19 1.69 0.48 46.30 1.09 0.42 34.94 2.25 4.44 0.60 0.49 100 103 2 155 Sd+Esp+Chile <td< td=""><td>2</td><td>147</td><td>Sd+other</td><td>1.61</td><td>10.00</td><td>0.62</td><td>40.51</td><td>0.35</td><td>9.66</td><td>4.26</td><td></td><td>0.20</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>57</td><td>57</td></td<>	2	147	Sd+other	1.61	10.00	0.62	40.51	0.35	9.66	4.26		0.20															57	57
2 149 Py+other 7.12 6.69 25.88 0.91 0.43 56.96 0.10 100 184 2 150 Sd+Fsp+other 2.51 0.78 48.58 0.91 0.43 56.96 0.19 0.37 2.54 57 68 2 151 Bt(cont)	2	148	Pv+Cal	0.53		0.02	29.68	0.14	0.00	6.53	0.40			62.70													100	153
2 150 111 111 100	2	140	Pytother	7.12		6.69	25.88	0.14	0.91	0.00	0.40			58.96													100	184
2 151 Brt (cont) 0.06 0.07 0.00 0.00 0.00 0.00 2 151 Brt (cont) 0.06 0.00 0.00 0.00 0.00 0.00 2 152 Qz 99.75 0.26 0.36 0.36 0.00 0.00 0.00 0.00 2 153 Mag+Qz 4.54 0.57 91.31 1.08 0.36 0.36 0.00 0.60 1.55 100 103 2 154 F-Ap (diag)+other 4.73 3.19 1.69 0.48 46.30 1.09 0.42 34.94 2.25 4.44 0 0.049 100 85 2 155 Scherspechle 6.99 0.18 320 36.34 0.71 11 86 0.95 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.00 0.49 100 85 2 155 Scherspechle 6.99 0.63 0.63 0.95 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.00 0.50 0.50 0.50 0.50	2	150	Sd+Esp+other	2.51		0.78	48.58	0.56	0.01	0.29	0.66			0.54		0.19			0.37						2 54		57	68
Z 152 Qz 99.75 0.26 0.36 100 <td>2</td> <td>151</td> <td>Brt (cont)</td> <td>2.01</td> <td></td> <td>0.75</td> <td>10.00</td> <td>0.00</td> <td></td> <td>0.20</td> <td>0.00</td> <td></td> <td></td> <td>38.23</td> <td></td> <td>5.10</td> <td></td> <td></td> <td>0.07</td> <td></td> <td></td> <td></td> <td>61 78</td> <td></td> <td>2.07</td> <td></td> <td>100</td> <td>108</td>	2	151	Brt (cont)	2.01		0.75	10.00	0.00		0.20	0.00			38.23		5.10			0.07				61 78		2.07		100	108
2 152 Mag+Qz 4.54 0.57 91.31 1.08 0.36 0.60 1.55 100 103 2 154 F-Ap (diag)+other 4.73 3.19 1.69 0.48 46.30 1.09 0.42 34.94 2.25 4.44 0.60 1.55 100 103 2 155 Sd4Esp-Chi 6.99 0.18 3.20 36.34 0.95 1.69 0.49 100 85	2	152	Ωz	99 75			0.26							50.20									51.75				100	146
2 154 F-Ap (diag)+other 4.73 3.19 1.69 0.48 46.30 1.09 0.42 34.94 2.25 4.44 0.49 100 85 2 155 Sd4Esp-Chi 6.99 0.18 320 3634 0.95 57 82	2	153	Mag+O7	4.54		0.57	91.31	1.08		0.36									0.60							1.55	100	103
	2	154	F-Ap (diag)+other	4.73		3.19	1.69		0.48	46.30	1.09	0.42	34,94	2.25	4.44				0.00						0.49		100	85
1 + 100 +	2	155	Sd+Fsp+Chl	6.99	0.18	3.20	36.34	0.37	7.11	1.86		0.95	5+												0.10		57	82
2 156 Mag 100 115	2	156	Mag	0.00	0.10	0.20	98.92	1.08				0.00															100	115
2 157 Sd+Qz+other 27.49 0.33 2.92 24.25 0.43 0.33 0.14 0.19 0.25 0.40 0.28 57 126	2	157	Sd+Qz+other	27,49	0.33	2.92	24.25	0.43	0.33	0.14	0.19	0.25		0.40					0.28								57	126

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CI	V ₂ O ₅	Cr_2O_3	NiO	CuO	ZnO	SrO	Y_2O_3	ZrO ₂	BaO	HfO_2	WO_3	PbO	Total	Actual Total
2	158	Sd+Fsp+Chl	22.14	0.30	12.40	19.11	0.30	0.71	0.10	0.36	1.10		0.24							0.23								57	113
2	159	Kfs	62.91	0.23	20.71	2.28		0.33		0.90	12.64																	100	132
2	160	Py+Chl+other	15.89	0.22	11.81	28.16		2.14	0.15	0.32	0.51		40.60							0.21								100	158
2	161	Sd+Qz	0.63		0.41	41.10	0.41	10.80	3.62																			57	69
2	162	F-Ap (diag)+other	10.48		1.13	1.88			43.96	1.07	0.20	35.13	2.17	3.96														100	75
2	163	Mag				98.56	1.43																					100	112
2	164	Mag	0.75		0.47	98.65	1.36		0.40	0.70			0.54		0.00					0.50								100	111
2	165	Sd+Fsp+otner	2.75		0.47	50.93	0.58		0.19	0.76			0.54		0.20		0.50		0.40	0.58						4.00	2.00	57	85
2	167	Sd+Fsp+other	4.20		1.05	43.00	0.46	0.44	0.50	0.79	0.07				0.20		0.50		0.46	0.64						1.62	3.00	57	71
2	167	Sa+Fsp+otner	11.75	0.25	2.80	34.51	0.27	0.44	0.58	0.84	1.27				0.39				0.32	0.78						2.00	1.33	5/	76
2	100	RIS+CIII SduChluKfauothor	15.92	0.35	10.00	21.29	0.10	6.04 5.15	9.90	0.50	0.59				0.20					0.24						1 2 1		57	60
2	109	Chl+Kfe	52.00	1 10	26.94	12 22	0.19	2.16	0.56	0.31	1 13	0.32								0.34						1.51		100	90
2	170	Chl+Kfs	51.03	1.10	26.77	12.22		2.10	0.50	0.43	4.19	0.32																100	92
2	172	Oz+Chl+Kfs+Pv	63.83	0.45	21.22	8 35		1.92	0.00	0.46	2 49	0.00	1 12															100	103
2	173	Mag	0.71	0.40	0.57	97 93	0.80	1.02	0.17	0.40	2.40		1.12															100	106
2	174	Pv	0.11		0.01	27.98	0.00						72 02															100	225
2	175	Sd+Fsp+other	13.85		2.68	36.30	0.50	0.36	0.38	0.82	0.27		0.55													1.30		57	85
2	176	Pv+Cal				19.63	0.43	0.76	41.75				37.43															100	65
2	177	Cal+Chl+Py	18.57		2.17	5.13		2.19	70.09		0.42		1.42															100	42
2	178	F-Ap (diag)+other	4.36		2.66	3.96		0.45	46.78	1.15	0.57	33.84	1.57	3.86														100	81
2	179	Qz	99.32			0.67																						100	145
3	1	Sd+Fsp+Chl+other	6.71		1.44	44.39	0.74	0.76	0.15	1.02									0.29	0.62							0.88	57	98
3	2	Sd+other	1.24		0.55	52.58	0.96		0.40			0.48	0.54							0.23								57	78
3	3	Sd+Fsp+Chl+Py+other	11.31	0.16	6.54	26.56	0.32	4.45	1.90	0.44	0.58		2.52							0.27						1.24	0.69	57	84
3	4	Sd+other	6.81		2.47	42.41	0.91	0.53	0.30	0.51	0.28		0.87							0.60						1.34		57	91
3	5	Qz	99.77			0.22																						100	145
3	6	Py	1.90		1.34	33.10		0.35	0.13				62.45													0.72		100	216
3	7	Zrn	34.68	2.47	1.11	1.25			0.32		0.30											1.35	57.06		1.23			100	108
3	8	Ank				16.24	0.64	13.61	25.49																			56	56
3	9	Sd	2.45		0.41	53.08	0.91		0.14																			57	93
3	10	Sd+other	3.05		0.74	44.67	0.66		0.40	0.43					0.15				0.48	0.50						3.65	2.24	57	82
3	11	Ilm+Ms+other	23.62	48.64	17.38	4.64		0.46	0.43	0.42	4.14	0.27																100	112
3	12	Sd+Py+other	7.30		2.68	40.54	0.33	0.36	0.26	0.07	0.39		0.92		0.17				0.26	1.92				0.35		1.17		57	93
3	13	Sd+Py+other	2.70		0.53	50.76	0.88		0.26	0.67			0.63		0.14					0.43							100.01	57	86
2	14	Bit (cont)	0.72	72.26	0.77	10.00	0.20		E OE																		100.01	100	104
2	15		0.73	13.30	0.77	10.92	0.20	1 / 2	5.95					1 16														56	09
3	10	E-Ap (diag)+other	6.85		3 00	1.56	0.57	1.45	46.00	1 1 1	0.53	33.64	2.12	1.10														100	67
3	18	Pv	0.03		5.33	28.02			40.01	1.11	0.55	55.04	71.84	4.22														100	246
3	19	Ank	1 17		1 10	15 73	0.66	13 16	24 16				71.04															56	55
3	20	Sd+other	1.82		0.63	41.87	0.51	6.97	3.92	0.49		<u> </u>		<u>├</u>												0.81		57	66
3	21	Mag+Qz	2.59		0.00	96.02	0.89	0.07	0.50	0.10																0.01		100	86
3	22	Ab	67.51		19.27	0.80	2.00		0.13	11.47	0.82																	100	135
3	23	Sd+Qz	0.97		0.44	41.50	0.31	10.69	3.10																			57	70
3	24	Qz	99.79			0.21																						100	137
3	25	(Alt IIm) Rt	0.62	97.75	0.42	1.02			0.21																			100	119
3	26	CuO (cont)				0.49													99.51									100	148
3	27	Sd+Fsp+Chl	17.11	0.56	5.61	29.40		1.21	0.17	0.31	2.36	0.27																57	99
3	28	Ms+other	40.40	0.42	21.84	27.48		4.66	3.95	0.51	1.62																	100	103
3	29	Ank	1.56		0.91	16.80	0.69	13.06	22.96																			56	55
3	30	Cal				4.35	0.67	1.18	49.77																			56	41
3	31	Py				27.70			3.68				68.39															100	206
3	32	Cal				4.50		1.65	49.84																			56	41
3	33	F-Ap (diag)+other	11.83	0.85	6.10	6.69		1.08	38.00	0.81	1.31	29.26	1.67	2.41											L			100	89
3	34	Mag				98.96	1.05					1												1	1			100	111

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CI	V_2O_5	Cr_2O_3	NiO	CuO	ZnO	SrO	Y_2O_3	ZrO ₂	BaO	HfO ₂	WO ₃	PbO	Total	Actual Total
3	35	Ру	0.53			34.36			0.11				65.00															100	210
3	36	Ру	0.68			33.32			3.32				62.15													0.52		100	182
3	37	Py	0.73			32.14	0.34		14.52				52.29															100	93
3	38	Cal+Py				12.27	0.66	2.14	64.35				20.58															100	57
3	39	Py+Ms	15.32	0.45	8.39	41.91		1.14	0.69	1.11	0.95		26.97							0.67						2.42		100	82
3	40	Sd+other	0.60		0.41	53.40	0.36		0.21	0.44																1.26		57	87
3	41	Mag	0.75			98.20	1.06																					100	110
3	42	Sd+other	1.93			53.14	0.78	0.96	0.19																			57	80
3	43	Sd+Ms+other	10.78		6.29	35.86	1.23	0.91	0.21	0.40	0.41		0.46													0.47		57	101
3	44	Sd+other	1.34		1.13	50.83	0.79		0.19	0.53							0.27									1.48		57	79
3	45	Py+other	1.69		0.49	42.25		0.40	0.46	0.61	0.40		49.77		0.23				0.31	0.87						2.69		100	130
3	46	Qz+otner	93.06	0.40	4.61	1.43		0.48	1.01	0.00	0.42															4.00		100	124
3	47	Chi	33.98	0.19	22.61	21.17	4.40	3.66	1.31	0.36	0.65															1.06		85	103
3	48	мад	0.00			98.90	1.10		0.45				00.44															100	103
3	49	Py	0.28			30.16			0.15	0.50			69.44							0.40						4 70		100	228
3	50	Py+other	1.00			37.68			0.29	0.58			57.21							0.46						1.78		100	174
3	51	Py OT	0.17			28.95			0.06		0.12		70.84															100	121
3	52		99.54		0.70	0.33	0.56		0.07		0.13									0.44						1.01	2.20	100	109
3	53	QZ+Mag	59.66		0.70	34.13	0.56		0.97											0.41						1.21	2.38	100	108
2	55	Sduothor	2.20		0.60	40.90	0.56		0.14										0.25	0.59							2 20	57	80
3	56	Sd+other	2.39		0.09	49.09	0.30		0.14										0.55	0.56							2.35	57	78
3	57	Cal	1.01		0.45	3 /1	1.01	0.96	50.79																			56	37
3	58	Byt Fen	1/ 80		7.46	20.08	1.01	0.30	0.30	0.49	1.52		12 72							0.30						1.80		100	1/2
3	50	Sd+Oz	0.64		7.40	/1 00	0.59	10.72	3.16	0.43	1.52		42.12							0.50						1.03		57	63
3	60	llm+other	4 4 1	65 74	3 25	23.34	2.83	10.72	5.10		0.42																	100	106
3	61	Sd+Cbl	15 13	00.74	2.22	32.13	0.40	4 80	2 1 1		0.42																	57	77
3	62	Oz	93.95		3.36	2 25	0.40	4.00	0.13		0.31																	100	130
3	63	llm+Ms	13.37	55.26	11.47	16.00		2.40	0.29		0.16															1.03		100	108
3	64	IIm	0.56	63.80	0.45	35.17																						100	96
3	65	Pv+Chl	11.72	0.20	8.96	37.01		5.26	0.64	0.73			32.01							0.97						2.51		100	125
3	66	Ank	2.33			15.49	0.70	13.51	23.63																			56	45
3	67	Pv+Fsp	7.57	0.42	4.67	43.96			0.81	2.05			13.48						4.86	6.78						5.11	10.31	100	53
3	68	Sd+Qz	0.97		0.52	41.63	0.38	10.53	2.96																			57	65
3	69	Qz+other	76.05		3.29	8.19		0.58	11.01		0.87																	100	72
3	70	Kfs+Chl	55.32	0.87	23.92	13.25		1.81	0.94	0.42	3.48																	100	97
3	71	Ms+Py+other	48.30	0.38	30.38	7.78		1.54	2.80	0.84	2.94		5.02															100	112
3	72	Py				28.28			0.17				71.57															100	235
3	73	Sd+other	7.96		2.63	39.77	0.34		0.48	0.42					0.15				0.39	0.63						2.41	1.84	57	81
3	74	Cal	0.82		0.68	1.28		0.64	52.55																			56	39
3	75	Py				28.33			1.19				70.47															100	217
3	76	TiO2 mineral	1.33	97.46	0.74	0.49																						100	110
3	77	Qz	99.81			0.18																						100	126
3	78	Sd+Chl	7.52		4.67	34.41	0.48	5.64	4.12		0.16																	57	72
3	79	Mag				98.90	1.10																					100	102
3	80	Py	2.35	1.73	0.70	33.69	0.14		0.14				61.25															100	183
3	81	Sd+Py+other	4.49		1.25	47.75	1.24	0.47	0.36	0.46			0.70							0.29								57	82
3	82	cont																									100.01	100	93
3	83	Mag	0.94			97.55	1.50															_						100	97
3	84	Sd+other	1.70	0.24		43.25	0.95	5.48	2.46	0.57			0.30													1.13	0.89	57	64
3	85	Qz	99.79			0.21																						100	127
3	86	Tur	37.42	0.77	33.53	6.15		5.05	0.37	1.72																		85	105
3	87	Mag				99.16	0.83																					100	98
3	88	Mag				98.85	1.15																					100	103
3	89	Ms+other	49.16		34.82	13.30		1.66	0.15	0.34	0.57																	100	107
3	90	Py+other	2.01		0.51	34.26			0.45	0.62			59.01						0.21	0.40						1.77	0.80	100	148

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CI	V_2O_5	Cr_2O_3	NiO	CuO	ZnO	SrO	Y_2O_3	ZrO_2	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
3	91	F-Ap (diag)+other	2.01		1.70	0.93			49.52	0.84	0.26	37.58	2.02	4.77												0.38		100	64
3	92	Chr+other		3.79	14.25	39.61		8.39									32.95	0.25										100	109
3	93	Sd+Ms+other	16.63	2.43	9.06	25.57	0.63	0.96	0.15		0.81		0.34				0.11			0.29								57	93
3	94	Py+Cal	0.34			29.37			10.30				59.98															100	119
3	95	Sd				56.36	0.65																					57	87
3	96	PbO (cont)																									100.01	100	91
3	97	Py+other	1.82			44.19	0.21		1.01				50.94							0.40						1.44		100	137
3	98	Mag+Qz	2.14			96.23	0.83			0.82																		100	92
3	99	Sd+other	1.16		0.71	44.55	0.38	6.51	3.40			0.30																57	61
3	100	Ms+other	61.65	0.45	27.25	6.07		1.63	0.21	0.80	1.98																	100	102
3	101	Py+other	0.92		0.30	37.98	0.14		0.91	0.34			58.38													1.03		100	163
3	102	Qz+Py+Fsp	81.05	0.25	7.44	6.70		0.53	0.15		1.00		2.85															100	128
3	103	Sd+Fsp+other	5.10		1.48	39.24	0.30		0.70	0.64					0.18					0.48						7.66	1.24	57	70
3	104	Ру	0.64		0.40	27.92							70.92					0.13										100	225
3	105	Mag	=			99.11	0.89																					100	91
3	106	Qz+Ms	/1.34	0.23	16.78	6.42		2.60		0.42	2.23																	100	102
3	107	Sd+Py+Fsp	2.98		0.63	50.74	0.46		0.42				1.28							0.48								57	/4
3	108	Mag	0.53			98.49	0.97																					100	101
3	109	Sd+other	1.76		0.43	50.07	1.02	0.69	0.25	0.04	0.4.4		0.57							0.52						0.85	0.86	57	74
3	110	Sd+other	4.44		1.86	44.66	0.40		0.48	0.34	0.14		0.41							0.34						2.98	0.94	57	/4
3	111	Qz	99.67		1.00	0.32	0.44		0.50	4.05			1.01		0.04				0.40	0.00						0.04	4.00	100	123
3	112	Sd+Chl+Kfs	4.55		1.22	40.98	0.41	0.55	0.58	1.05	1.00		1.04		0.21				0.43	0.90						3.94	1.69	57	73
3	113	Sd+Chl+Kts	14.99		10.65	24.34	0.30	2.55	1.78	0.46	1.23															0.69		57	72
3	114	Sd+other	2.39		1.35	49.61	0.58	0.43	0.22	0.38			0.66		0.20					0.37						0.84		57	76
3	115	Sd+other	5.22		1.56	45.77	0.47		0.39	0.48			0.84							0.44						1.84		57	/1
3	116	Sd+other	6.13		2.78	35.23	0.40	1.48	5.02	0.58		3.20	0.47							0.44						1.27		57	73
3	117	Py+Cal	0.47			35.82			3.13				60.58															100	135
3	118	Qz+Ms	/1.66	0.53	16.40	5.58	0.04	1.67	0.36	0.44	3.35																	100	108
3	119	Ank			0.04	15.94	0.84	13.55	25.65	0.74			0.00		0.47				0.47	0.70							0.00	56	48
3	120	Sd+Fsp+Py+other	4.11		0.84	45.79	0.39		0.52	0.74			0.83		0.17				0.47	0.76							2.39	57	57
3	121	Sd+Fsp+Py+other	5.22		2.14	45.66	1.07		0.58	0.62			0.87						0.19	0.66								57	74
3	122	Sd+Fsp+Py+other	5.81		1.92	42.91	0.26		0.50	1.04	0.24		0.52							0.34						2.57	0.87	57	76
3	123	Sa+other	1.70		0.40	52.62	0.78	0.70	0.19	0.42										0.46								57	74
3	124	lur	34.71	0.07	18.33	27.56	0.34	2.72	1.36		0.00	0.40																85	110
3	125	Sd+Chl+Rfs	21.55	0.37	5.67	25.04		1.29	0.70	0.54	2.89	0.18	co.co													0.00		5/	90
3	120	Py+Cai	0.92			33.35			3.78	0.51			60.63													0.83		100	149
3	127	Py Durical	0.36			31.70	0.00	0.54	0.10				67.82															100	193
2	120	Fy+Cal	2.67		1 70	20.12	0.20	0.31	22.05		0.26		51.40															57	91
2	129	Su+ourier Sdu Dyu othor	3.07		1.70	47.07	0.40	9.30	0.40	0.62	0.20		0.61		0.20											4.20		57	50
2	130	Sdiothor	0.00		0.51	47.27	0.22	0.03	0.40	0.03			0.01		0.20				0.65	1.00						4.29	5 65	57	02
2	122	Sdaothor	4.07		0.51	43.04	0.32		0.19	0.04					0.20				0.00	0.42							1 72	57	80
3	132	Мад	4.14		0.00	98.00	1.00		0.17	0.00									0.20	0.42							1.75	100	90
3	133	llm+other	4 28	57.68	7.69	29.70	1.01		0.29			0.34																100	33 89
3	135	Ilm+other	4.20	35.41	0.55	61 25	0.88	1 01	0.23			0.34																100	03
3	136		68.95	1.52	2.74	1.87	0.00	0.81	21.8/		2.07																	100	72
3	137	Pv	0.35	1.52	2.14	26.90	0.21	0.01	2 76		2.07		60.00															100	185
3	138	Mag	0.00			99.02	0.97		2.10				33.35															100	82
3	139	Mag	+			98.96	1.05																					100	93
3	1/0	sd±Oz	1.82		0.45	51.50	0.43		0.22								0.14			0.20						0.86	1 1 2	57	93 77
3	140	Esptlmtother	50.10	27.96	16.04	1.65	0.40	0.51	0.22	1.08	2.05						0.14			0.29						0.00	1.12	100	127
3	142	Sd+Fsn+Chl	13.81	0.20	6 30	27.84	0.29	5.02	1 64	1 10	0.72																	57	72
3	143	F-Ap (diag)+other	2 40	0.20	1.38	0.93	5.20	0.02	50.50	1 13	0.12	36 14	2.35	5 17														100	62
3	144	Man	2.40		1.00	98 71	1 29		50.00	1.15		50.14	2.00	3.17														100	95
3	145	Kin+Cal	52 52		39.32	1.54	1.20		6 16					0.46														100	89
3	146	Pv	0.64		55.52	31 70			1.61				64 17	5.40					0.16	0.21						0.69	0.81	100	167
	140	' y	0.04	1	1	51.10			1.01	1		1	34.17	1				1	0.10	0.21				1	1	0.00	0.01	100	101

3 1 5 4 5 4 5 4 5 4 5 4 5 6	Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K_2O	P_2O_5	SO_3	F	CI	V_2O_5	Cr_2O_3	NiO	CuO	ZnO	SrO	Y_2O_3	ZrO_2	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
3 148 Sthrigg 112 5.4 8.0 0.1 0.2 0.2 0.1 </td <td>3</td> <td>147</td> <td>Ank</td> <td>1.59</td> <td></td> <td>1.03</td> <td>15.41</td> <td>0.67</td> <td>13.36</td> <td>23.92</td> <td></td> <td>56</td> <td>48</td>	3	147	Ank	1.59		1.03	15.41	0.67	13.36	23.92																			56	48
3 1 66 School 2 0.4 0.5 0.18<	3	148	Sd+Fsp+Chl	11.72		5.24	29.40	0.31	7.01	2.74		0.58																	57	70
3 100 Stechniz 100 Stechniz 100 Stechniz 100 Stechniz 100 Stechniz 100 Stechniz 100 1	3	149	Sd+QZ	0.74			55.60	0.47										0.18											57	83
3 161 Occoder 0.243 1.43 0.43 0.47 0.46 0.00 0.46 0.40 0.47 0.40 0.07 0.40 0.07 0.40 0.07 0.40 0.07 0.40 0.07 0.40 0.07 0.40 0.07 0.41	3	150	Sd+other	1.85		0.40	52.12	0.63		0.24				0.50				0.16			0.37						0.74		57	70
3 152 054-0herdmer 164 0.27 0.27 0.27 0.27 0.27 0.77 0.75	3	151	Qz+other	92.91		4.25	1.33		0.27	0.49		0.35		0.40															100	108
3 183 Schenham 184 Schenham 184 Schenham 185 Schenham 185 Schenham 187 Schenham 188 S	3	152	Sd+Chl+other	15.45	0.27	3.94	32.63	0.45	0.76	0.24	0.42	0.56		0.46							0.27						1.55		57	94
3 1 1 0	3	153	Sd+other	1.90		0.67	52.58	0.51		0.10	0.51																0.72		57	92
3 198 Def Pap. 0.93 109 4.03 0.02 0.20	3	154	Sd+Fsp	1.40		0.62	40.46	0.47	8.86	5.18																			57	70
3 180 FAD (190) 4/4 180 180 0.04 180 0.05 0.04 0.06 0.01 0.06 0.01 0.00 120 0.02 0.04 425 6.31 0 0.01 0 0.01 0.01 100 <td>3</td> <td>155</td> <td>Py</td> <td>0.41</td> <td></td> <td></td> <td>35.34</td> <td></td> <td></td> <td>1.90</td> <td>0.27</td> <td></td> <td></td> <td>62.10</td> <td></td> <td>100</td> <td>190</td>	3	155	Py	0.41			35.34			1.90	0.27			62.10															100	190
3 10 P-Ap (asynthmic 2.44 10.0 2.40 44.03 10.0 2.00 0.24 0.31 0	3	156	Sd+Fsp	4.73		1.60	44.92	0.46		0.34	0.92										0.43						2.76	0.85	57	/1
3 1 0	3	157	F-Ap (diag)+other	2.44		1.80	0.59			49.55	1.00	0.29	36.46	2.45	5.31												0.14		100	/8
1 1	3	158	QZ Dv	96.97		1.30	0.93			0.35		0.45	1.05	67.07	1.24														100	132
1 1 1 1 1 1 1 1 1 1 2 0 1 2 0 1 0 1 0 1 0 1 0 1 0 1 0	3	159	Py				20.44			2.97	1.01		1.95	67.07	1.24							2.02							100	219
1 1	2	161	Mag	_			00.15	0.95		40.00	1.21											3.03							100	100
1 1	2	162	liviag Dv				20.13	0.05		0.22				71 57															100	222
1 1 1 1 1 1 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1	3	163	Sd+Esp+Pv	13 70		4 72	20.23	1.26	0.54	0.22	0.78	1 / 1		0.72						0.23	0.56						2.62		57	233
1 1 1 1 1 2 1 2 1 2 1	3	164	Bytother	4 15		0.08	47.82	1.20	0.54	0.47	0.70	1.41		40.55						0.23	1.08						2.02	1.26	100	131
3 168 MSH-Oblecher 985 4.47 25.41 0.28 5.77 6.73 0.40 0.56 4.09 1.20	3	165	Me+Py+Chl+other	30.08		23.13	8 17		2.00	7.30	0.44	5 55	6 90	7 20						0.40	1.00						2.90	1.20	100	102
3 167 Mag 100 98.51 129 000 0.00 0.00 0.02 0.00 0.00 0.02 0.00 0.00 0.01 0.02 0.02 0.00 0.01 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.02 0.01<	3	166	Sd+Chl+other	9.85		4 57	25.34	0.28	5.17	6.73	0.44	0.56	4 09	1.23															57	60
3 168 SurFsp 6.50 1.66 37.47 0.30 0.40 1.69 0.42 0.43 4.57 0.50 0.43 4.57 0.50 0.44 4.57 0.50 0.43 4.57 0.46 0.52 0.41 0.61 1.67 1.67 77 0.75 0.75 1.66 0.29 0.34 4.57 7 0.45 0.45 0.41 0.44 0.44 0.44 0.44 0.47 0.45 0.	3	167	Mag	0.00		4.07	98.51	1 29	0.17	0.20	0.40	0.00	4.00																100	90
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	3	168	Sd+Esp	6.50		1.65	37 47	0.30		0.40	1.69					0.42				0.42	1.08						1.54	5 55	57	59
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	3	169	Pv	0.88			34 44	0.00		0.14				64.37		0.12				0.12	0.16							0.00	100	207
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	3	170	Ms+other	59.22	0.70	24.30	10 71		1.97	0.20	0.50	2 23		0							0.17								100	113
3 172 Ms-other 50.38 282 50.99 2.30 0.64 0.55 3.44 4.57 100 110 111 111 111 111 111 111 11111 1111 11111 <t< td=""><td>3</td><td>171</td><td>Qz</td><td>97.93</td><td>0.80</td><td>0.49</td><td>0.76</td><td></td><td></td><td>0.20</td><td>0.00</td><td>2.20</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.11</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>100</td><td>142</td></t<>	3	171	Qz	97.93	0.80	0.49	0.76			0.20	0.00	2.20									0.11								100	142
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	3	172	Ms+other	50.38	0.88	26.25	10.99		2.30	0.64	0.55	3.44		4.57															100	118
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	3	173	Pv+Esp+other	11.51	0.15	8.14	31.11		1.18	0.18	0.39	0.43		46.17													0.73		100	193
4 2 Sd+other 3.24 0.81 7.75 0.59 0.34 0 0 0.46 0.52 0 1.67 1.64 57 76 4 4 Ox+Fsp+Ch1 73.87 1.02 15.95 4.88 0.06 0.29 8.24 2.39 0 <td>4</td> <td>1</td> <td>F-Ap (diag)+Chl+other</td> <td>23.87</td> <td>0.25</td> <td>15.46</td> <td>12.13</td> <td></td> <td>1.69</td> <td>22.96</td> <td>0.94</td> <td>0.60</td> <td>18.88</td> <td>0.77</td> <td>2.41</td> <td></td> <td>100</td> <td>90</td>	4	1	F-Ap (diag)+Chl+other	23.87	0.25	15.46	12.13		1.69	22.96	0.94	0.60	18.88	0.77	2.41														100	90
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	4	2	Sd+other	3.24		0.81	47.75	0.59		0.34										0.46	0.52						1.67	1.64	57	71
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	4	3	Sd+Chl	6.85		5.01	34.22	0.29	8.24	2.39																			57	76
4 6 Sch-other 2.01 1.4.6 4.32.6 0.33 6.20 3.4.4 m	4	4	Qz+Fsp+Chl	73.87	1.02	15.95	4.89		1.06	0.29	0.54	1.98		0.40															100	103
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	4	5	Sd+other	2.01		1.46	43.26	0.63	6.20	3.44																			57	64
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	4	6	IIm+Ms	30.89	38.02	15.61	9.56		0.70	0.27	0.69	4.30																	100	109
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	4	7	Sd+Fsp+other	8.67	0.23	3.27	39.09	0.79	0.53	0.24	0.70	0.31		0.95				0.21		0.33	0.75						0.94		57	79
4 9 Chi+Fsp. 28.33 1.99 16.35 29.51 4.08 4.34 85 46 4 10 Qz 94.27 3.31 0.60 1.81 100 118 4 11 Sd+other 1.52 0.91 39.96 0.43 9.94 4.24 57 64 4 12 Mag 98.65 1.34	4	8	Qz	84.90		1.47	12.77		0.36		0.49																		100	98
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	4	9	Chl+Fsp	28.33	1.99	16.35	29.51		4.02	0.48		4.34																	85	46
4 11 Sd-other 1.52 0.91 39.96 0.43 9.94 4.24 57 64 4 12 Mag 2.86 0.53 50.79 0.87 0.22 0.51 0.46 0.42 0.34 100 103 4 13 Sd-other 2.86 0.53 50.79 0.87 0.22 0.51 0.46 0.42 0.34 57 67 77 4 14 Brt (cont) 0.31 0.87 0.22 0.51 0.46 0.42 0.34 0.34 0.00 103 43 400 186 4 16 Ms+Py+other 57.80 0.57 26.45 6.72 1.51 0.20 0.67 2.61 3.47 0.93 1.33 100 103 4 18 Sd+other 1.64 38.70 8.84 8.04 0.66 0.35 1.17 0.26 0.40 67<	4	10	Qz	94.27		3.31	0.60					1.81																	100	118
4 12 Mag 98.65 1.34 - - - - - - - - - - - 100 103 4 13 Sd+other 2.86 0.53 50.79 0.87 0.22 0.51 0.46 0.42 0.34 9.20 50.28 100 117 4 14 Brt (cont) 0.31 0.27 62.20 0.46 0.42 0.34 9.20 50.28 1.34 100 186 4 16 Ms+Py+other 57.80 0.57 26.45 6.72 1.51 0.20 0.67 2.61 3.47 0 0 0 100 186 4 17 IIIm+Chi 11.64 39.70 8.84 38.04 1.79 0.66 0.35 1.17 0.26 0 0 100 92 4 19 Sd+other 1.56 0.45 4.44 0.68 2.06 71.67 0 0 0 100 757 61 4 20 Ms+other	4	11	Sd+other	1.52		0.91	39.96	0.43	9.94	4.24																			57	64
4 13 Sd+other 2.86 0.53 50.79 0.87 0.22 0.51 0.46 0.42 0.34 0.34 57 77 4 14 Brt (cont) 0.31 0.31 40.20 0.46 0.42 0.34 9.20 50.28 0.03 1.00 100 117 4 15 Py+other 1.01 0.34 33.40 0.27 62.20 0.67 2.61 3.47 0.62 0.93 1.34 100 186 4 16 Ms+Py+other 57.80 0.57 26.45 6.72 1.51 0.20 0.67 2.61 3.47 0 0 0.33 1.34 100 186 4 17 Ilm+Chi 11.64 39.70 8.84 3.04 1.79 0.66 0.35 1.17 0.26 0.40 100 92 4 19 Sd+other 1.56 0.45 41.42 0.66 8.24 4.64 0 0 0 0 0.66 0.35 1.17 0.26 0 100 <td>4</td> <td>12</td> <td>Mag</td> <td></td> <td></td> <td></td> <td>98.65</td> <td>1.34</td> <td></td> <td>100</td> <td>103</td>	4	12	Mag				98.65	1.34																					100	103
4 14 Brt (cont) $-$ 0.31 $-$ 40.20 $-$ 9.20 50.28 $-$ 100 117 4 15 Py+other 1.01 0.34 33.40 0.27 62.20 $-$ 9.20 50.28 $-$ 100 117 4 16 Ms+Py+other 57.80 0.57 26.45 6.72 1.51 0.20 0.67 2.61 3.47 $ -$ <th< td=""><td>4</td><td>13</td><td>Sd+other</td><td>2.86</td><td></td><td>0.53</td><td>50.79</td><td>0.87</td><td></td><td>0.22</td><td>0.51</td><td></td><td></td><td>0.46</td><td></td><td>0.42</td><td></td><td></td><td></td><td></td><td>0.34</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>57</td><td>77</td></th<>	4	13	Sd+other	2.86		0.53	50.79	0.87		0.22	0.51			0.46		0.42					0.34								57	77
4 15 Py+other 1.01 0.34 33.40 0.27 62.20 0 0 0.93 1.34 100 184 4 16 Ms+Py+other 57.80 0.57 26.45 6.72 1.51 0.20 0.67 26.1 3.47 0 0 100 1	4	14	Brt (cont)	-			0.31							40.20								9.20			50.28				100	117
4 16 Ms++y-other 57.80 0.57 26.45 6.72 1.51 0.20 0.67 2.61 3.47 100 100 92 4 17 IIm+ChI 11.64 39.70 8.84 38.04 1.79 100 92 4 18 Sd+other 2.00 0.74 49.17 0.26 0.40 0.66 0.35 1.17 0.26 1.31 0.66 57 61 4 20 Ms+other 1.56 0.45 41.42 0.69 8.24 4.64 57 61 4 20 Ms+other 53.33 0.35 32.52 10.18 1.33 0.24 2.06 100 75 4 22 Qz 99.60 0.40 71.67 100 124 4 23 Sd+other 1.82 1.29	4	15	Py+other	1.01		0.34	33.40			0.27				62.20										0.93			1.34		100	186
4 17 IIIn+Cni 11.04 38.70 8.84 38.04 1.79 III-14 IIII-14 IIII-14 IIII-14 IIII-14 IIII-14 IIII-14 IIII-14 IIII-14 IIIII-14 IIIIII-14 IIIIIIIIII-14 IIIIII14 IIIIII14 IIIII14 II	4	16	Ms+Py+other	57.80	0.57	26.45	6.72		1.51	0.20	0.67	2.61		3.47															100	109
4 16 Schottner 2.00 0.74 49.17 0.26 0.40 0.06 0.35 1.17 0.26 1.31 0.66 57 761 4 19 Schotther 1.56 0.45 1.42 0.69 8.24 4.64 100 0.56 1.17 0.26 1.31 0.66 57 761 4 20 Ms+other 53.33 0.35 32.52 10.18 1.33 0.24 2.06 1.17 0.26 1.31 0.66 57 761 4 21 Py 28.33 0.35 24 2.06 71.67 0.6 0.26 1.00 221 4 22 Qz 99.60 0.40 28.33 0.48 11.17 3.92 0.66 71.67 0.6 0.66 77 61 4 23 Sd+other 1.82 1.29 88.1 0.48 11.17 3.92 0.66 0.38 0.66 97 71.67 4 24 Qz 98.92 0.64 0.44 1.17	4	17	IIm+Cni	11.64	39.70	8.84	38.04	0.00	1.79	0.40	0.00			0.05				4.47			0.00						4.04	0.00	100	92
4 19 Outputer 1.00 0.40 41.42 0.90 6.24 4.04 100 75 4 20 Ms+other 53.33 0.35 32.52 10.18 1.33 0.24 2.06 100 75 4 21 Py 28.33 20 71.67 20 20 200<	4	18	Sa+otner	2.00		0.74	49.17	0.26	0.04	0.40	0.66			0.35				1.17			0.26						1.31	0.66	57	11
4 20 misrourier 53.33 0.55 32.32 10.16 1.33 0.24 2.06 - - - - - 100 75 4 21 Py 28.33 28.33 - 71.67 - - - - 100 7221 4 22 Qz 99.60 0.40 - - 71.67 - - - 100 7221 4 23 Sd+other 1.82 1.29 38.31 0.48 11.17 3.92 - - - - - - - 100 124 4 23 Sd+other 1.82 1.29 38.31 0.48 11.17 3.92 - </td <td>4</td> <td>19</td> <td>Su+other</td> <td>1.00</td> <td>0.25</td> <td>0.45</td> <td>41.42</td> <td>0.69</td> <td>0.24</td> <td>4.04</td> <td> </td> <td>2.06</td> <td> </td> <td></td> <td> </td> <td></td> <td></td> <td></td> <td>5/</td> <td>75</td>	4	19	Su+other	1.00	0.25	0.45	41.42	0.69	0.24	4.04		2.06																	5/	75
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	4	20	NIS+Other	53.33	0.35	32.52	10.18		1.33	0.24		2.00		71.67															100	/5
T ZZ SZL SZL<	4	21	<u>гу</u> От	00 60			20.33							/1.0/															100	124
4 26 Qz 98.92 0.64 0.44 0.88 0.46 0.41 0.55 0.38 0 100 100 126 4 25 (Alt llm) Rt 1.93 88.74 2.32 4.34 0.88 0.46 0.41 0.55 0.38 0 100 100 126 4 26 Py 0.17 28.25 71.59 0.38 0 100 222 4 27 Mag+Qz 1.56 96.59 1.05 0.27 0.55 0.38 0 0.54 0 100 222 4 28 Sd+other 1.79 0.63 50.15 0.27 0.19 0.22 0 0.10 90 4 29 F-Ap (dia)+other 1.35 6.97 8.16 0.32 1.16 40.59 0.88 0.33 24.22 0.80 3.01	4	22	Sd±other	1 82		1 20	28 31	0.48	11 17	3 02																			57	65
Y Y	4	23		08.02		0.64	0.44	0.40	(1.17	3.32																			100	126
4 26 Py 0.17 28.25 0.00 0.01 71.59 0.00 0.00 20	4	24	(Alt IIm) Rt	1 92	88 74	2 32	4 34			0.88	0.46		0.41	0.55				0.38											100	97
4 27 Mag+Qz 1.56 96.59 1.05 0.27 0.10 0.54 100 222 4 28 Sd+other 1.79 0.63 50.15 0.58 0.42 0.19 0.52 100 224 4 29 F-Ap (diag)+other 13.58 6.97 8.16 0.32 1.16 40.59 0.88 0.33 24.22 0.80 3.01 100 70	4	26	Pv	0.17	30.74	2.52	28 25			0.00	0.40		0.41	71.59				0.00											100	222
4 28 Sd+other 1.79 0.63 50.15 0.42 0.42 0.19 0.22 2.14 57 72 4 29 F-Ap (dia)+other 13.58 6.97 8.16 0.32 1.16 40.59 0.88 0.33 24.22 0.80 3.01 100 70	4	27	Mag+Qz	1.56			96.59	1.05		0.27				11.00				0.54											100	90
4 29 F-Ap (dia)-other 13.58 6.97 8.16 0.32 1.16 40.59 0.88 0.33 24.22 0.80 3.01 1 10 70	4	28	Sd+other	1.79		0.63	50.15	0.58	0.42	0.42						0.19		0.22									2.14		57	72
	4	29	F-Ap (diag)+other	13.58		6.97	8.16	0.32	1.16	40.59	0.88	0.33	24.22	0.80	3.01														100	70

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	SO3	F	CI	V ₂ O ₅	Cr_2O_3	NiO	CuO	ZnO	SrO	Y_2O_3	ZrO_2	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
4	30	(Alt IIm) Rt	1.90	91.76	1.53	4.67	_	-	0.13								-		_							_	-	100	94
4	31	Sd+other	0.99			53.78	1.06		0.18				0.52						_	0.46								57	77
4	32	Ank	6.17		0.56	14.06	0.95	12.38	21.88																			56	55
4	33	Sd+Py+other	9.44		4.17	37.42	0.72	0.62	0.26	0.71	0.52		0.80							0.79						1.55		57	83
4	34	Qz+Fsp+Chl	62.76	0.17	18.67	14.07	0.21	1.39			2.71																	100	119
4	35	Mag				98.80	1.19																					100	98
4	36	Sd+Py+other	4.85		1.08	49.27	0.54		0.38				0.89															57	74
4	37	Kfs+Chl	59.17	0.47	26.76	7.32		2.04	0.22	0.54	3.48																	100	99
4	38	Brt (cont)				0.30							38.16											61.55				100	109
4	39	PbO (cont)				0.71								3.84													95.46	100	86
4	40	Sd+Fsp+other	3.52		0.85	45.50	0.46	0.50	0.44	0.60							0.18		0.25	0.59						2.31	1.80	57	70
4	41	Sd+Qz	22.87			33.73	0.40	4.74	10.10																			57	111
4	42	Cai	0.54			4.75	0.38	1.74	49.13				00.00													0.04		56	36
4	43	Py	0.51			32.52	0.50		0.18				66.20													0.61		100	190
4	44	Mag				99.42	0.58																					100	93
4	45	Mag	4.05		0.04	98.98	1.02	0.40	0.50				4.05							0.70						4.07		100	91
4	40	Sd+Py+other	4.05		0.91	47.32	0.78	0.42	0.52	0.56	0.14		1.05							0.70						1.27	0.70	57	07
4	47	Sd+Py+other	11.34		2.24	30.30	0.30		0.62	0.50	0.14		0.57				0.19			0.51						3.03	0.79	57	83
4	40	Sd+other	2.72		0.72	49.13	0.00		0.20	0.42							0.16		0.20	0.52						2.90	2.02	57	74
4	49		54.72	0.22	0.73	40.20	0.99	0.80	0.24		1 /2								0.29	0.13						0.97	2.02	100	104
4	51		96.22	0.55	0.50	33.55	0.30	0.00	0.17		0.11									0.12								100	1104
	52	Um+other	1 16	76 76	0.33	20.07			0.34		0.11																	100	01
	53	Cal	1.10	70.70	0.11	3 10	0.82	0.77	51 20																			56	34
	54	Sdtother	1 20		0.46	54 70	0.02	0.77	51.25																			57	84
4	55	Mag	1.20		0.40	98.80	1 20																					100	89
4	56	Mag+Oz+other	4 86		0.93	85.83	1.20		0.53	0.84			0.82							0.67						4 14		100	70
4	57	Sd+Cbl+Kfs	22.81	0.48	6.22	23.16	1.07	1.25	0.00	0.31	2.52		0.02		0.11					0.01						4.14		57	89
4	58	Sd+Chl+other	6.55	0.24	3.60	34.34	0.43	8.63	2.89	0.01	0.34				0													57	65
4	59	Cal+	39.45		24.02	10.15		1.39	24.51		0.47																	100	66
4	60	Sd+other	0.76		0.55	40.51	0.51	10.28	4.39																			57	58
4	61	Chl	30.42		19.41	27.63		4.56	0.54	0.40	0.69									0.26						1.11		85	95
4	62	Mag				98.57	0.99										0.44											100	89
4	63	Chr			26.72	17.65		14.36									41.03											100	106
5	1	Sd+other	0.94			53.43	0.52		0.18											0.17						1.76		57	82
5	2	Qz	99.81			0.18																						100	137
5	3	Ms+Chl	39.34	0.93	22.07	26.26	0.48	2.74	0.92	0.75	5.44															1.06		100	95
5	4	Ms+Chl	48.75	1.48	26.40	14.01		3.98	0.39	0.85	3.88	0.27																100	127
5	5	Qz	99.26			0.73																						100	137
5	6	Sd+Chl+Kfs	17.86	0.52	6.90	27.57		1.44	0.13		2.07	0.40			0.11													57	100
5	7	Sd+Fsp+other	2.45		0.97	46.61	0.76		0.32	0.86					0.30		0.19			0.38						3.07	1.08	57	78
5	8	llm		56.16		42.08	0.49	1.28																				100	116
5	9	Sd+Chl+Kfs+other	15.24	0.44	7.34	31.07	0.27	0.63	0.19	0.48	0.84		0.50															57	90
5	10	Sd+Fsp	20.11		5.97	24.86	0.16		0.23	4.99							0.18									0.49		57	124
5	11	Sd+other	1.00	0.31	0.42	52.14	0.33	0.35	0.30	0.35										0.34						1.45		57	88
5	12	Ilm+other	0.49	83.80	1.17	13.04	0.61		0.11																	0.77		100	111
5	13	Mag				98.93	1.06																					100	105
5	14	Ank				16.07	0.72	13.50	25.72																			56	53
5	15	Sd+Fsp	2.86		0.89	48.72	0.84		0.36	0.70										0.56						2.06		57	78
5	16	Sd+Qz+other	22.79	0.70	3.12	26.77	0.15	0.78	1.53		0.50	0.22														0.44		57	100
5	17	Sd+Py+other	3.40		0.57	49.94	0.35	0.96	0.36				1.43															57	83
5	18	Sd+Qz	1.16			53.55	0.55		0.24																	1.28		57	86
5	19	Mag	0.60			98.38	1.02																					100	110
5	20	Sd+other	3.45	0.19	0.72	50.73	0.90		0.22						0.32					0.47							. = .	57	78
5	21	Sd+other	4.04		0.83	48.07	0.80		0.30										0.51	0.72							1.72	57	84
5	22	Py				33.82	0.15		0.13				65.45						0.18									100	201

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	CI	V ₂ O ₅	Cr_2O_3	NiO	CuO	ZnO	SrO	Y_2O_3	ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
5	23	Qz+other	84.80	0.23	9.28	2.93		0.76		0.32	1.67				-							-						100	126
5	24	llm+other	5.67	58.67	4.14	28.80	1.20	0.61			0.89																	100	102
5	25	sd+other	2.14		0.62	51.60	0.55	0.39	0.30	0.39			0.40				0.20			0.43								57	83
5	26	F-Ap (diag)+other	4.56		3.21	0.85			47.80	1.01	0.36	35.61	2.00	4.59														100	73
5	27	Qz	99.69			0.31																						100	131
5	28	Mag				98.93	1.07																					100	108
5	29	Mag				98.70	1.30																					100	107
5	30	Mag				98.75	1.07		0.18																			100	107
5	31	Sd+other	7.42	0.64	3.79	34.71	0.60	6.62	2.00		0.64															0.56		57	70
5	32	Ank	0.53			15.52	1.05	13.77	25.12																			56	53
5	33	Mag				98.92	1.08																				. = .	100	107
5	34	Sd+other	4.94		1.08	43.80	0.30		0.39	0.44									0.72	0.75							4.59	57	82
5	35	Sd+other	3.29		0.74	50.45	0.74		0.24	0.42			0.72							0.39								57	80
5	36	Mag				99.02	0.97																					100	106
5	37	Mag				99.07	0.93																					100	108
5	38	Mag				98.88	1.12	10.01																				100	106
5	39	Ank	1.93		1.67	15.28	0.68	12.21	24.23																			56	54
5	40	Qz	97.12			2.33			0.56																			100	113
5	41	Mag+other	8.21		1.49	84.41	2.89	0.83	0.39				1.50		0.26													100	80
5	42	Sd+Chl+Fsp+Py+other	6.45		2.62	39.56	0.56	2.17	2.78	0.62		0.60	0.37							0.24						1.04		57	//
5	43	Py+other	0.66		0.51	32.91			1.02				64.90															100	58
5	44	Py+other	0.68		0.38	32.86	0.04	0.40	1.02				65.05															100	58
5	45	Cal+Chl	6.29		3.48	8.21	0.84	2.40	/8./8																			100	44
5	46	Chl+Ms	41.39	0.37	38.06	13.51		4.96	0.32	1.39																		100	114
5	47	lim	0.71	71.33	1.89	25.87			0.22																			100	104
5	48	Qz	99.09		0.51	0.39																						100	128
5	49	Sd+other	7.50		2.80	40.56	0.91	0.56	0.32	0.60	0.21		0.66						0.00	0.46						2.46		57	87
5	50	Qz+Sd+other	59.98	0.52	11.56	22.64	0.40	0.66	0.27	1.25	1.24															1.50		100	104
5	51	Sd+Fsp+Py+other	5.12		2.23	44.52	0.68	0.46	0.30	0.86	0.18		0.89													1.78		57	78
5	52	Ру	0.66		0.45	29.27							69.64															100	225
5	53	Mag				99.16	0.84																					100	99
5	54	F-Ap (diag)+other	5.24		3.10	1.52			46.13	0.92	0.59	36.11	1.87	4.50														100	70
5	55	Py+Chl+Ms	36.11	0.43	23.60	18.89	0.00	1.38	0.24	0.40	1.25		17.38	0.33	0.40				0.00	0.57						0.77	0.05	100	109
5	56	Sd+Fsp+Py	1.69		1.65	45.05	0.62		0.38	1.10			0.67		0.18				0.38	0.57						3.77	0.95	57	61
5	57	Mag	0.00		0.50	99.03	0.97		0.04				0.54		0.40				0.00	0.55						0.47	0.70	100	104
5	58	Sd+Qz+other	2.23		0.52	48.27	0.51		0.34	0.70			0.51		0.19		0.47		0.00	0.55						3.17	0.72	57	79
5	59	Chi+Sa+other	28.27		17.62	30.08		4.11	0.20	0.73			07.00				0.17		0.65	1.25						1.89	0.00	85	95
5	60	Py Other King	0.86	0.40	0.30	29.13	0.45	0.04	0.10	0.40	4.04		67.80						0.24	0.00						0.61	0.99	100	209
5	61		21.74	0.19	8.45	21.24	0.15	2.01	0.21	0.48	1.64									0.38						0.51		57	107
5	62	Sd+Chl+Kis+other	23.80	0.27	11.01	18.51	0.31	0.44	0.30	0.35	1.81		0.70						0.47	0.20						0.07		57	114
5	03		9.02	0.22	3.00	37.19	1.05	0.80	0.31	0.54	1.00		0.70						0.17	0.55						2.07		5/	03
5	64	QZ+Sd+other	53.46	0.33	19.22	20.40	0.30	1.61	0.29	0.69	1.99	20.70	4.75	2.02												1.70		100	70
5	C0	F-Ap (diag)+other	9.9/	0.62	5.95	0.99		0.45	42.03	0.84	1.42	32.19	1.75	3.83												0.50		57	/8
5	67	Sd+Crii+Kis+Oliiei	6.40	0.62	5.90	20.02	0.41	1.04	0.17	0.31	1.94								0.26	0.60						0.50	1.07	57	92
5	69	(Alt IIm) Bt	0.40	90.07	1.74	30.19	0.41		0.90	0.74									0.30	0.60						0.01	1.97	57	01
5	60		1.37	09.07	1.00	0.34			0.14				24.20						70.29							2 72		100	92 70
5	70	CuO (cont)				1.44	1.26		0.25				24.30						70.20							3.73		100	102
5	70	Pv	-			28 07	1.30						71.04															100	220
5	72	ChluDy	20.05	0.62	24.26	20.07		2.05	0.19		0.50		12.06	$\left \right $														100	220
5	72		30.95	74.01	24.30 1.2F	20.32	0.27	2.90	0.10		0.59		12.00	<u>├</u>														100	107
5	74	Sd±Oz±other	3.00	74.01	0.42	22.09	0.27	0.01	0.14			<u> </u>		<u>├</u>	0.14				0.20	0.58				I			1.64	57	70
5	75	Sd+Oz+other	1 45		0.43	54 16	0.55		0.14				0.67		0.14				0.20	0.00							1.04	57	75
5	76	S4	0.54			40.39	0.33	11 30	4.46				0.07															57	60
5	70	Ms+Chl	57.52	0.40	28.87	8.94	0.02	2.06	0.29	0.40	1 51									<u> </u>								100	81
5	78	Sd±Oz±other	2.66	0.40	20.07	10.04	0.52	2.00	0.29	0.40	1.01		0.64	<u>├</u>			0.74									1 13		57	70
5	10	SUTWATUINEI	2.00		0.40	+3.33	0.02		0.01			1	0.04	1			0.74	1		1				1	1	1.15		57	10

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	CI	V ₂ O ₅	Cr_2O_3	NiO CuO	ZnO	SrO	Y ₂ O ₃	ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
5	79	Mag				98.98	1.02																				100	99
5	80	Sd+Qz+other	2.49		0.46	50.84	0.60		0.20									0.48	0.72							1.20	57	72
5	81	Sd+other	0.84		0.68	43.72	0.76	7.72	3.27																		57	59
5	82	KIn	45.62	0.15	32.59	5.95		0.98			0.71																86	100
5	83	Py				27.83			3.02				69.17														100	184
5	84	Ank				16.11	0.74	14.01	25.14																		56	49
5	85	Sd+Py+other	5.93		1.28	47.48	0.21	0.42	0.26	0.42			1.01														57	81
5	86	Qz	99.24			0.76																					100	124
5	87	Qz	95.56		2.55	1.14					0.73																100	115
5	88	Tur	37.40	0.47	30.39	8.22		5.96	0.35	2.19																	85	110
5	89	Py+other	3.34		2.57	32.29	0.55	0.60	0.14	0.00			60.35						0.32								100	177
5	90	Sd+otner	1.43		4.00	53.37	0.55		0.17	0.63			0.60						0.27								57	75
5	91	Py+otner	4.32		4.23	27.11	0.00	0.07	2.74	0.75	0.40		61.60		40										0.04		100	178
5	92	Sd+Cni+Kis+otner	14.67		6.75	31.35	0.60	0.97	0.26	0.75	0.18		0.54	().1Z										0.81		57	78
5	93	Py+Cal				23.58		0.46	29.29				40.07										C1 00				100	8/
5	94	Brt (cont)	0.52			0.48			0.17				38.45										61.09				100	113
5	95	Py Col	0.55			32.50			27.60				42.20	0.74													100	70
5	90	Py+Cal	0.40		0.25	20.46			37.60				42.30	0.74													100	100
5	97	ry Kin	0.49	0.45	20.25	5 20		1 36	0.08	0.58	1.86		00.72														86	99
5	90	Sd+other	3.24	0.45	23.33	10 70	0.64	1.50	0.13	0.50	1.00		0.54	0	1 21			0.26	0.59								57	75
5	100	Pv	3.24		0.00	29.07	0.04		0.21	0.55			70.92		1.21			0.20	0.55								100	211
5	100	Cal+Chl	20.35		16 34	24.24		4.05	30.96				10.52						0.47								100	65
5	107	Mag	20.00		10.54	98.92	1.08	4.05	50.50										0.47								100	96
5	102	Sd+other	2.88			50.79	0.59		0.17	0.67			0.61	(132				0 99								57	73
5	104	Sd+Oz+other	2.60		0.47	52.45	0.00		0.17	0.36			0.01				0.15	0.00	0.00								57	87
5	105	Mag	2.02		0.51	98.36	1 14			0.00							0.10	0.00	0.20								100	98
5	106	PbQ (cont)			0.01	1.54								0.89												97.57	100	89
5	107	(Alt IIm) Rt+other	4.96	88.04	3.48	3.09			0.17		0.28																100	95
5	108	Sd+other	0.90			53.17	0.71		0.19				0.84	(.85				0.34								57	73
5	109	Mag				98.89	1.11																				100	95
5	110	Mag				98.72	1.27																				100	93
5	111	Sd+Qz	1.40		0.46	53.51	0.75		0.25								0.13		0.49								57	72
5	112	Ank				14.96	1.49	13.84	25.72																		56	47
5	113	Mag				99.16	0.84																				100	86
5	114	(Alt IIm) Rt+other	4.02	85.85	4.55	4.85		0.60	0.13																		100	100
5	115	Ms+Chl+Py+other	48.05	1.28	27.87	12.11		2.09	0.52	0.62	3.11		4.34														100	103
5	116	Ank	1.50		0.50	13.37	5.31	12.03	21.88	0.48																	56	37
5	117	Py	0.21			28.87			1.43				69.49														100	198
5	118	Ру	0.19			29.01			1.41				69.39														100	198
5	119	Mag				98.89	1.11								-												100	94
5	120	Sd+other	4.56		1.10	43.77			0.35	0.44								0.80	0.85						1.59	3.55	57	75
5	121	Sd+other	3.97		0.72	47.41	0.23		0.31	0.39			1.23					0.23	0.66							1.85	57	73
5	122	Sd+other	3.97		0.86	47.27	0.21	0.39	0.30				1.34					0.23	0.66							1.78	57	74
5	123	Sd+other	2.13		0.64	48.89	0.71		0.26	0.48									0.55						2.42	0.92	57	70
5	124	Mag	0.66			98.33	1.02																				100	88
5	125	Sd+other	2.54		0.78	48.10	0.62		0.18	0.32							0.21	0.23	0.46						1.38	2.18	57	81
5	126	Alm-Sps	40.49		21.33	25.82	8.26	1.63	2.48																		100	106
5	127	Qz	99.79			0.19																					100	118
5	128	Py	0.39			37.85							61.78														100	154
5	129	Mag	0.71		0.53	97.82	0.94	44.46	05.40																		100	91
5	130	Ank				16.14	0.57	14.12	25.18																		56	46
5	131	Mag	5.04		4 50	98.71	1.29		0.11	0.10			0.00					0.07	0.00						0.00	0.00	100	93
5	132	Sa+otner	5.61		1.50	44.01	0.26		0.44	0.46			0.68					0.37	0.69						2.02	0.96	5/	/5
5	133	Sa+uz+otner	1.15		0.44	53.22	0.60		0.14									0.25	0.40						0.81		5/	68
5	134	Mag				98.87	1.14																				100	95

Site Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CI V ₂ O ₅	Cr_2O_3	NiO	CuO	ZnO	SrO	$\rm Y_2\rm O_3$	ZrO_2	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
5 135	PbO (cont)																								100.01	100	84
5 136	Mag				98.88	1.12																				100	91
5 137	Mag				99.10	0.90																				100	94
5 138	Py				32.10			0.06				67.85														100	188
5 139	Mag				99.05	0.94																				100	90
5 140	Qz+other	84.03	0.55	8.37	4.44		1.03	0.10		1.49																100	114
5 141	Ank				16.14	1.19	17.03	21.63																		56	48
5 142	Qz+F-Ap+other	64.97		1.80	0.73			13.07	0.42	0.40	15.72	0.82	2.06													100	97
5 143	Qz+F-Ap+other	64.77		1.70	0.69		0.32	12.86	0.50	0.33	15.95	0.67	2.21													100	98
5 144	Mag				98.75	1.25																				100	93
5 145	Sd+Py+other	4.22		1.54	45.10	0.89	0.49	0.38	0.55			0.92					0.29	0.57						2.05		57	/1
5 146	Cal+other	2.56		1.32	7.94	0.63	2.87	0.19	0.61			0.90		0.24				0.09							1.20	100	35
5 147	Su+Q2	2.50		0.52	50.05	0.70		0.10	0.01			40 EE		0.24				0.96	11.07			10 10			1.20	57	106
5 140		21.66			0.21							40.55							11.07		67.10	+0.40	0.04			100	100
5 149	ZIII	31.00			0.21	0.07															67.19		0.94			100	00
5 150	Sdu Byu othor	0.74		2.66	39.03	0.97		0.42	0.56	0.29		0.90						0.27			0.20	0 02		2.09		57	76
5 152	Sd+Py+other	3.74		2.00	50.32	0.43		0.42	0.30	0.20		0.50					0.19	0.37			0.39	0.05		3.90		57	76
5 153	Mag	3.20		0.70	98.54	1.02		0.14	0.40			0.51			0.42		0.19	0.50								100	01
5 154	PhO+WO (cont)				8 79	1.02		0.78							0.42									46 42	44 01	100	87
5 155	Sd+Chl+other	6.84		4 18	37.25	0.58	5 10	2.63		0.24								0.19						40.42	44.01	57	79
5 156	sd+other	1.55		0.73	51.23	0.55	0.35	0.19		0.24		0.44			0.21		0.20	0.10						0.74		57	86
5 157	Sd+Qz+other	3.53		0.39	52.05	0.80	0.00	0.10				0			0.22		0.20	0.11						0		57	105
5 158	Sd+other	1.38		0.48	50.52	0.76		0.19	0.38						0.21		0.28	0.61						1.32	0.68	57	85
5 159	Pv	0.32		0.10	28.46	0.10		0.10	0.00			71.22			0.2.1		0.20	0.01							0.00	100	248
5 160	Mag	0.71			98.43	0.85																				100	109
5 161	Sd+Qz+other	1.95		0.48	49.28	0.68	0.49	0.26	0.52								0.26	0.60						0.99	1.49	57	84
5 162	F-Ap (diag)+other	7.72		1.85	3.62			47.36	1.09	0.46	31.85	2.05	4.01													100	29
5 163	Sd+other	0.71			55.48	0.66		0.16																		57	83
5 164	Py+other	1.48	0.32	0.76	29.24			0.11				68.12														100	210
5 165	Sd+Qz+other	17.91	0.22	1.53	29.11	0.19		0.71	0.89	0.15				0.17			0.42	0.38						4.08	1.23	57	92
5 166	Sd+other	5.80		1.29	46.10	0.51	0.35	0.35	0.56			0.77					0.62	0.64								57	87
5 167	Sd+other	1.13		0.31	51.86	0.25		0.30	0.40			0.67		0.16				0.35						1.24		57	86
5 168	Qz	99.88			0.12																					100	128
5 169	Sd+Qz+other	2.44		0.40	51.41	0.89		0.21										0.79							0.86	57	82
5 170	sd+Qz+other	2.39		0.34	50.97	0.90		0.21				0.47						0.82							0.90	57	84
5 171	Chl	26.69		19.39	29.80	0.43	8.52			0.19																85	102
5 172	Brt (cont)				0.84							38.11							1.62		5	59.44				100	119
5 173	Sd+Py+other	7.01		2.84	40.11	1.68	0.55	0.29	0.56	0.30		0.68						0.55						2.15		57	73
6 1	Cal				3.89	0.57	1.37	50.16																		56	43
6 2	St	29.52	0.50	54.99	13.15	0.23	1.39											0.22								100	130
6 3	Sd+other	1.60		0.72	40.95	0.58	8.34	4.67								L		0.14								57	72
6 4	Sd+other	0.91		0.00	53.85	0.79	0.40	0.19				0.84				L										57	85
6 5	Brt (cont)											42.65									(57.35				100	153
6 6	Py	0.36	0.32		28.57	0.19						70.54														100	249
6 /	Sd+KIn+other	24.51	0.10	12.07	18.72	0.25	0.34	0.15	0.28	0.33		0.24					0.45	0.50						1.54	0 77	57	121
6 8	Sd+Py+Fsp	5./1		1.49	41.08	0.15		0.83	0.79			0.67					0.45	0.53						4.54	0.77	57	79
<u>ь</u> с 10	Sd+Chl+Kts+other	15.93	0.63	5.52	30.82		1.25	0.14	0.37	1.96	0.21	0.70	0.07													5/	103
6 10	F-Ap (diag)+other	36.82		12.49	9.08		1.86	21.21	0.75	1.24	14.96	0.70	0.87													100	107
6 11	Py+other	6.31		2.97	25.87	4.00	0.56	6.65		0.25		57.41														100	142
0 12 6 12	Mag Sdu Fapulathar	0.77		2.52	97.90	1.33		0.64	1.02	0.10				0.26										2.04	1.20	100	113
0 13	Sd+Fsp+other	7.30		2.53	39.27	0.44		0.04	1.08	0.19				0.20				0.54						3.94	1.29	57	83 82
0 14 6 15	Su+Q2+0(ner	2.42		0.30	40.40	0.78		0.30	0.49	0.02				0.10			0.50	0.54						3.10	2 20	57	03 97
6 16		0.02		2.07	35.85	0.43	0.32	0.42	0.49	0.92		0.67		0.15			0.50	0.04						1.11	3.39	57	86
6 17	Su+rsp+ry+ouner	11.39		2.39	30.00	0.77	12.66	25.64	0.00	0.27		0.07		<u> </u>										4.37		57	55
0 17	Alik	1			15.94	0.77	13.00	20.04	I				1		1	1										00	55

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CI	V_2O_5	Cr_2O_3	NiO	CuO	ZnO	SrO	Y_2O_3	ZrO_2	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
6	18	Sd+other	3.99		1.19	44.53	0.52	0.34	0.32				0.84		0.50				0.63	0.79							3.35	57	85
6	19	Brt (cont)				0.26							39.83								6.94			52.96				100	128
6	20	F-Ap (diag)+other	0.75		0.72	0.69			52.01	0.74		37.83	2.00	5.02												0.24		100	77
6	21	Sd+other	2.89		0.88	51.21	0.62		0.26				0.48		0.14				0.19	0.32								57	85
6	22	Sd+Qz+other	3.36			49.96	0.36		0.19										0.38	0.83							1.92	57	84
6	23	Py				27.61			2.69				69.42															100	210
6	24	Cal+Py				3.85	0.48	2.11	92.52				1.05															100	40
6	25	Py+other	3.27		0.68	54.16	0.31		0.56	0.65			35.28													5.08		100	128
6	26	Brt (cont)				0.30							38.23								1.90			59.56				100	128
6	27	llm+other	6.63	77.28	5.54	8.81		0.93	0.43			0.37																100	109
6	28	Qz+other	90.83		5.78	0.89		0.32			2.19																	100	136
6	29	Qz+Sd+other	82.29		1.13	15.46			0.15											0.31						0.66		100	120
6	30	Chr+other			11.64	16.27		6.47									64.89			0.46								100	113
6	31	Mag				98.53	1.47																					100	111
6	32	Ank				16.48	0.71	13.48	25.33																			56	55
6	33	Qz	99.73			0.26																						100	137
6	34	Sd+Py+other	10.69		0.93	40.00			1.07	0.54			0.75						0.23	0.72						1.27	0.78	57	71
6	35	Sd+Chl	3.83		0.83	40.46	0.55	8.31	3.03																			57	53
6	36	PbO (cont)							0.57					2.30												9.75	87.37	100	96
6	37	Sd+other	1.31			52.74	0.95	0.95	0.22				0.51							0.32								57	80
6	38	Zrn	31.57			0.39																	66.78		1.25			100	136
6	39	Chl+Kfs	41.05	0.25	5.33	40.46	0.79	7.64	3.05		1.43																	100	91
6	40	Sd+Py+other	3.01		0.48	49.76	0.26		0.22	0.55			0.60							0.31						1.37		57	80
6	41	Sd+other	3.00		0.70	49.55	0.55		0.21	0.49							0.21			0.32						0.95	1.01	57	95
6	42	Zrn	31.60																				67.50		0.90			100	139
6	43	F-Ap (diag)+other	1.67		1.08	2.78			49.57	0.94	0.18	36.82	2.22	4.20												0.54		100	77
6	44	Py+other	3.17		1.08	40.85			0.50	0.74			49.69						0.24							2.65	1.11	100	153
6	45	Qz+Ms+other	62.83	3.77	23.58	5.08		1.43	0.17	0.54	2.61																	100	123
6	46	Sd+Fsp	1.74		1.03	50.84	0.53		0.24	0.71							0.29			0.49						1.13		57	77
6	47	Mag				98.81	1.19																					100	110
6	48	Py+other	1.18		0.89	27.63			0.06				70.24															100	246
6	49	Chl+Kfs+Py+other	36.30		15.02	5.24		1.71	0.38	0.90	1.35		16.21						0.34	0.95				19.47		1.61		100	76
6	50	Sd+Fsp+Py+other	6.85	0.53	3.17	38.82	0.68	0.37	0.38	0.80	0.32		0.71		0.13				0.23	0.73						2.69	0.57	57	85
6	51	Sd+other	1.32		0.69	49.61	0.63		0.21	0.42			0.67		0.71					0.30						2.43		57	80
6	52	Chl+Ms	62.57	0.80	24.81	6.12		1.72	0.18	0.46	3.32																	100	111
6	53	Qz	99.69			0.31																						100	134
6	54	Sd+other	1.40		1.21	48.99	0.65	0.46	0.30	0.44					0.17		0.22		0.43	0.47						2.26		57	78
6	55	Py+other	1.30		0.34	30.16			4.00			2.66	61.20															100	1/1
6	56	F-Ap (diag)+other	4.17		2.95	1.43		0.56	48.05	1.04	0.36	35.56	1.90	3.98														100	70
6	57	Py+Cal+other	0.71		0.36	29.61		0.27	8.28	0.42		2.73	56.51	1.13														100	135
6	58	F-Ap (diag)+other	7.53		3.93	1.80	0.00	0.56	44.00	1.16	0.58	33.55	1.//	4.10	0.47				0.00	0.00						0.07		100	/5
6	59	Sd+Py+other	4.13		0.84	46.79	0.20	1.00	0.60		0.00		0.98		0.17				0.29	0.62						2.37		57	84
6	60	Sd+KIS+UNI	22.85		5.14	24.50	1.07	1.09	0.30		2.63		0.30				0.00		0.00	0.18						1.00		5/	107
6	61	Sd+other	0.40		0.59	51.29	1.07		0.20				0.48				0.23		0.39	0.36						1.99		57	81
6	62	Sd+other	0.46		0.34	55.06	0.75		0.04						0.00		0.11		0.26	1.00							0.00	57	88
6	63	Sd+QZ+other	3.24		0.46	45.83	0.43		0.21	0.07			0.00		0.29		0.14		0.73	1.82							3.99	57	81
6	64	Sd+Py+other	1.61		1.28	50.60	0.59		0.22	0.37			0.80				0.14		0.63	0.40						4.40	1.10	57	78
6	65	Sa+otner	2.46		0.66	48.25	0.72		0.24	0.49									0.59	0.71						1.40	1.46	57	80
6	66	Sd+Qz+other	1.29	0.70	0.40	54.37	0.43	4.00	0.10		4.54	0.07							0.17							0.26		57	91
6	67	Sa+Cni+Kis	15.04	0.70	ວ.48	32.61	0.74	1.06	0.13		1.54	0.27																5/	97
6	68	Mag	1.04		1.05	99.29	0.71	10.10	4.08		0.10																	100	96
0 C	59		1.94		1.05	39.14	0.42	10.19	4.08	0.40	0.19									0.40							0.04	57	00
0	70	Sd+QZ+other	1.92		0.48	52.24	0.39		0.21	0.42										0.40						2.07	0.94	57	0/ 70
6	71	Sd+QZ+Other	1.48		0.50	50.22	0.48		0.28	00.0										0.37						2.97		57	/ ŏ 75
6	72	Satother	0.78		0.58	32.00	0.01		0.20	0.64			0.50		0.10				0.22	0.37						1.87		57	10
ю	13	Sa+other	2.38		1.14	49.37	0.43		0.20	0.04		1	0.52	1	0.18				0.22	0.47						1.44) C	()

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CI	V_2O_5	Cr_2O_3	NiO	CuO	ZnO	SrO	Y_2O_3	ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
6	74	Sd+Py+other	5.17		1.62	48.08	0.20	0.47	0.20		0.14		1.09															57	82
6	75	Sd+other	0.95			45.41	0.36		0.29	0.82							0.38									5.20	3.10	57	79
6	76	Sd+Qz+other	1.22			52.72	0.61																				2.46	57	80
6	77	Sd+Qz+other	1.78			51.61	1.37	0.43	0.19				0.57		0.27					0.76								57	75
6	78	Py	0.30			28.82			1.58				69.29															100	220
6	79	(Alt IIm) Rt+other	7.83	81.68	4.50	3.47			0.42	0.47	0.93	0.44					0.29											100	95
6	80	Mag				98.97	1.03																					100	104
6	81	Qz	99.84			0.15																						100	128
6	82	Sd+Chl+Fsp	9.70		4.02	33.66	0.21	0.71	1.20	0.81	0.65															4.11	1.93	57	60
6	83	Py	0.09			28.38			0.07				71.47															100	231
6	84	Cal+Py	00.75			10.09	1.20	2.04	81.25				5.42															100	43
6	85	Qz	99.75			0.23	4 70																					100	129
6	86	Mag	0.00			98.30	1.70																					100	107
0	87	Mag	0.66			98.11	1.24		0.00				57.70															100	106
6	88	Py	0.49	0.50	21 50	41.08	0.40	0.06	0.08	0.50	1 05		57.73															100	1/5
6	09	Nis+other	43.75	0.50	21.50	29.70	0.49	0.96	0.21	0.59	0.11		0.40													0.96		F7	100
6	90	Caluether	2.44	0.07	2.06	43.31	0.91	2.60	0.20		0.11		0.70	2.76												0.00		100	20
6	91		2.44	57 31	2.00	1.55	0.01	2.09	00.17					2.70												1.00		100	00
6	93	Chl+Kfs+other	34.03	1 12	19.56	37.13	0.77	5.95	0.22	0.75	1 23																	100	102
6	94	Oz	99.71	1.12	10.00	0.28		0.00	0.22	0.70	1.20																	100	125
6	95	Qz+other	94.32		1.95	3.15		0.27			0.31																	100	125
6	96	Pv+Chl+other	21.76		7.71	27.04		4.74	0.22	0.42	0.30		36.61													1.21		100	156
6	97	Sd+Chl+Kfs+other	11.96	0.17	7.54	32.80	0.67	0.71	0.21	0.55	0.68		0.47							0.64						0.59		57	94
6	98	Kfs	66.12		17.29	1.08					15.50															0.00		100	120
6	99	Qz+Rt (Alt IIm)	75.66	24.20		0.13																						100	136
6	100	Qz+Rt (Alt IIm)	29.97	68.26	0.55	1.08					0.16																	100	121
6	101	Alm-Sps	39.70	0.18	20.86	19.72	16.22	2.65	0.66																			100	115
6	102	(Alt IIm) Rt	0.71	95.30	1.11	2.42			0.11								0.34											100	100
6	103	Py	0.13			28.14							71.74															100	221
6	104	Cal+other	2.03			16.79	0.75	3.02	77.42																			100	40
6	105	Sd+Py+other	5.55		1.04	43.78	0.36		0.70	0.42	0.19		0.70							0.34						3.96		57	79
6	106	Ank				15.97	0.72	13.91	25.40																			56	50
6	107	Bt	36.88	5.38	13.35	24.67	0.33	6.24		0.45	8.28				0.40													96	111
6	108	Py	0.62		0.30	29.28			0.11				68.87				0.15									0.67		100	195
6	109	Chr	0.56	0.22	39.21	22.59		10.78									26.09			0.35								100	110
6	110	Mag	10.10		0.70	98.93	1.07	0.50	0.00	0.54	0.00		0.54							0.07						4.00		100	101
6	111	Sd+Chi+other	10.48	0.47	3.79	37.93	0.65	0.59	0.39	0.51	0.30		0.51							0.27						1.60		57	89
6	112	KIS E An (diag) Lathar	01.01	0.17	20.58	2.28		1.24	24.07	0.32	13.80	27.27	1 27	2.00														100	76
6	113	F-Ap (ulag)+other	13.30		0.22	0.09	0.42	1.72	0.59	0.55	0.90	21.21	1.37	3.09					0.60	0.90						6.40	2 71	57	70
6	114		4.90		1.00	0.57	0.43		0.00	0.55									0.00	0.00						0.49	2.11	100	124
6	116	Rt	33.43	99 38		0.57																						100	102
6	117	Mag	+	33.30	0.49	98.26	1.25																					100	99
6	118	Mag	0.62		0.10	98.31	1.06																					100	98
6	119	F-Ap (diag)+other	12.15		9.30	12.88		2.01	33.23	0.74	0.42	25.50	1.40	2.38														100	75
6	120	Sd+Qz+other	2.78			47.99	0.32		0.19						0.29				0.92	1.09							3.41	57	73
6	121	Sd+Qz+other	1.90		0.54	52.57	0.52		0.19										0.00	0.40							0.72	57	79
6	122	Rt		99.57		0.45				İ		l	l				ĺ						l	l				100	104
6	123	Ру		0.28		28.46			0.20				71.07										1	1				100	213
6	124	Cal+Py				11.06	0.83	0.86	72.21				15.03															100	46
6	125	Mag				98.62	1.38																					100	96
6	126	Spl	0.83	0.28	42.68	15.86		15.32									25.02											100	108
6	127	Ank				15.67	0.63	14.36	25.34																			56	47
6	128	Ank				15.67	0.69	14.33	25.30																			56	47
6	129	Brt (cont)				0.36							38.26											61.39				100	112

Site Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K₂O	P_2O_5	SO3	F	CI V ₂ O	5 Cr ₂ O ₃	NiO	CuO ZnO	SrO	Y_2O_3	ZrO_2	BaO	HfO ₂	WO ₃	PbO	Total	Actual
6 130	Sd+other	1.60		0.78	48.64	0.81		0.32	0.63	-		-			0.30			+		-			3 47		57	10tal 73
6 131	Sd+other	1.11		1.84	45.45	1.16		0.34	1.24			1		0.21	0.39	1			1				5.35		57	55
6 132	Sd+other	1,20		1.04	53.57	0,79		0.11	0.35			0,51		0.20	0.01	1	0.26						5.00		57	74
6 133	Sd+other	1.73	0.24	1.33	45.15	0.41		0.54	0.82			0.01			0.58	1	0.42						4.39	1.37	57	65
6 134	llm+other	0.56	63.87	0.64	30.43	4.33		0.18																	100	94
6 135	Py+other	6.95		6.67	26.86		0.30	0.14				59.08													100	161
6 136	Sd+Py+other	7.46		3.09	43.50	0.90	0.52	0.24		0.32		0.97													57	75
6 137	Sd+Py+Fsp	4.85		1.40	45.90	0.63		0.34	0.88			0.87											2.13		57	72
6 138	Cal+Py	1.22		1.00	16.26	0.56	1.48	65.20				14.31													100	45
6 139	Sd+Qz+other	28.10	0.16	1.68	24.57	0.56	0.26	0.19		0.20		0.44					0.31						0.53		57	102
6 140	PbO (cont)																							100.01	100	86
6 141	Mag				98.29	1.54		0.18																	100	87
6 142	Mag				98.93	1.07																			100	95
6 143	PbO (cont)												6.16					_						93.85	100	86
6 144	Sd+other	0.95		0.39	40.04	0.50	10.20	4.93																	57	57
6 145	Sd+other	1.52		0.32	52.60	0.31		0.19	0.49					0.01			0.48						0.71	4 70	57	77
6 146	Sd+Qz+otner	2.23	55.00	4.07	51.26	0.66	0.50							0.31			0.76							1.79	57	71
6 147	lim+Fsp	27.45	20.30	4.67	10.85	0.26	0.56		1.11																100	70
6 148	Oz u othor	07.79	74.35	1.53	22.49	0.26				0.26															100	90
6 150	Mag	0.68		1.45	0.49	0.85				0.20															100	102
6 151	Sd+Pv+Fsp	5.51		1.88	41.96	0.00	0.40	0.46	0.78			0.72					0.51						3.46	1 10	57	74
6 152	Мад	2.12		1.00	96.51	1.01	0.40	0.40	0.70			0.72			0.38		0.01						5.40	1.10	100	99
6 153	Zrn	31.66			0.62	1.01									0.00					66.86		0.85			100	118
6 154	Sd+Pv+Chl+Kfs	13.21	0.16	6.79	31.46	0.72	0.67	0.24	0.48	0.78		0.87					0.23			00.00		0.00	1.11		57	77
6 155	Bt	37.32	4.56	12.86	25.34	0.25	6.26	0.21	0.42	8.65		0.01		0.35			0.20								96	121
6 156	Sd+Qz+other	1.83		0.46	51.91	0.30		0.18									0.25						2.07		57	81
6 157	Sd+other	0.87			53.76	0.91	0.40	0.16				0.78		0.13											57	86
6 158	Chl+other	26.55	1.32	13.36	37.15		3.79	0.23	0.68	1.59	0.35														85	88
7 1	Sd+Qz	1.66			54.55	0.68		0.11																	57	91
7 2	Cal+Py+other	0.75		0.55	25.96	0.41	0.50	30.88				40.98													100	86
7 3	Mag				98.90	1.08																			100	116
7 4	Sd+other	6.00		1.62	45.18	0.19	0.44	0.89	0.46			1.95					0.24								57	99
7 5	Qz+Sd+other	75.11		2.29	17.29	0.31	0.28	0.28	0.32	0.28		0.67					0.31				0.71		2.13		100	130
7 6	Sd+Chl+other	5.62	0.16	2.11	37.08	0.43	8.20	3.08		0.31															57	76
7 7	Mag	0.56		0.47	98.57	0.88	0.00	0.70	0.04	0.00								_					5.04	0.05	100	111
7 8	Sd+Fsp+otner	7.80		2.17	38.45	0.17	0.39	0.72	0.91	0.20								-	_				5.24	0.95	57	88
7 9	Mag	6.10		0.05	98.75	1.25	0.46	0.20	0.44	0.14		1 11				1.62									100	120
7 10	Sd+Py+other	7.45	0.92	0.95	44.99	0.60	0.40	0.29	0.44	0.14	0.26	1.41				1.03									57	90
7 11	BbQ (cont)	7.45	0.02	4.30	42.10		0.07	0.10		0.72	0.30		5 42											04 50	100	39
7 12	Brt (cont)											38.16	3.42			-		_			61.86			34.33	100	133
7 14	Sd+other	2.87		0.91	49 76	0.56	0.38	0.18	0.38			0.38			0.17		0.23				01.00		0.93		57	105
7 15	Sd+other	1.52	0.15	0.74	52.07	0.93	0.00	0.20	0.42			0.55			0.17		0.41						0.00		57	83
7 16	Mag				98.93	1.07		0.110																	100	114
7 17	Rt		98.73		1.27																				100	122
7 18	Py+other	0.49		0.34	28.93					0.11		70.14													100	236
7 19	Qz	80.95	0.35	1.04	7.46		1	0.07	1	0.40		9.74													100	156
7 20	Qz+ (Alt IIm) Rt	60.67	36.10	2.08	0.37				0.39	0.40															100	137
7 21	Qz	97.25	0.50	1.49	0.28					0.47															100	141
7 22	Ру	0.17			28.35							71.47													100	257
7 23	Qz	99.75			0.23																				100	141
7 24	Ab+Sd+other	45.76	0.18	16.68	24.04	0.54	0.55	0.62	9.13	0.57				0.19									1.74		100	128
7 25	Sd+Kfs+other	7.92	0.70	3.88	31.31	0.50	9.07	2.54		1.07								_	1						57	82
7 26	Qz	99.81			0.19													_	_						100	137
7 27	Mag+Qz	4.51			93.87	1.14		0.15							0.34	1									100	108

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	CI	V_2O_5	Cr_2O_3	NiO	CuO	ZnO	SrO	Y_2O_3	ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
7	28	Py	1.39		0.91	35.87			2.15	0.53			55.71	0.88					0.20	0.41						1.56		100	145
7	29	Sd+Fsp+Py+other	12.96	0.27	6.24	30.46	0.30	0.86	0.43	0.71	0.66		0.60													3.21		57	78
7	30	Sd+Fsp+other	4.81	0.16	1.49	44.61	0.45		0.26	0.93					0.19		0.14		0.32	0.63						1.07	1.92	57	89
7	31	Cal+IIm+Qz+other	10.55	22.94		4.41	0.56	1.06	59.47					1.03														100	56
7	32	TiO2 mineral	4.96	90.11	4.46	0.48																						100	123
7	33	Qz+other	90.02	1.13	4.97	1.75		0.65			1.48																	100	137
7	34	Sd+Chl+Kfs+other	17.03	0.50	5.84	28.92		1.15		0.30	2.39	0.18														0.54		57	103
7	35	Py+other	6.55		2.14	46.11	0.25	0.51	1.09		0.17		36.43						0.30	1.10						4.01	1.34	100	105
7	36	Qz	99.43			0.57																						100	135
7	37	(Alt IIm) Rt	2.46	88.27	3.48	2.97			0.55	0.54		0.34	0.62				0.41			0.37								100	105
7	38	Brt (cont)											37.16											62.87				100	121
7	39	Sd+Fsp+Chl+other	15.30	0.24	8.79	27.16	0.30	1.16	0.26	0.62	0.42		0.38							0.54						1.82		57	102
7	40	Qz	96.33		0.70	2.17		0.80																				100	128
7	41	Sd+Py+other	3.82	0.27	0.92	45.40	1.07		0.42				0.60						0.20	0.52						3.79		57	87
7	42	Sd+Py+other	5.08		1.16	45.44	0.64		0.29	0.61			0.70						0.22	0.47						2.39		57	88
	43	Sd+Qz	1.49			54.04	0.32		0.19								0.18									0.78		57	92
	44	Sd+other	1.86		1.28	47.52	0.53		0.38								0.29			0.47						4.66		57	64
7	45	Sd+other	1.74		0.43	51.63	1.58		0.14				0.70							0.44								57	83
7	46	Mag	0.44		0.70	98.88	1.12		0.00	0.40							0.40		0.47	0.55							0.74	100	100
7	47	Sd+other	2.11		0.72	51.03	0.79	0.00	0.30	0.43			50.00				0.16		0.17	0.55						0.07	0.74	57	85
	48	Py+other	1.30		0.32	38.08	0.17	0.38	2.27	0.42			56.38													0.67		100	157
	49	Py+Cal				26.72	0.17		11.49				61.63															100	147
	50	Cal				4.16	0.72	0.81	49.80				0.52															56	41
	51	Sd+Fsp+other	2.60		0.82	47.08	0.61		0.26	0.71									0.47	0.47						1.86	2.13	57	83
7	52	Py+other	0.90		0.42	34.39			0.22	0.35			63.45															100	167
7	53	Sd+other	0.55		0.34	55.56	0.55																					57	95
7	54	Py+other	1.80		0.40	45.72			0.46				48.19							0.42						2.14	0.88	100	151
/	55	Ру				28.59							70.54										0.88					100	242
	56	Cal+other	34.33		12.51	4.09	0.27		46.05		0.42			2.33														100	59
7	57	Py+other	2.14		1.59	31.92		0.30	0.50				64.05													50.04	40.74	100	150
	58	PbO+WO (cont)				2.43			0.52																	53.34	43.71	100	70
7	59	QZ	99.47	0.00	0.34	0.18	0.00		40.70	0.14			04 70	0.54						0.07						4.74		100	131
	60	Py+other	2.05	0.38		43.34	0.30		18.76	0.44			31.79	0.51						0.67						1.74		100	93
	61	Sd+Cnl+Kts+other	8.42	0.14	5.80	35.17	0.42	4.39	1.60		0.19									0.09						0.78		57	83
7	62	Mag	04.40	0.04	40.00	98.71	1.28	0.00	0.04	0.42	0.00									0.40						4 74		100	109
7	63	Sd+Fsp+other	24.42	0.31	10.29	17.58	0.26	0.69	0.24	0.43	0.86									0.18						1.74		57	93
7	64	Ank	00.00			15.79	0.70	14.11	25.40																			30	54
7	65		99.69		0.50	0.31	0.00	7.40	2.04																	4.00		100	133
7	00	Sd+other	1.54		0.56	42.12	0.69	7.10	3.91				40.00													1.08		57	62
7	67	Py+Qz	25.48		0.34	27.29							46.89															100	192
7	60	Q2 Sduothor	2 70		0.70	0.20	0.22		0.19										0.22	0.22						0.90		57	100
7	70	Sd+Olliel Pt	2.12	0.56	0.79	37.50	0.33	0.17	0.10		4.07								0.23	0.32						0.69		57	00
7	70	BL	30.13	0.56	12.24	37.59	1 72	2.17	0.34		4.97																	90	101
7	71	Mag	00.06		1.61	90.20	0.10				0.40																	100	104
7	72	Sdu Espu Chlu Dyu othor	5 94		1.01	45.20	1.22	0.59	0.17	0.21	0.40		0.97							0.44								57	90
7	73	Mag	5.04		1.45	40.00	0.92	0.56	0.17	0.31	0.74		0.07							0.44								100	105
7	74	May	2.72			50.14	0.65										0.00											100	105
7	76	Sdrother	1.25		0.58	50.35	0.50	0.37	0.22	0.52							0.22		0 32	0.55						0.75	1 50	57	85
	70	Sutothor	1.20		0.30	52.24	0.00	0.37	0.22	0.52			0.44						0.33	0.35						0.75	1.50	57	00
7	79	SdiOziothor	2.50		0.40	47.42	0.60		0.15				0.44		0.22				0.10	0.31							2.20	57	00
7	70	Sd+Chl+Fen+other	3.50		1.58	36.01	0.34	0.42	1.08	0.48				-	0.22				0.19	0.70						4 86	2.20	57	70
7	80	Мад	0.00		1.00	98.08	1 20	0.42	1.00	0.40									0.22	0.70						4.00	2.27	100	107
7	81	Sd+other	1.03		0.98	49.89	0.56	0.56	0.31	0.59							0.36		0.19	0.38						1 77		57	87
7	82	Sd+Esp+Cbl+other	14 55	0.50	4.60	33.09	0.00	1.06	0.01	0.33	1 70	0.21					0.00		0.13	0.00						0.58		57	96
7	83	Sd+Oz+other	1.67	0.00	0.55	49.50	0.50	1.00	0.11	0.51	1.13	0.21					0.21		0.00	0.30						2.14	1 13	57	86
<u>'</u>	00	OUTQLTOUIDI	1.07	1	0.00	-10.00	0.00		0.20	0.00			1	1	1	1	0.21	1	0.00	0.00						2.17	1.10	51	00

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	CI	V ₂ O ₅	Cr_2O_3	NiO	CuO	ZnO	SrO	Y ₂ O ₃	ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
7	84	Mag				99.28	0.72																					100	99
7	85	Sd+other	2.23		1.15	39.99	0.35	9.71	3.56																			57	66
7	86	Sd+Fsp+other	2.62		0.63	44.59	0.20		0.31	0.74					0.15				0.36	0.70						4.96	1.76	57	81
7	87	Sd+other	3.45		0.83	49.04	0.36		0.14	0.55									0.27	0.50						0.81	1.05	57	82
7	88	Sd+other	1.66		0.79	50.14	0.56	0.37	0.22								0.27		0.26	0.43						2.29		57	80
7	89	PbO (cont)												5.00													95.01	100	94
7	90	Sd+other	2.62		0.48	47.55	0.58		0.30						0.19				0.36	0.63						2.42	1.88	57	76
7	91	PbO (cont)																									100.01	100	98
7	92	Py+other	1.56		0.51	32.16			0.25	0.39			62.63													1.39	1.11	100	176
	93	Sd+Fsp+other	3.32		0.83	50.51	0.21		0.16	0.68										0.32						0.99		57	65
7	94	Mag		0.40	00.05	98.92	1.08	40.70									07.05	0.04										100	104
7	95	Cnr		0.43	33.35	25.90	4.45	12.73									27.35	0.24										100	116
7	96	Mag				98.85	1.15							5.00													00.00	100	102
7	97	PbO (cont)	0.00		0.40	0.69			0.07				05.00	5.33													93.99	100	92
7	98	Py	0.83	0.05	0.49	29.99		0.77	3.37	4.40	0.00		65.00															100	185
7	99	Qz+otner	51.26	0.65	27.08	14.27	0.04	2.77	0.87	1.12	2.00		0.77		0.40				0.40	0.00						0.00	4.40	100	109
7	100	Sd+Py+otner	10.02	0.00	1.65	38.22	0.34	0.43	0.50	0.50	5.00		0.77		0.18				0.49	0.89						2.38	1.13	57	88
7	101	Bt	39.80	3.62	18.19	18.98		9.57		0.52	5.33																	96	92
- /	102	(Alt IIm) Rt	0.56	95.46	0.45	3.51			0.40																			100	104
7	103	(Alt IIm) Rt	1.60	92.88	0.77	4.62		0.00	0.13		0.04																	100	86
7	104	Qz	97.87		1.23	0.37	0.40	0.22	0.50	0.04	0.31		0.57		0.4.4					0.40						4.00		100	124
7	105	Sd+Py+Fsp+other	10.84		3.04	35.24	0.43		0.58	0.84	0.27		0.57		0.14					0.40						4.66		57	80
/	106	Mag	1.99			97.13	0.88																					100	96
	107	Sd+Fsp+other	4.90		1.21	46.64	0.36	0.55	0.16	0.63									0.22	0.36						1.48		57	76
	108	Py	0.17		. ==	27.99							/1.84															100	227
	109	Sd+Fsp+other	5.06		1.76	39.73	0.30		0.64	0.97									0.53							6.53	1.50	57	60
1	110	Mag	0.00	0.00	5.00	99.05	0.96	1.05	0.00	0.50	0.00								0.04	0.50						0.40	0.74	100	102
7	111	Sd+Chi+other	9.02	0.33	5.20	35.82	0.59	1.35	0.29	0.50	0.26	0.04							0.21	0.50						2.18	0.74	57	84
7	112	Sd+other	1.35		0.84	45.23	0.71	5.90	2.64		0.40	0.34																57	61
/	113	Qz	92.09		1.80	5.48		0.30	0.17		0.16																00.40	100	126
/	114	cont	4.05		1.10	0.59	1.00	0.40	0.40				0.04						0.04	0.47						0.00	99.42	100	88
/	115	Sd+Py+otner	4.05		1.19	45.38	1.62	0.46	0.40	44.04			0.84						0.21	0.47						2.06		57	76
7	110	AD	68.39		18.80	0.49			0.14	11.84			0.30															100	119
7	117	Py	47.00	0.47	0.07	28.15	0.00	4.00	0.4.4	0.07	4.00		/1.8/							0.40							4.00	100	225
7	118	Sd+Chl+Fsp+other	17.32	0.17	9.07	25.96	0.39	1.03	0.11	0.37	1.09		0.04							0.18							1.32	57	101
7	119	Cal+Fy	0.47			10.01	0.00	2.21	/0.56				9.94															100	45
7	120	Fy	0.17			20.37	0.70	0.32	9.30				03.05															100	101 E1
7	121	Alik	0.40			10.04	0.70	14.05	20.21				65.67															30	196
7	122	Py Call Divi Obly ath an	0.49		0.00	32.96		0.00	0.87				05.07	4.00														100	186
7	123		0.70	66.06	2.02	7.41	1 70	2.00	69.06				0.07	1.20														100	40
	124	iiiii+Ciii	2.18	00.00	1.47	20.15	1.79	1.14					29 FF					-			2.47			59.00				100	117
7	120	(Alt IIm) Pt	1 OF	02.92	0.76	5.24			0.14				30.33								2.41			50.99				100	07
7	120		1.00	92.03	0.70	0.24 11 39	0.17		0.14	0.71			0.80		0.16				0.22	0.47						2.40	1 33	57	80
7	127	Мад	4.01	0.19	0.92	44.30	0.17		0.03	0.71			0.09		0.10				0.22	0.47						2.40	1.55	100	00
7	120	Mag	+			08 87	1 12																					100	100
7	120	Cal±Py	+			26.81	0.21		10.26				62.72															100	135
7	130		53.01		0.30	6./1	0.21	1 21	27.82		1.01		02.13															100	7/
7	132	SdrCalrother	1.66		1.02	36.60	0.20	0./1	7.63		1.01																	57	60
7	102	(Alt IIm) Pty other	1.00	81 97	1.03	6.09	0.00	0.46	0.00	0.46		0.20																100	00
7	133		4.39	7 22	4.14	0.20 22.1F		0.40	0.00	0.40	0.24	0.59								0.41								95	94
7	134	Sd±other	29.07	1.23	0.78	23.13	0.32	0.01	3.02		0.24									0.41								00 57	90
7	136	F-An (diag)+Py+other	1.50		0.70	1 30	0.52	3.34	51 2/	1 27		36.97	2.07	5.40												1.8/		100	58
7	137	Sd+Kfs+Chl+Py+other	12 23	0.24	4 03	34.90	0.91	0.55	0.30	0.58	0.30	30.07	1.00	0.40						0.41						1.04		57	74
7	138	Sd+Oz+other	4 57	0.24	0.32	50.63	0.91	0.00	0.00	0.00	0.50	0.27	1.00				0.30			0.41						0.00		57	91
7	139	Sd+other	2.72	0.20	1.04	52 17	0.22		0.12	0.53		0.21					0.00									0.00		57	67
'	100	Outotilei	2.12	0.20	1.04	JZ.17	0.22		0.12	0.00		I	I				I	1		I			I					51	01

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CI	V ₂ O ₅	Cr ₂ O ₃	NiO	CuO	ZnO	SrO	Y_2O_3	ZrO ₂	BaO	HfO ₂	WO ₃	PbO	Total	Actual Total
7	140	TiO2 mineral	0.77	95.38	0.77	2.93			0.14																			100	101
7	141	Sd+Chl+Fsp+other	13.20	0.22	2.58	35.20	0.84	0.62	0.34	0.78	0.36		0.80						0.31	0.70						1.05		57	83
7	142	Mag				98.96	1.05																					100	97
7	143	Sd+other	2.30			53.39	0.58		0.15											0.58								57	80
7	144	Sd+other	2.54		0.74	48.84	0.82		0.26	0.40										0.36						2.71		57	77
7	145	Sd+other	6.46	0.47	1.50	40.44			0.74	0.49									0.31	0.54						3.97	2.07	57	67
7	146	Qz	98.85		0.81	0.35																						100	120
7	147	Py+Chl	11.47		8.79	29.23		1.63		0.26	0.31		48.32															100	172
7	148	Mag				99.05	0.96																					100	98
7	149	Py+Chl+Fsp+other	4.51		2.40	75.30	1.24		1.12	1.17			1.55				0.86									9.62	2.23	100	38
7	150	Mag	1.18			97.12	1.37										0.34											100	96
7	151	Sd+Py+Qz	2.62			51.94	0.30	0.63	0.32				1.17															57	73
7	152	Qz	99.67			0.33																						100	119
7	153	llm+Qz	8.77	68.02	0.79	21.63	0.77																					100	89
7	154	Mag		0.28		98.47	1.24																					100	96
7	155	(Alt IIm) Rt	0.43	95.50		4.08																						100	94
7	156	Sd+other	1.57		0.43	51.89	0.26	0.93	0.22										0.19	0.44						0.68		57	75
7	157	Sd+other	0.70			55.70	0.61																					57	90
7	158	PbO (cont)	00.40		40.05	40.50		1.01	00.00		1.00			4.40													100.01	100	87
/	159	Cal+Chl+Kts+other	39.10		18.35	10.52	0.00	1.64	28.22	0.40	1.00		0.70	1.16						0.07						0.50		100	67
1	160	Sd+Ms+Py+other	11.24		5.02	36.77	0.62	0.67	0.21	0.42	0.51		0.70							0.27	4.00			50.00		0.59		5/	73
7	101	Brt (cont)				0.75	4.00						38.38								1.88			59.00				100	110
7	162	Mag	7.00	0.00	0.00	98.70	1.29	0.07	0.50	0.00	0.00		0.50						0.05	0.40						2.40	0.00	100	96
7	164	ChluKfauathar	7.00	0.39	2.90	30.73	0.21	0.37	0.50	0.60	0.20		0.52						0.25	0.43						3.10	0.69	57	00
7	164	Chi+Kis+other	57.76	0.43	27.91	7.02		2.22	0.20	0.61	3.84		70 72															100	99
7	100	Fy	0.21			20.70	1 20		0.06				10.12															100	203
7	167	Cal+other	1 37			5/8	1.29	1.06	87.05					2 57														100	90 31
7	168	Sd+other	1.07		0.60	50.78	0.43	1.00	01.33					2.51			0.16		0.25	0.38						1 70	1.03	57	76
7	160	Sd+Esp+other	4.87		1.65	12 10	0.45	1 15	1.80	0.53	0.42						0.10		0.20	0.30						1.75	1.05	57	62
7	170	Sd+Kfs	3.77	0.27	2.17	38.60	0.75	8.69	2.62	0.00	0.42									0.20								57	62
7	170	Sd+Qz+other	3.31	0.21	0.40	48.07	0.52	0.00	0.54		0.00				0.27				0.31	0.78							2 84	57	81
7	172	Bt	38.36	4 53	13 42	23.93	0.22	6 70	0.01	0.64	7 80				0.38				0.01	0.10							2.01	96	118
8	1	Zrn	31.36		10.12	0.48	0.22	0.10	0.28	0.01	1.00				0.00								66.66		1.23			100	120
8	2	Zrn	32.56		0.91	0.42																	65.03		1.08			100	140
8	3	Zrn	31.45			0.36																	67.03		1.16			100	140
8	4	Alm	40.20		21.45	28.25	1.37	2.80	5.93																			100	112
8	5	Alm	39.51		20.84	31.54	1.63	1.11	5.37																			100	101
8	6	Alm-Sps	42.96		19.97	15.98	17.02		4.06																			100	104
9	1	Rt		98.77		1.24																						100	97
9	2	Tur	36.79	0.72	32.56	9.84		2.86	0.20	2.03														l				85	112
9	3	Rt		99.13		0.86																						100	107
9	5	Zrn	31.77			0.36																	67.04		0.84			100	131
10	1	Alm	40.45		21.31	28.79	0.30	4.06	5.08																			100	108
10	3	llm+other	7.00	65.47	0.62	26.23	0.68																					100	109
10	4	Mag				99.01	0.99																					100	113
11	1	Alm-Sps	39.55		21.43	28.34	7.26	2.09	1.33																			100	109
11	2	Tur	37.00	0.55	32.33	6.56		5.96	0.54	2.04																		85	106
11	3	Zrn	31.38			0.39		_			_												66.96		1.26			100	137
11	4	Spl			34.98	22.60		13.15								0.29 2	28.99											100	129
12	1	Alm-Sps	39.38		21.09	27.99	5.29	1.97	4.27																			100	133
12	2	Tur	34.02		18.04	27.72	0.29	2.62	2.32																			85	122
13	1	Zrn	31.96			0.23																	66.22		1.59			100	119
13	2	Alm-Sps	39.13	0.43	20.52	13.92	23.08	1.11	1.80																			100	134
13	3	Rt	0.79	97.55	0.57	1.11																						100	124
13	4	Ank	1			13.10	0.58	10.60	31.72																			56	72

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO M	nO M	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	CI	V_2O_5	Cr ₂ O ₃	NiO	CuO	ZnO	SrO	Y_2O_3	ZrO ₂	BaO	HfO ₂	WO ₃	PbO	Total	Actual
12	Б	llm i Oz	25.02	57.45	0.40	17.06																						100	117
15	5		25.05	57.45	0.49	17.00																						100	117
13	6	Tur	38.18	0.28	32.23	4.36	1	7.19	0.65	2.10																		85	95
13	8	Zrn	31.62			0.32																	66.33		1.40			100	159
14	2	Zrn	31.77			0.33																	66.77		1.12			100	127
14	3	Zrn	31.57			0.27																	66.99		1.16			100	136
14	4	F-Ap (diag)+other	9.35		3.10	0.96	(0.35	39.56	0.50	0.41	36.82	0.97	7.96														100	108
14	5	F-Ap				0.62			48.69			44.94		5.90												-0.13		100	114

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CuO	ZnO	BaO	WO_3	PbO	B_2O_3	Total	Actual Total
15	1	Sd+other	2.31		1 28	32 18	0.36	8.34	8 4 2			4 10									57	70
15	2	Qz+other	67.77		5.29	9.60	0.00	2.62	8.19		0.22	6.35									100	107
15	3	Qz+other	90.17		0.85	1.74		2.02	4.87		0.17	2.22									100	125
15	4	Qz+other	93.27		2.00	1.11			1.57		0.51	1.51									100	119
15	5	F-Ap (diag)+other	16.71		11.09	9.66		1.87	27.30	0.67	0.90	25.41	0.77	5.61							100	111
15	6	Chl+Kfs+F-Ap (diag)	35.30	3.09	19.12	14.09		7.91	10.70		1.14	8.64									100	114
15	7	F-Ap (diag)+other	11.89	0.28	6.82	5.34		1.18	32.80	0.75	0.79	30.04	0.85	9.23							100	114
15	8	F-Ap (diag)+other	13.09		6.84	5.79		1.24	34.42	0.63	0.57	29.88	0.82	6.73							100	113
15	9	Chl+F-Ap (diag)+other	32.05		13.83	8.35		1.76	16.16	1.59	0.79	19.02		6.44							100	108
16	1	Sd+Pv+other	6.50		1.70	44.82	1.20	0.74	0.46				0.94					0.66			57	77
16	2	Sd+Pv+other	11.14		5.46	34.95	0.83	0.62	0.48	0.44	1.01		0.72					1.35			57	83
16	3	Sd+Pv+other	9.41		4.49	37.71	0.80	2.14	0.50	-	0.17		0.54					1.21			57	80
16	4	Qz+Sd+other	59.62	1.82	1.47	33.35	0.80	0.58	0.39		0.22		0.62					1.15			100	99
16	5	llm+other	18.01	64.74	7.16	8.05		1.06	0.22		0.75							-			100	107
16	6	Qz+other	95.11	-	1.28	3.45			-		0.16										100	124
16	7	Sd+other	6.98	0.18	2.26	43.66	1.19	0.74	0.46		0.16		0.78					0.61			57	77
16	8	Sd+other	5.73	6.08	1.19	41.18	0.99	0.64	0.46				0.75		0.00	0.00					57	78
16	9	Chl+other	37.07	0.67	16.04	35.33	0.56	7.88	0.45	0.73	1.28										100	101
16	10	Qz+other	73.18	0.30	7.56	17.21	0.30	0.40	0.27		0.78										100	116
17	1	Chl	25.81		19.39	24.09	0.44	15.01	0.26												85	103
17	2	Sd+other	5.59		1.08	42.92	0.48		1.19	0.50	0.28		0.54					4.42			57	77
17	3	Qz+Sd	96.63			3.22			0.17												100	128
17	4	Brt	0.86		0.38	5.06			0.22				18.83				29.75	0.59		44.35	100	178
17	5	Sd+other	6.32		1.61	41.78	0.38		1.13	0.57	0.48							4.73			57	75
17	6	Sd+other	5.50		1.19	41.59	0.28		1.42	0.90								5.34	0.58		57	56
17	7	Sd+Py+other	10.36		2.76	58.62	0.50		1.84	2.04			1.38					7.06			100	49
18	1	Sd+Py+other	6.18		1.30	71.30	0.45	1.95	0.82				2.72			0.30					100	75
18	2	Sd+other	5.42	0.24	1.64	38.74	0.51		0.91	0.82					0.59	0.69		5.25	2.20		57	76
18	3	Sd+Py+other	7.15		1.27	70.91	0.60		1.04				2.06		0.83	1.18					100	74
18	4	Sd+Chl	11.66	0.24	7.31	26.22	0.43	5.07	0.62	0.31	0.55				0.40	0.50		2.62	1.07		57	100
18	5	Sd+other	5.94		2.27	37.23	0.43		0.97						0.57	0.76		6.20	2.62		57	73
18	6	Sd+Fsp	6.91		2.86	35.35	0.30		1.05	0.90					0.59	0.66		5.46	2.92		57	52
18	7	Fsp	65.22		20.27	1.80			2.36	7.99	2.35										100	120
18	8	Qz	99.43			0.58															100	125
19	1	F-Ap (diag)+other	2.67		1.78	0.96		0.35	43.07	0.65	0.26	39.39	1.15	9.72							100	123
19	2	Qz+F-Ap (diag)	74.49			0.39			10.77			12.92		1.42							100	129
19	3	F-Ap (diag)+other	22.57		19.41	2.15			28.47			22.94	0.90	3.55							100	95
19	4	F-Ap (diag)+other	14.53		2.32	0.32			36.52	0.38	0.31	33.07	1.10	11.45							100	126
19	5	F-Ap (diag)+other	4.15		3.42	3.20		0.70	39.99	0.53	0.26	37.30	1.07	9.38							100	122
19	6	F-Ap (diag)+other	7.74		6.08	2.79			36.20	0.71	1.20	33.94	4.57	6.76							100	122
19	7	F-Ap (diag)+other	2.25		1.59	0.55			41.81	0.63	0.22	37.99	1.27	13.69							100	125
19	8	F-Ap (diag)+other	5.35		3.04	0.50			41.89	0.73	0.45	37.99	1.15	8.91							100	121
19	9	F-Ap (diag)+other	1.56		1.10	0.32		_	43.64	0.62	0.19	38.38	1.15	12.96			-	0.08			100	123

Appendix 5-3 Back-scattered images and EDS geochemical mineral analyses of sample Mohican I-100 7840 (ft) (2389.63 m)



Figure 5-3.1: Sample I-100 7840 (ft) (2389.63 m) site 1 (SEM). (Table 5-3A)



Figure 5-3.2: Sample I-100 7840 (ft) (2389.63 m) site 2 (SEM). (Table 5-3A)



- 1 Qz+Chl+Kfs
- 2 Cal+Chl
- 3 Kfs+Sd
- 4 Kfs
- 5 Qz+Chl+Kfs
- 6 Ilm+other
- 10 Chl+Kfs

Figure 5-3.3: Sample I-100 7840 (ft) (2389.63 m) site 3 (SEM). (Table 5-3A)



Figure 5-3.4: Sample I-100 7840 (ft) (2389.63 m) site 4 (SEM). (Table 5-3A)



Figure 5-3.5: Sample I-100 7840 (ft) (2389.63 m) site 5 (SEM). (Table 5-3A)



Figure 5-3.6: Sample I-100 7840 (ft) (2389.63 m) site 6 (SEM). (Table 5-3A)



- 1 Kfs+Chl
- 2 Qz+other
- 3 Chl+Kfs
- 4 Qz
- 5 (Alt Ilm) Rt+Qz
- 7 Bt
- 9 F-Ap (diag)+other

Figure 5-3.7: Sample I-100 7840 (ft) (2389.63 m) site 7 (SEM). (Table 5-3A)



- 1 Ms+Chl
- 2 Ilm
- 3 Chl
- 4 Qz+Chl
- 5 Qz+Ank+other
- 6 Ms+Chl
- 8 Qz+other

Figure 5-3.8: Sample I-100 7840 (ft) (2389.63 m) site 8 (SEM). (Table 5-3A)



Figure 5-3.9: Sample I-100 7840 (ft) (2389.63 m) site 9 (SEM). (Table 5-3A)



Figure 5-3.10: Sample I-100 7840 (ft) (2389.63 m) site 10 (SEM). (Table 5-3B) see location in Fig.5-3.1



III+F-Ap (diag)
 Qz+F-Ap (diag)
 Py+other
 III+F-Ap (diag)
 F-Ap (diag)+other
 F-Ap (diag)+other
 Sd+Py+other
 Sd+Py+other
 KIn+F-Ap (diag)+Py

Figure 5-3.11: Sample I-100 7840 (ft) (2389.63 m) site 11 (SEM). (Table 5-3B) see location in Fig.5-3.1



Figure 5-3.12: Sample I-100 7840 (ft) (2389.63 m) site 12 (SEM). (Table 5-3B) see location in Fig.5-3.2



Figure 5-3.13: Sample I-100 7840 (ft) (2389.63 m) site 13 (SEM). (Table 5-3B) see location in Fig.5-3.3



Figure 5-3.14: Sample I-100 7840 (ft) (2389.63 m) site 14 (SEM). (Table 5-3B) see location in Fig.5-3.4



Qz+F-Ap (diag)

- 2 Sd+Kfs+other
- 3 Kfs+Sd+other
- 4 Kfs+Sd+other
- 5 Kfs+Sd+other
- 6 Sd+Chl+other
- 7 Sd+Chl+other
- 8 Sd+Py+other
- 9 Sd+Py+other
- 10 Sd+Kfs+other
- 11 Qz+Sd+other

Figure 5-3.15: Sample I-100 7840 (ft) (2389.63 m) site 15 (SEM). (Table 5-3B) see location in Fig.5-3.6



Figure 5-3.16: Sample I-100 7840 (ft) (2389.63 m) site 16 (SEM). (Table 5-3B) see location in Fig.5-3.7

Table 3-3A. SEW analyses non sample 1-100 7040 It (2303.03 I	Table 5-3A:	SEM analy	/ses from	sample I-	100 7840) ft (2	389.63	m
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Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	V_2O_5	Cr_2O_3	CuO	ZrO_2	HfO ₂	WO_3	PbO	Total	Actual Total
1	1	Qz+Ms	86.72	0.35	8.56	2.30		0.70			1.36											100	110
1	2	Qz+Chl+Kfs+TiO2	59.88	2.99	24.72	4.71		1.46	0.92	0.40	2.71			2.24								100	115
1	3	llm+Chl	19.27	50.94	14.15	12.70		1.66	0.32		0.66					0.31						100	82
1	4	Qz	99.99																			100	157
1	7	Qz+other	85.42	0.20	9.22	3.28		0.73		0.27	0.89											100	136
1	10	Chl+Kfs	29.80	0.81	17.88	30.08		4.07	0.26	0.55	1.04	0.51										85	119
1	11	Ms	43.35	0.37	28.73	4.73				0.69	8.84			6.28								93	109
2	1	Tur	37.66	0.89	31.65	4.81		7.02	0.89	2.08												85	126
2	2	Ms+Chl	53.44	0.60	30.52	9.92		1.89	0.28	0.75	2.60											100	106
2	6	Alm-Sps	43.38		21.65	8.50	19.11		7.35													100	117
2	11	Kfs	65.18		18.65	1.02				0.73	14.42											100	125
2	13	Sd+Chl+Fsp	22.72	0.48	15.06	53.34		1.79	0.70	1.97	0.95	1.28					0.41			1.31		100	104
3	1	Qz+Chl+Kfs	68.13	0.63	21.13	5.89		1.21		0.35	2.66											100	115
3	2	Cal+Chl	22.08		14.04	21.78		5.99	34.20	0.59	0.33		1.02									100	80
3	3	Kfs+Sd	53.01		16.76	19.54	0.31	0.46		1.00	7.78									0.77		100	73
3	4	Kfs	65.44		17.80	0.33				0.49	14.62			1.32								100	116
3	5	Qz+Chl+Kfs	76.43	0.95	16.00	2.96		1.11	0.25	0.59	1.70											100	120
3	6	llm+other	3.04	73.64	3.50	18.38	1.08		0.36													100	92
3	10	Chl+Kfs	56.03	0.40	26.85	6.92		2.70	0.84	0.67	4.79	0.78										100	104
4	2	Tur	37.86	0.89	29.83	7.89		6.06	0.92	1.56												85	132
4	3	Chl+Kfs	40.54	1.43	15.82	38.14		1.86			2.20											100	36
4	4	Bt	39.33	3.73	13.82	22.99		7.15		0.98	7.29											96	22
4	5	Chl+Kfs	54.23	0.75	21.79	13.84		2.93	0.52	0.74	4.49									0.72		100	113
4	6	Qz	99.81			0.19																100	122
4	7	Tur	38.48	0.99	28.60	4.96		8.37	1.65	1.74					0.25							85	105
4	9	llm	0.81	71.99	0.94	24.93	1.08		0.25													100	87
5	1	Tur	38.29	0.41	30.75	7.29		5.71	0.31	2.24												85	115
5	2	Tur	45.81	0.61	24.79	5.12		6.09	1.26	1.35												85	112
5	3	Sd+Chl+Kfs	26.50	1.17	11.30	43.05		2.85	0.49	0.82	1.83	1.03		9.67		0.23				0.83		100	89
5	4	Ab	67.41		20.05	0.21				12.23	0.11											100	137
5	7	Ms	44.57	0.40	27.60	6.11		0.52			9.30			4.50								93	128
5	11	Tur	38.31	0.36	31.49	5.18		6.53	0.81	2.34												85	39
6	1	Zrn	31.51			0.33												67.07	1.10			100	156
6	2	Qz	99.99																			100	143
6	3	Ms+Chl	65.52	0.55	24.09	2.60		1.58		0.46	3.73			1.48								100	133
6	4	Chl+Kfs	43.02	0.67	11.43	35.82		2.70		0.62	4.79	0.96										100	93
6	7	llm+other	6.61	66.57	6.39	18.28	1.17	-	0.48		0.49											100	95
6	8	Qz+Chl+Kfs+other	54.76	0.40	30.59	5.87		2.22	0.41	0.59	2.63			2.55								100	119
6	10	F-Ap (diag)+other	3.10	0.73	2.23	0.73			41.40	0.63	0.25	39.14	0.77	10.64						0.38		100	107
6	11	Bt	40.07	4.44	14.70	18.96	0.14	8.95		0.60	7.90											96	117
6	14	Sd+Chl+Kfs	14.25	1.83	10.77	66.90		2.26	0.41	0.66	1.07	1.58				0.26						100	91
7	1	Kfs+Chl	56.20	0.68	15.27	17.39		2.87		0.82	6.76					5.20						100	124
7	2	Qz+other	91.54	0.20	3.55	2.82		1.16			0.45		0.30									100	144
⊢ <u> </u>	-		00.44	1 05	14.40	38.61		21/	0.43	0.69	3.83	0.62			0.34					0.98		100	103

Sito	Position	Minoral	SiO	TiO.		EnO	MnO	MaO	$C_{2}O$	Na.O	K.O	P.O	SO.	E	VO	Cr.O.	CUO	ZrO.	HfO.	WO.	DhO	Total	Actual
Sile	FUSILION	Willieldi	5102	1102	$A_{12}O_3$	FeO	WINO	ivigO	CaO	Na ₂ O	$R_2 O$	F ₂ O ₅	30_{3}	Г	v ₂ O ₅	01203	CuO	2102	11102	WO3	FUO	TOLAT	Total
7	4	Qz	99.71			0.28																100	147
7	5	(Alt Ilm) Rt+Qz	48.26	50.48	0.42	0.67	0.17															100	152
7	7	Bt	38.96	4.45	14.17	22.58	0.21	6.78		0.59	8.06											96	124
7	9	F-Ap (diag)+other	2.46		1.87	1.13			43.96	0.71	0.14	38.79	0.85	10.09								100	146
8	1	Ms+Chl	62.61	0.55	23.58	5.43		1.86	0.81	0.57	3.57	1.03										100	151
8	2	llm	0.68	70.68	0.53	26.12	2.00															100	112
8	3	Chl	28.76		22.08	20.59	0.14	13.42														85	139
8	4	Qz+Chl	68.26	0.30	19.61	7.85		1.59		0.53	1.87											100	133
8	5	Qz+Ank+other	59.02		2.55	6.90	0.19	19.91	10.90	0.54												100	140
8	6	Ms+Chl	61.18	0.42	22.98	7.06		1.04		0.73	6.60											100	115
8	8	Qz+other	96.31		1.45	1.66		0.43			0.14											100	114
9	1	Ilm+other	6.93	73.73	5.29	12.70	0.71		0.34		0.30											100	69
9	2	Tur	37.91	0.61	31.69	3.73		7.95	1.25	1.88												85	111
9	3	Tur	38.39	0.61	31.61	5.23		6.60	0.45	2.11												85	143
9	4	Sd				98.56	1.45															100	115
9	5	Sd+other	7.72		2.70	74.27	2.79	1.21	0.99	0.89			1.27							6.39	1.77	100	84

Table 5-3A: SEM analyses from sample I-100 7840 ft (2389.63 m)

Site	Position	Mineral	SiO	TiO	ALO	FeO	MnO	MaO	CaO	Na ₂ O	K.0	P ₂ O ₂	SO.	F	Cr ₂ O ₂	NiO	CuO	BaO	WO	B ₂ O ₂	Total	Actual
Sile	r osition		0102	1102	A_2O_3	1.60	WINO	ivigO	CaO	11020	120	1 ₂ 0 ₅	003	1	01203		CuO	DaO	WO3	$D_2 O_3$	TOTAL	Total
10	1	Py				28.55							71.47								100	226
10	2	Py				28.35							71.64								100	225
10	3	Py+Sd	2.42		0.45	53.27	0.23		0.57				42.13						0.93		100	130
10	4	Py+Sd	3.19		0.74	56.09	0.22		0.70				37.68						1.39		100	121
10	5	Brt (cont)				0.44							23.05					42.04		34.50	100	172
10	6	Qz	99.22			0.78															100	126
10	7	Ab	55.32		16.46	15.01	0.39		0.36	11.58			0.35					0.52			100	133
10	8	Sd+Py+Brt+WO+other	9.73		3.46	34.97	1.54	0.71	0.56		0.30		1.24					1.55	2.92		57	63
10	9	Sd+Py+Brt+WO+other	5.88		1.62	44.85	1.14	0.56	0.38				0.94					0.58	1.05		57	81
10	10	Sd+Py+other	11.47		8.51	30.64	0.68		0.28	0.46	0.14		0.57	3.32				0.36	0.57		57	102
10	11	Sd+Py+other	5.23		1.77	45.26	0.78	0.80	0.96			0.56	0.70						0.94		57	76
10	12	Sd+Py+other	3.80		1.43	46.72	0.75	0.48	1.18			0.90	0.54						1.20		57	72
10	13	Sd+Kfs+other	12.47		7.32	31.95	0.96	0.80	0.40	0.42	0.71		0.52					0.51	0.92		57	95
10	14	Sd+Kfs+other	10.36		2.50	39.67	1.11	0.59	0.47	0.37			0.87						1.07		57	77
11	1	III+F-Ap (diag)	37.12		27.87	3.33			14.75			14.21		2.71							100	115
11	2	Qz+F-Ap (diag)	78.83		0.57	0.98			10.76			8.87									100	127
11	3	Py+other	1.09		0.68	24.78			4.17			1.95	63.18	4.16							100	214
11	4	III+F-Ap (diag)	34.23		26.66	2.50			17.53		0.34	16.36		2.38							100	109
11	5	F-Ap (diag)+other	8.88		5.57	5.70		0.66	35.85	0.73	0.29	32.70	0.60	9.03							100	114
11	6	F-Ap (diag)+other	5.35		3.59	3.31		0.50	41.15	0.65	0.30	36.18	0.72	8.25							100	117
11	7	Sd+Py+other	4.84		1.32	47.77	0.93	0.58	0.66				0.89								57	79
11	8	Sd+Py+other	4.61		1.58	34.33	0.60	0.66	0.40				4.95					9.87			57	92
11	9	KIn+F-Ap (diag)+Py	21.11		18.12	8.36			23.17			19.20	7.39	2.65							100	91
12	1	Sd+Ms	26.06		19.12	48.63		0.78	-	0.96	3.88		0.57								57	97
12	2	Sd+other	4.45		1.43	51.12															57	77
12	3	Kln+Sd	47.68		36.52	15.41					0.37										100	102
12	4	Kfs+Sd	32.02	0.35	19.41	44.53	0.41	1.09			2.20										100	101
12	5	Qz	99.24		-	0.75															100	123
12	6	Sd+Pv+other	7.47		2.33	45.39			0.21		0.18		1.43								57	82
12	7	Sd+Pv+other	5.11		2.62	43.58	0.80		0.56	0.54			0.84						2.94		57	74
12	8	Sd+other	7.35		1.90	38.38	1.29		0.54	0.51			0.44	4.23					2.36		57	78
12	9	Qz+F-Ap (diag)	89.78			9.78	0.30		0.14												100	128
12	10	Sd+Pv+other	4.04		1.88	38.82	0.78	0.56	0.68	0.63	0.14		0.74	3.75					4.96		57	77
13	1	Ms	40.01	0.28	27.13	16.11	0.24	1.28	0.00	0.70	7.24		0	0.10							96	107
13	2	Sd+Pv+other	5.72	0.20	1.22	47.48	0.55	0.46	0.31	0.10	7.2.7		0.83								57	79
13	3	Cal	0.61			3.95	0.21	5.10	51.23				0.00								56	57
13	4	Esp+Sd+other	33.29		9 54	48 22	0.50		0.57		3.88		0.80						3 19		100	72
13	5	Sd+other	9.03	0.84	7.85	35.76	0.00	0 90	0.21	0.48	0.50	0.56	0.00						0.78		57	87
13	6	Sd+other	11 44	0.07	7.50	30.84		0.85	0.18	0.40	0.95	0.00		2 94	0.14				0.74		57	93
13	7	Kfs+other	51.06	0.02	15.85	15 97		0.71	0.10	0.55	8.83	0.40		6.60	0.14				0.1-4		100	115
13	8		43.26	0.43	25.12	11 23		2 45		0.00	7.52			0.00							90	109
13	9	Chl+Kfs	31 34	1 10	23.17	34.37		5 75		0.57	3.69										100	104
		Onititio	101.04	1.10		107.07		0.10		0.07	0.00				1		1		1		100	10-1

Table 5-3B: SEM analyses from sample I-100 7840 ft (2389.63 m)

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	NiO	CuO	BaO	WO_3	B_2O_3	Total
13	10	Ms+other	35.94	0.92	25.72	29.25		1.11		0.93	5.30								0.82		100
13	11	Sd+other	8.44	1.05	6.96	36.67		0.85	0.17	0.46	0.75	0.62			0.13				0.71		57
13	12	Sd+other	11.74	0.81	10.76	31.77		0.55			0.22	0.66							0.50		57
14	1	Sd+other	6.71	0.59	6.88	36.45		0.95	0.27		0.32			3.76					1.08		57
14	2	Py				27.13							72.86								100
14	3	Py+other	3.29		0.60	48.27	0.22		0.76				44.77						2.11		100
14	4	Sd+Kfs+other	15.56	0.81	9.99	23.59		1.15	0.18	0.44	0.95	0.43		3.46					0.46		57
14	5	Qz+Sd+other	86.51	0.25	3.17	8.97		0.45			0.64										100
14	6	Ill+other	49.95	1.50	33.20	14.52		0.43			0.37										100
14	7	Sd+other	12.11	0.80	9.49	26.22		1.36	0.14	0.34	0.64	0.34		5.01					0.54		57
14	8	Qz+Sd+other	85.63	0.52	1.78	11.81					0.26										100
14	9	Sd+other	12.28	0.76	9.37	25.01		1.12	0.15	0.35	0.84	0.43		6.23					0.44		57
14	10	III+Cal+Py	35.38		23.45	11.23		0.70	15.43				13.83								100
14	11	Py+other	2.91		0.59	43.83			0.48	0.47			51.71								100
15	1	Qz+F-Ap (diag)	86.68	0.37	0.94	11.99															100
15	2	Sd+Kfs+other	8.24	1.04	6.90	37.43	0.21	0.74	0.22	0.51	0.42	0.66							0.62		57
15	3	Kfs+Sd+other	29.69	1.38	18.56	42.63		2.87			4.05	0.82									100
15	4	Kfs+Sd+other	16.99	1.75	13.21	55.00		1.59	0.32	0.74	1.11	0.89		6.78					1.61		100
15	5	Kfs+Sd+other	15.92	1.80	13.45	63.20		1.61	0.34		0.86	1.12							1.70		100
15	6	Sd+Chl+other	4.81	1.01	6.26	41.51		1.67	0.15		0.17	0.73							0.70		57
15	7	Sd+Chl+other	12.68	0.86	9.14	28.02		5.21	0.17		0.29								0.47		57
15	8	Sd+Py+other	2.09		0.60	42.39	0.55	0.65	0.78				2.19		0.27	3.56	0.58		3.35		57
15	9	Sd+Py+other	0.95		0.86	44.76	0.51	0.63	0.63				1.57		0.29	3.11	0.39		3.31		57
15	10	Sd+Kfs+other	7.85	1.09	7.30	37.52		0.93	0.22		0.40	0.73			0.22				0.75		57
15	11	Qz+Sd+other	83.04	0.58	1.85	14.32					0.18										100
16	1	Sd+Py+other	4.09		1.55	48.97	0.29	0.79	0.43				0.88								57
16	2	Sd+Ap (diag)+Py+other	1.99		0.60	17.76	0.17		16.94	0.53		15.82	0.67						2.53		57
16	3	Sd+Ap (diag)+Py+other	1.43		0.85	5.06			21.96	0.52		19.79	0.55	6.05					0.78		57
16	4	Sd+Ap (diag)+Py+other	3.35		0.56	32.02			7.99	0.47		6.08	1.21		0.22			0.55	4.55		57
16	5	Sd+Ap (diag)+Py+other	3.55		0.57	34.47	0.22		7.63	0.67		4.70	0.64						4.55		57
16	6	Sd+other	3.16	0.60	3.00	48.50		0.59				0.95									57
16	7	Sd+Kfs+other	20.17	0.40	6.31	25.50		1.12		0.42	2.23	0.32							0.52		57
16	8	Sd+Kfs+other	8.53	0.87	5.80	38.22		0.74	0.25		0.65	0.68							1.04		57
16	9	Qz	99.49			0.50															100

Table 5-3B: SEM analyses from sample I-100 7840 ft (2389.63 m)

Appendix 5-4 Back-scattered images and EDS geochemical mineral analyses of sample Mohican I-100 8480 (ft) (2584.7m)



Figure 5-4.1: Sample I-100 8480 (ft) (2584.7m) site 1 (SEM). (Table 5-4)



Figure 5-4.2: Sample I-100 8480 (ft) (2584.7m) site 2 (SEM). (Table 5-4)



Figure 5-4.3: Sample I-100 8480 (ft) (2584.7m) site 3 (SEM). (Table 5-4)



Figure 5-4.4: Sample I-100 8480 (ft) (2584.7m) site 4 (SEM). (Table 5-4)


Figure 5-4.5: Sample I-100 8480 (ft) (2584.7m) site 5 (SEM). (Table 5-4)



Figure 5-4.6: Sample I-100 8480 (ft) (2584.7m) site 6 (SEM). (Table 5-4)





3 Tur

4 Clt (cont)

Figure 5-4.7: Sample I-100 8480 (ft) (2584.7m) site 7 (SEM). (Table 5-4)



- 1 St
- 2 Chlorite
- 3 Im+other
- 4 Rt+other
- 5 Ilm+other

Figure 5-4.8: Sample I-100 8480 (ft) (2584.7m) site 8 (SEM). (Table 5-4)



Figure 5-4.9: Sample I-100 8480 (ft) (2584.7m) site 9 (SEM). (Table 5-4)

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	Cr_2O_3	CuO	ZnO	SrO	ZrO_2	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
1	1	Chl	25.89		22.03	21.94	0.48	14.67																85	112
1	2	Sd+Chl+Kfs	11.51	0.78	8.28	27.33		1.98	6.65		0.48													57	83
1	3	Py+Cal+other	0.51			32.24	0.14		6.38				60.73											100	183
1	4	Chl+Kfs	58.19	0.48	28.83	5.25		1.34	0.39	1.31	4.24													100	128
1	5	Sd+Py+Chl+Kfs	10.28		3.19	30.87	0.56	0.69	0.44		0.37		2.38			1.07	0.80			2.91			3.45	57	97
1	6	Chl+Fsp+Py+other	31.87		15.14	31.38	0.35	1.97	1.01	1.50	1.48		3.67			0.65	0.75			3.95		3.29	3.02	100	109
1	7	Qz+Sd+other	67.26	0.20	5.61	21.99	0.22	2.11	1.97		0.64													100	125
1	8	Fsp+Chl	56.52	0.38	21.84	13.15		2.01	1.33	0.81	3.95													100	102
1	9	Py				27.61	0.45						71.94											100	252
1	10	Py+other	2.89	0.20	1.87	29.54		0.58	1.15				63.25											100	210
1	11	llm+other	4.68	81.97	1.23	11.33	0.50		0.28															100	109
1	12	Qz+other	95.15	2.52	0.64	1.45		0.23																100	128
1	13	Ilm+other	1.88	59.03	0.49	34.37	4.22																	100	114
1	14	Sd+Chl+Fsp+other	12.22	0.68	6.67	33.43		1.16	0.29		1.04	0.73										0.58		57	94
1	15	Py+Qz+other	22.83		1.64	31.69		0.58	1.26				41.08									0.95		100	140
1	16	Qz+other	89.55	0.22	5.57	3.56		0.35	0.17		0.58													100	129
1	17	Cal+Py+other	3.18	0.29	1.80	7.12	0.14	0.72	32.05		0.31		10.40											56	76
1	18	Sd+other	5.16	0.82	4./1	43.17	0.14	0.89	0.22		0.16	0.77										0.72		57	91
1	19	Sd+other	5.88	2.32	5.00	40.57		0.76	0.32		0.30	0.66										0.96		57	82
1	20	Cal+Sd+other	2.01	0.73	2.06	24.34		1.83	25.28		1.00											1.15		56	6/
1	21	QZ+Chl+Kfs+Cal	82.47	0.25	8.65	2.80		1.09	3.40		1.32		50.44									4 50		100	78
1	22	Py+other	2.20	0.35	0.53	41.49		0.40	0.70	0.50	4.04		53.14									1.59		100	161
1	23	Chi+Kfs	51.53	0.83	26.74	9.71		3.12	3.46	0.58	4.01		45.55											100	114
1	24	Py+other	8.24	0.45	0.33	37.87		1.63	0.41	0.00	0.44		45.55											100	162
1	20	Sduothor	40.04	0.45	5 22	42.12		0.69	0.50	0.30	0.26	0.62												57	02
1	20	Sduothor	2.00	1.04	5.33	45.15		0.00	0.10	0.32	0.20	0.03										0.57		57	93
1	21	Sd+other	6.18	1.04	6.21	40.60		0.07	0.19		0.26	0.54										0.57		57	83
1	20	But Cal	0.10	1.00	0.21	28 70	0.36	0.91	10.23		0.20	0.71	50.87									0.05		100	130
1	29	Sd_Chl_Kfs	11 56	1.08	8 95	32.28	0.50	1 28	0.42		0.86		30.07									0.57		57	79
1	31	Sd+Py+other	5.27	1.00	1.32	41.33	0.32	0.38	1.62	0.49	0.00		0.78									4 69	0.79	57	71
1	32	Py+other	4.66		2.78	42 71	0.02	0.00	0.49	0.10			48.67									4.00	0.10	100	155
1	33	Qz+Ms	60.97	0.37	23.47	10.83		1.84	0.31	0.55	1 65		10.01											100	108
1	34	Qz+Chl	52.86	0.01	11.32	25.46	0.36	6.88	2 43	0.00	0.66													100	93
1	35	Sd+Chl+Kfs	15.96	0.80	9.37	25.06	0.13	3.55	0.27	0.31	1.04											0.51		57	104
1	36	Sd+other	4.62	0.55	5.35	43.60	0.15	0.93	0.21		0.21	0.66										0.71		57	83
1	37	Sd+Ms+other	10.61	1.40	7.84	33.20		1.00	0.29	0.30	0.88	0.54			0.13							0.63		57	96
1	38	Chl	25.89		22.17	21.95	0.44	14.56														'		85	113
1	39	Sd+Ms+other	7.46	0.71	5.98	39.94		0.79	0.22		0.44	0.52										0.94		57	77
1	40	Sd+other	5.22	0.41	5.23	43.84		1.29	0.13		0.21	0.67												57	92
1	41	llm+other	6.46	65.07	1.74	26.73																		100	106
1	42	Sd+Ms+other	6.88	1.13	6.10	39.71	0.15	0.92	0.26		0.26	0.66										0.75		57	89
1	43	Sd+Ms+other	11.51	0.70	9.71	31.67	0.13	0.95	0.22	0.30	0.55	0.54										0.54		57	92
1	44	Sd+other	2.53	0.81	4.96	46.49		0.79	0.22			1.03												57	87
1	45	Sd+other	4.85		0.82	40.41	0.45	1.59	6.22		0.13	0.47	0.38									1.70		57	81
1	46	Qz	91.39		1.72	6.01		0.28	0.48		0.12													100	134
1	47	Sd+Chl+Py	13.02	0.59	4.86	27.95	0.33	3.36	3.02		0.51		2.02									1.33		57	70
1	48	Chl+Cal+Py+other	31.94	3.42	9.56	31.94		2.34	5.71		0.95		12.76					1.38						100	46
1	49	Chl+Cal+Py+other	32.52	3.32	9.47	31.92		2.14	5.68		0.88		13.01					1.06						100	46
1	50	Chl+Cal+Py+other	32.09	3.37	9.11	31.93		2.37	5.67		0.89		13.06					1.51						100	47
1	51	Chl+Cal+Py+other	32.15	3.24	9.13	32.19		2.52	5.79		1.01		12.61					1.37						100	47

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K_2O	P ₂ O ₅ SO ₃	F	Cr_2O_3	CuO	ZnO	SrO	ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
1	52	Chl+Cal+Py+other	32.32	3.34	9.26	31.96		2.19	5.72		0.98	13.03					1.21						100	46
1	53	Chl+Cal+Py+other	32.28	3.52	9.15	32.83		2.5	5.82		0.89	13.01											100	45
1	54	Chl+Cal+Py+other	32.3	3.3	9.43	32.11		2.3	5.54		0.98	12.76					1.25						100	47
1	55	Chl+Cal+Py+other	31.57	3.44	9.03	31.92		2.4	5.75		1.01	12.56					1.3				1.01		100	46
1	56	Chl+Cal+Py+other	31.21	3.34	8.98	31.61		2.44	5.72		1.01	13.03					1.51				1.17		100	47
1	57	Chl+Cal+Py+other	31.38	3.4	9.15	31.96		2.39	5.67		1	13.03					0.99				1.05		100	47
1	58	Chl+Cal+Py+other	31.6	3.27	9.26	31.84		1.94	5.83		0.92	12.86					1.48				1.01		100	46
1	59	Chl+Cal+Py+other	31.1	3.29	9.22	31.66		2.14	5.72		0.84	13.36					1.63				1.02		100	46
1	60	Chl+Cal+Py+other	31.34	3.44	9.28	31.67		2.21	5.64		0.99	13.08					1.25				1.1		100	46
1	61	Chl+Cal+Py+other	31.87	3.32	9.22	31.97		2.44	5.61		0.99	13.33					1.28						100	47
1	62	Chl+Cal+Py+other	32.3	3.45	9.2	32.08		2.34	5.78		0.95	12.86					1.04						100	46
1	63	Chl+Cal+Py+other	31.32	3.44	9.2	31.53		2.3	5.82		0.89	12.93					1.49				1.06		100	47
1	64	Chl+Cal+Py+other	32.24	3.4	9.66	32.72		2.26	5.76		0.96	12.76											100	45
1	65	Chl+Cal+Py+other	32.41	3.44	9.3	31.4		2.22	5.67		0.92	12.69					1.66						100	47
1	66	Chl+Cal+Py+other	31.81	3.39	9.26	31.49		2.39	5.76		0.96	13.28					1.66						100	47
1	67	Chl+Cal+Py+other	31.55	3.42	9.22	31.74		2.39	5.78		0.94	12.56					1.23				1.16		100	47
1	68	Chl+Cal+Py+other	32.22	3.45	8.94	32.05		2.47	5.76		0.92	12.74					1.18						100	47
1	69	Chl+Cal+Py+other	31.79	3.35	9.01	31.25		2.24	5.44	0.74	0.89	1.19 12.54					1.55						100	48
1	70	Chl+Cal+Pv+other	30.72	3.19	9.26	31.75		2.3	5.74		0.95	13.18					1.57				1.06		100	47
1	71	Chl+Cal+Py+other	32.07	3.34	9.33	31.99		2.35	5.68		0.98	12.93					1.34						100	47
1	72	Chl+Cal+Pv+other	31.53	3.37	9.24	32.11		2.24	5.62		0.95	12.66					1.3				0.98		100	46
1	73	Chl+Cal+Pv+other	32.09	3.32	9.18	32.06	0.28	2.26	5.74		0.96	12.78					1.34						100	46
1	74	Chl+Cal+Pv+other	32.07	3.3	9.39	31.99		2.42	5.68		0.93	12.96					1.27						100	47
1	75	Chl+Cal+Py+other	32.24	3.27	9.05	32.3		2.35	5.67		0.93	12.76					1.42						100	46
1	76	Chl+Cal+Pv+other	31.77	3.32	8.96	31.79		2.09	5.61		0.93	12.93					1.56				1.03		100	47
1	77	Chl+Cal+Pv+other	32	3.42	9.41	31.76		2.34	5.6		0.99	13.03					1.44						100	47
1	78	Chl+Cal+Pv+other	32.09	3.35	8.99	32.07		2.54	5.71		0.89	13.01					1.37						100	46
1	79	Chl+Cal+Pv+other	32.64	3.44	9.28	31.62		2.39	5.74		0.99	12.74					1.17						100	46
1	80	Chl+Cal+Py+other	32.32	3.32	9.45	31.74		2.07	5.62		0.9	12.98					1.29						100	47
1	81	Chl+Cal+Pv+other	32.26	3.39	9.07	31.74	0.27	2.32	5.75		0.99	12.69					1.54						100	47
1	82	Chl+Cal+Py+other	32.09	3.24	9.16	32.03		2.45	5.86		0.84	12.98					1.34						100	47
1	83	Chl+Cal+Pv+other	32.24	3.39	9.2	31.49		2.06	5.72		0.98	13.38					1.54						100	47
1	84	Chl+Cal+Py+other	32.11	3.22	9.24	31.49		2.37	5.72		0.92	12.69					1.06				1.19		100	47
1	85	Chl+Cal+Py+other	32.02	3 42	9.15	32.06		2 45	5.81		0.84	12.96					1.3						100	47
1	86	Chl+Cal+Pv+other	31.34	3.14	9.05	31.9		2.49	5.68		0.98	12.83					1.35				1.26		100	47
1	87	Chl+Cal+Py+other	32.22	3.32	9.41	32.84		2 44	5.74		0.86	13.16											100	46
1	88	Chl+Cal+Pv+other	32.54	3.42	9.16	31.9		2.04	5.69		0.93	12.76					1.54						100	47
1	89	Chl+Cal+Py+other	32.37	32	9.41	32.2		2.34	5.67		0.95	12.81					1.05						100	47
1	90	Chl+Cal+Pv+other	32.02	3.32	9.6	32.39		2.57	5.85		0.86	13.38											100	46
1	91	Chl+Cal+Py+other	31.66	3.2	8.99	31 72		2 49	5 71		0.87	13.03					1.31				0.98		100	47
1	92	Chl+Cal+Py+other	32.3	3.37	9.18	31.67	0.27	2.21	5.76		0.93	13 11					1.22				0.00		100	47
1	93	Chl+Cal+Py+other	32.11	3.29	8 99	31.6	0.2.	2 44	5 54		0.87	12.69					1.38				1.08		100	47
1	94	Chl+Cal+Py+other	32.11	3.37	9.3	31.9		2.24	5.64		0.87	12.00					1.67			<u> </u>	1.00		100	46
1	95	Chl+Cal+Pv+other	32.58	3.29	9 4 9	32.3		2.69	5 79		0.96	12.00		1	1		1.07						100	46
1	96	Chl+Cal+Pv+other	32.54	3.3	9.56	31.84		2.00	5.72		0.89	12.31	-	1	1	<u> </u>	1 28	1		-			100	47
	97	Chl+Cal+Py+other	32.04	3.22	0.33	31.04		23	5.72		0.03	12.70					1 31						100	47
	98	Chl+Cal+Py+other	32.22	3.4	9.33	31.09		2.3	5.85		0.80	12.91					1.31						100	46
	90	Chl+Cal+Py+other	31.06	3.44	9.56	33.04		2.5	5.81		0.00	12.71					1.20						100	46
1	100	Chl+Cal+Pv+other	32.22	3.44	9.50 Q // 3	31.66		2.5	5.67		0.99	12.71					1 47					<u>├──</u>	100	40
	101	Chl+Cal+Py+other	31.08	3.32	9.26	31.00		2.07	5.67		0.0	13.00					1.58				1 1 3		100	47
1	102	Chl+Cal+Pv+other	32.32	3.27	9.45	32.17		2.27	5.81		0.98	12 64		1	1		1.11				1.10		100	46

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅ SO ₃	F	Cr_2O_3	CuO	ZnO	SrO	ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
1	103	Chl+Cal+Py+other	31.28	3.42	9.22	31.96		2.17	5.6		0.87	13.11					1.28				1.1		100	47
1	104	Chl+Cal+Py+other	32.17	3.17	9.11	31.88		2.32	5.67		0.9	13.18					1.58						100	47
1	105	Chl+Cal+Py+other	32.22	3.4	9.5	31.97		2.27	5.72		0.98	12.83					1.11						100	47
1	106	Chl+Cal+Py+other	31.75	3.37	9.37	31.89	0.28	2.21	5.61		0.99	13.01					1.53						100	47
1	107	Chl+Cal+Py+other	31.49	3.34	9.18	31.36		2.29	5.53		0.93	13.01					1.74				1.12		100	47
1	108	Chl+Cal+Py+other	32.09	3.29	9.22	31.52		2.39	5.67		0.88	13.16					1.53						100	47
1	109	Chl+Cal+Py+other	32.02	3.27	9.24	31.62	0.3	2.45	5.54		0.84	13.18					1.53						100	47
1	110	Chl+Cal+Py+other	31.64	3.22	9.03	31.6		2.22	5.69		0.86	12.96					1.43				1.08		100	47
1	111	Chl+Cal+Py+other	32.05	3.42	9.43	32.34		2.06	5.89		0.95	12.78					1.09						100	46
1	112	Chl+Cal+Py+other	31.79	3.34	9.43	31.85		2.39	5.79	0.74	0.88	12.56					1.22						100	47
1	113	Chl+Cal+Py+other	32.24	3.4	9.03	32.14		2.4	5.72		0.89	12.59					1.3						100	47
1	114	Chl+Cal+Py+other	32.26	3.34	9.22	31.98		2.35	5.58		0.93	12.88					1.44						100	47
1	115	Chl+Cal+Py+other	32.56	3.35	9.37	32.23		2.54	5.82		1.01	13.13											100	46
1	116	Chl+Cal+Py+other	31.6	3.39	9.28	32.17		2.49	5.81		0.86	13.38									1.06		100	46
1	117	Chl+Cal+Py+other	31.38	3.25	9.11	31.87		2.5	5.72		0.83	13.01					1.04				0.98		100	47
1	118	Chl+Cal+Py+other	31.85	3.29	9.41	32.23		2.4	5.72		0.89	12.76					1.45						100	47
1	119	Chl+Cal+Py+other	31.98	3.44	9.3	31.79		2.5	5.62		0.99	13.08					1.31						100	47
1	120	Chl+Cal+Py+other	32.3	3.32	9.18	31.76		2.37	5.81		0.89	13.18					1.16						100	47
1	121	Chl+Cal+Py+other	32.39	3.29	9.26	31.71		2.21	5.61		0.98	13.03					1.51						100	47
1	122	Chl+Cal+Py+other	31.47	3.24	8.79	31.53		2.16	5.68		1.01	13.03					1.61				1.15		100	47
1	123	Chl+Cal+Py+other	32.19	3.24	9.45	32.11		2.26	5.6		0.96	12.69					1.5						100	47
1	124	Chl+Cal+Py+other	32.13	3.44	9.11	32.32		2.6	5.72		0.88	12.78					1.02						100	46
1	125	Chl+Cal+Pv+other	32.37	3.44	9.43	31.92		2.19	5.71		0.81	12.93					1.19						100	47
1	126	Chl+Cal+Pv+other	32.37	3.3	9.07	32.14		2.62	5.61		0.92	12.81					1.17						100	47
1	127	Chl+Cal+Pv+other	31.85	3.27	9.49	32.02		2.24	5.68		0.84	13.06					1.25						100	47
1	128	Chl+Cal+Pv+other	31.19	3.32	9.13	31.81		2.16	5.6		0.89	13.03					1.76				1.11		100	47
1	129	Chl+Cal+Pv+other	32.37	3.37	9.28	31.97		2.42	5.72		0.89	12.54					1.44						100	47
1	130	Chl+Cal+Pv+other	32.11	3.39	9.41	31.69		2.4	5.64		0.95	13.01					1.38						100	47
1	131	Chl+Cal+Pv+other	31.21	3.19	9.22	31.38		2.37	5.74	0.75	0.93	12.86					1.31				1.01		100	47
1	132	Chl+Cal+Pv+other	32.11	3.25	8.94	31.93		2.59	5.86		0.88	12.96					1.47						100	47
1	133	Chl+Cal+Pv+other	32.28	3.3	9.18	32.34		2.22	5.61		0.96	12.96					1.15						100	47
1	134	Chl+Cal+Pv+other	32.3	3.3	9.43	31.45		2.21	5.6		1.02	13.06					1.66						100	47
1	135	Chl+Cal+Pv+other	32.26	3.3	9.09	31.87		2.34	5.83		0.95	13.03					1.32						100	47
1	136	Chl+Cal+Pv+other	32.22	3.34	9.41	31.6		2.59	5.64		0.88	12.91					1.38						100	47
1	137	Chl+Cal+Pv+other	32.26	3.32	9.28	31.94		2.22	5.78		0.96	12.96					1.25						100	47
1	138	Chl+Cal+Pv+other	31.94	3.19	9.32	32.1		2.47	5.69		0.93	13.11					1.27						100	47
1	139	Chl+Cal+Pv+other	32.3	3.47	9.2	31.99		2.16	5.85		0.89	12.86					1.31						100	47
1	140	Chl+Cal+Pv+other	32.54	3.27	9.26	32.12		2.09	5.76		0.89	12.46					1.61						100	47
1	141	Chl+Cal+Pv+other	32.32	3.42	9.22	32.01		2.04	5.64		1	13.01					1.31						100	47
1	142	Chl+Cal+Pv+other	32.07	3.25	9.35	32.07		2.39	5.67		0.9	13.08					1.21						100	47
1	143	Chl+Cal+Pv+other	32.45	3.42	9.09	31.88		2.35	5.72		0.95	13.03					1.1						100	47
1	144	Chl+Cal+Py+other	32 73	3.27	9.22	31.93		2.26	5 78		0.89	12.83					1.09						100	47
1	145	Chl+Cal+Pv+other	31.66	3.32	9.18	31.65		2.09	5.69		0.96	13.16					1.24				1.03		100	47
1	146	Chl+Cal+Pv+other	32.09	3.32	9.24	31.8		2.55	5.6		0.98	12.98					1.43						100	47
1	147	Chl+Cal+Pv+other	32.02	3.35	9.24	32.06		2.47	5.71		0.89	12.86					1.41						100	47
1	148	Chl+Cal+Pv+other	32.17	3.32	9.22	31.57		2.14	5.68	0.69	0.9	12 74					1.56						100	47
1	149	Chl+Cal+Py+other	31.92	3.27	9.11	32.02		2 55	5.74	5.00	0.89	13.06					1 44			<u> </u>			100	47
1	150	Chl+Cal+Py+other	31.42	3.3	8.98	31.88		2.34	5.74		0.98	12 91					1.28			<u> </u>	1 17		100	47
1	151	Chl+Cal+Pv+other	32 47	3.42	9.24	31.83		2.12	5.62		0.96	13.08		-			1.28			-			100	47
1	152	Chl+Cal+Py+other	32.64	3.22	9.39	32 15		2 45	5.47		0.88	12.69					1 11			<u> </u>			100	47
1	153	Chl+Cal+Pv+other	30.95	3.32	9.33	31.84		2.4	5.82		1	12.86		1			1.43				1.05		100	47

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	Cr_2O_3	CuO	ZnO	SrO	ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
1	154	Chl+Cal+Py+other	31.25	3.22	9.54	32.74		2.21	5.92		1.01		13.08									1.02		100	46
1	155	Chl+Cal+Py+other	32.17	3.32	8.94	32.08		2.34	5.57		0.89		13.31					1.37						100	47
1	156	Chl+Cal+Py+other	31.49	3.32	9.2	31.3	0.34	2.45	5.69	0.7	0.88		13.11					1.51						100	48
1	157	Chl+Cal+Py+other	32.26	3.35	9.09	31.88		2.4	5.71		0.94		12.93					1.44						100	47
1	158	Chl+Cal+Py+other	32.47	3.25	9.3	31.94		2.3	5.6		1		12.83					1.29						100	47
1	159	Chl+Cal+Py+other	32.41	3.37	9.15	32.02		2.34	5.74		0.86		13.03					1.09						100	47
1	160	Chl+Cal+Py+other	32.02	3.32	9.43	31.54		2.17	5.81		0.96		13.18					1.57						100	47
1	161	Chl+Cal+Py+other	31.98	3.39	9.41	31.74		2.49	5.72		1		12.74					1.55						100	47
1	162	Chl+Cal+Py+other	31.57	3.25	8.88	31.62	0.27	2.24	5.78		0.92		12.76					1.41				1.01		100	47
1	163	Chl+Cal+Py+other	31.19	3.39	9.26	31.66		2.37	5.61		0.86		13.16					1.35				1.17		100	47
1	164	Chl+Cal+Py+other	30.78	3.24	9.5	31.49		2.24	5.81		1		13.13					1.47				1.05		100	47
1	165	Chl+Cal+Py+other	32.22	3.24	9.28	31.76		2.26	5.58		0.92		13.08					1.67						100	47
1	166	ChI+Cal+Py+other	32.47	3.42	9.69	32.41		2.26	5.74		0.88		13.13											100	46
1	167	ChI+Cal+Py+other	32.67	3.25	9.33	32.05		2.24	5.68		0.96		12.46					1.37						100	47
1	168	ChI+CaI+Py+other	32.19	3.27	9.39	31.96		2.35	5.68		0.86		12.83					1.44						100	47
1	169	ChI+CaI+Py+other	32.26	3.35	9.15	32.02		2.21	5.74		0.88		12.88					1.49						100	47
1	170	Chl+Cal+Py+other	32.19	3.19	9.09	32.03		2.04	5.72		0.84		13.36					1.51						100	47
1	171	Chl+Cal+Py+other	32.62	3.55	8.84	31.69		2.54	5.68		0.89		12.91					1.25						100	47
1	172	Chl+Cal+Py+other	32.41	3.42	9.35	31.92		2.22	5.65		0.96		12.64					1.42						100	47
1	173	Chl+Cal+Py+other	32.11	3.34	8.98	32.02		2.3	5.68		0.99		12.88					1.43						100	47
1	174	Chl+Cal+Py+other	32.3	3.3	9.28	32.01		2.42	5.74		0.84		12.96					1.17						100	47
1	175	Chl+Cal+Py+other	32.17	3.49	9.24	31.79		2.39	5.62		0.94		12.98					1.37						100	47
1	176	Chl+Cal+Py+other	31.81	3.3	9.3	32.02		2.59	5.75		0.9		13.08					1.24						100	47
1	177	Chl+Cal+Py+other	32.39	3.3	9.03	31.84		2.5	5.75		1.01		12.88					1.29						100	47
1	178	Chl+Cal+Py+other	32.28	3.42	9.13	32.14		2.22	5.51		0.92		13.06					1.3						100	47
1	179	Chl+Cal+Py+other	32.37	3.4	9.15	32.01		2.22	5.74		0.92		13.06					1.15						100	47
1	180	Chl+Cal+Py+other	32.07	3.24	9.09	31.39		2.34	5.69	0.77	1		12.93					1.48						100	47
1	181	Chl+Cal+Py+other	32.26	3.37	9.16	32.28		2.34	5.76		0.96		12.74					1.11						100	47
1	182	Chl+Cal+Py+other	32.22	3.39	9.15	31.76		2.47	5.75		1.01		12.81					1.44						100	47
1	183	Chl+Cal+Py+other	31.94	3.39	8.62	31.78		2.12	5.64		1		13.16					1.12				1.22		100	47
1	184	Chl+Cal+Py+other	32.22	3.57	9.33	31.89		2.12	5.67		0.93		12.93					1.35						100	47
1	185	Chl+Cal+Py+other	32.39	3.2	9.05	31.78		2.47	5.69		0.92		12.91					1.58						100	47
1	186	Chl+Cal+Py+other	32.05	3.32	9.41	31.7		2.4	5.75		0.89		13.03					1.45						100	47
1	187	Chl+Cal+Py+other	32.11	3.44	9.28	32.08		2.26	5.71		0.94		12.86					1.35						100	47
2	1	Py	0.21			28.29							71.52											100	247
2	2	Qz	99.77			0.22																		100	139
2	3	Py+other	13.82		5.88	33.91		0.48	0.29	0.51	0.20		44.75											100	120
2	4	Sd+other	4.68	0.96	5.95	42.74		0.79	0.26		0.17	0.63										0.64		57	85
2	5	Sd+other	4.04	0.74	5.49	43.93		0.90	0.26		0.19	0.94										0.53		57	93
2	6	Py+Cal	0.30			28.65			2.46				68.59											100	227
2	7	Qz	99.77			0.22																		100	140
2	8	Py	0.11			28.28							71.62											100	259
2	9	Sd+other	8.21	0.83	7.11	38.16	0.15	1.87	0.27		0.24				0.17	1								57	88
2	10	Ank				7.85	1.04	15.11	32.01															56	70
2	11	Sd+other	11.33	0.73	7.07	34.27		1.32	0.30		0.95	0.39			l	1						0.46		57	99
2	12	Cal+Chl+other	20.09	0.24	1.20	10.16	0.31	1.48	21.96		0.27		0.29		l	1								56	95
2	13	(Alt IIm) Rt+Qz	14.80	84.77		0.42					-													100	132
2	14	Chl+Kfs	46.08	0.47	24.17	22.15		3.20	0.66	0.47	2.28	0.50			l	1								100	104
2	15	Sd+Chl+Kfs+other	9.55	0.97	6.83	35.89		1.97	0.26		0.89				l	1						0.63		57	61
2	16	Sd+Chl+Kfs+other	6.72	1.41	6.87	38.75		0.70	0.34		0.43	0.56			l	1						1.01		57	85
2	17	Sd+other	5.00	0.92	5.41	42.82		0.78	0.23		0.25	0.69										0.70		57	93

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	CuO	ZnO	SrO	ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
2	18	Ilm+other	12.28	60.85	0.91	25.56	0.39																	100	117
2	19	Py+other	7.70		2.02	48.94			0.78	0.38	0.29		38.98									0.88		100	141
2	20	Py+Chl+other	8.15		5.48	45.72	0.15	1.43	0.32				38.43											100	147
2	21	Chl+Py	29.67		19.43	28.93		5.48			0.31		1.19											85	113
2	22	Cal+Py+other	4.79		3.35	4.98		3.44	37.84	0.45	0.10		1.04											56	71
2	23	Ank				10.20	0.21	12.87	32.73															56	68
2	24	Py+other	0.26			28.96			0.49				70.29											100	227
2	25	Chl+other	36.55	0.79	26.02	15.50	0.27	4.54	0.23	0.32	0.22		0.57											85	93
2	26	Ank				9.11	1.20	13.43	32.27															56	67
2	27	Sd+other	8.08	0.59	5.77	38.09		1.03	1.90		0.43	0.54										0.59		5/	90
2	28	Ank	0.79		0.48	8.62	0.67	15.75	29.68		0.4.4		00.57											56	67
2	29	Py+other	0.98		0.64	28.68					0.14		69.57											100	210
2	30	Qz	85.59	0.37	1.66	12.00		1.01	0.00		0.39	0.04										0.50		100	131
2	31	Sd+Chl+Kts+other	15.85	0.79	8.27	28.38		1.61	0.20		1.05	0.34										0.52		5/	100
2	32	Chi	26.37		21.90	21.30	0.31	15.11	0.00	0.40	0.40											0.00		85	107
2	33	Chi+Cai	23.31	0.00	17.64	33.51	0.48	4.68	3.60	0.43	0.48											0.89		85	103
2	34	Chl+Kfs	45.78	0.22	23.34	21.95	0.26	3.17	2.08	0.44	2.14			0.07								0.63		100	114
2	35	Cal+other	3.93	00.05	1.00	2.58		0.85	45.38					3.27										56	54
2	36	(Alt IIm) Rt+otner	2.29	83.05	1.02	2.75		0.68	6.98	0.74	0.07			3.22										100	91
2	37	Chi+Kis	58.59	0.47	25.91	8.34	0.00	2.01	0.62	0.71	3.37													100	109
2	38	Sd+otner	0.87		0.53	42.82	0.36	7.01	5.42	0.47	4.05													57	68
2	39		38.39		17.20	22.18	0.00	5.05	0.48	0.47	1.25	0.40	0.50		0.40							0.50		65	78
2	40	Sd+Chl+Fsp+other	7.12	0.50	3.46	30.61	0.32	2.17	4.67	0.62	0.29	3.48	0.58		0.13							3.56		57	84
2	41	Chi+Kis	45.29	0.52	24.53	21.28	0.23	2.64	1.60	0.61	2.52		50.04									0.67		100	104
2	42	Py+otner	2.76	0.28	1.25	39.70	0.26	2.40	0.66	0.36	0.26	2.96	52.94									1.74		100	167
2	43		9.07	0.69	0.74	20.30	0.20	3.40	4.79	0.37	0.30	2.00	0.02									0.64		57	95
2	44	Du othor	49.54	0.00	19.54	7.03		2.95	15.49		3.01		0.92									0.02		100	94
2	40	Fy+other Sduothor	2.14	0.41	2.04	47.26	0.19	0.95	0.40			0.95	59.51									0.65		57	76
2	40		0.70	0.41	3.94	34.64	0.18	0.85	5.21			0.65	58 66									0.71		100	173
2	47	Caltother	0.79		0.43	1 85	0.19	0.96	51.60				0.35									0.71		56	64
2	10	By+Cal+other	3.21		2.08	15.55	0.13	1.56	10 00				27 30											100	07
2	50	Sd+Pv+Chl+other	8.50		4 92	19.33	0.21	0.83	0.40	0.18	0.38		21.33									1.07		57	163
2	51	Sd+Ms+other	9.57	0.46	7.64	36.50		0.00	0.10	0.10	0.65	0.46	21.40									0.53		57	94
2	52	Sd+other	17 24	0.40	13 74	24 19		0.33	0.10	0.29	0.00	0.40										0.00		57	97
2	53	Sd+Chl+Kfs+other	18.60	1.96	8 95	23.35		1 11	0.46	0.25	1 70	0.35	0.26											57	96
2	54	Sd+other	6.90	0.95	6.58	39.63		1.03	0.26	0.20	0.49	0.85	0.20		0.13									57	90
2	55	07	98.66		0.59	0.48			0		0.28													100	133
2	56	Sd+other	1.48		0.58	41.78	0.44	7.35	5.38															57	69
2	57	Sd+Chl+Kfs	18.12	0.16	8.83	17.38	0.18	2.25	9.44		0.64													57	94
2	58	F-Ap (diag)+other	3.02		1.97	0.68		0.28	44.73	0.36	0.45	38.59	0.67	8.59								0.64		100	130
2	59	Sd+other	3.95		1.32	37.55	0.46	8.86	4.72		0.14													57	72
2	60	Qz	99.69			0.30																		100	130
2	61	Sd+Chl+Kfs	18.14	0.41	11.59	23.30		1.73	0.22		1.21											0.40		57	95
2	62	Cal+Py+other	1.80		1.07	12.30		0.82	16.54				23.49											56	106
2	63	Sd+Cal+other	4.82	0.52	4.04	23.48	0.18	1.87	21.97		0.13													57	77
2	64	Sd+Chl+Kfs+other	12.30	0.53	4.30	29.47		1.31	8.17		0.50	0.42												57	88
2	65	Sd+Py+other	5.87		1.68	46.12	0.51		0.95				0.68									1.01		57	80
2	66	Ank+other	1.39		0.58	10.60	1.02	14.30	27.85		0.26													56	65
2	67	Ank				7.24	0.40	15.10	33.28															56	62
2	68	Sd+other	4.37	0.87	5.43	44.04		0.82	0.15			0.58										0.58		57	88

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	CuO	ZnO	SrO ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
2	69	Sd+other	6.74	1.43	6.42	39.16	0.14	0.79	0.25		0.39	0.52			0.13						1.01		57	81
2	70	Sd+other	5.12	0.77	5.39	43.59		0.96	0.21		0.20	0.77											57	85
2	71	Qz+other	98.81		0.47	0.54					0.17												100	125
2	72	Qz	99.47			0.51																	100	126
2	73	Sd+other	1.17		0.78	43.24	0.38	6.15	4.51			0.77											57	65
2	74	Rt+other	50.14	43.00	3.48	1.85		0.58			0.96												100	126
2	75	Kfs+Chl	71.92	0.37	16.91	3.11		1.51			6.17												100	120
2	76	Qz	99.79			0.21																	100	126
2	77	Py+other	6.12		2.49	31.16		0.45	0.28				58.73								0.78		100	185
2	78	Qz	99.67			0.33																	100	125
2	79	Py+Cal				26.26			7.86				65.87										100	199
2	80	Py+other	0.62			29.92	0.17	0.51	16.65				52.14										100	143
2	81	Kfs	65.78		17.74	0.35				0.44	15.67												100	122
2	82	Ank				9.25	1.41	13.00	32.34														56	60
2	83	Sd+Cal+other	3.44		0.82	40.51	0.78	3.88	5.31		0.15	0.55	0.38								1.19		57	69
2	84	Chl+Sd+Cal+other	39.17	0.38	21.60	23.16	0.19	2.90	5.18	1.60	1.18	4.06	0.57										100	90
2	85	Qz	99.24			0.37							0.37										100	94
2	86	Sd+Chl+other	9.22	0.58	7.41	37.16		1.33	0.18		0.35										0.60		57	86
2	87	Sd+Chl+other	7.24		1.56	35.55	0.27	0.40	1.98	0.71	0.19		0.54		0.17						7.72	0.66	57	83
2	88	Sd+Chl+Fsp+Py	7.72		1.71	32.61	0.43		2.12	0.72			0.91		0.27						10.08		57	83
2	89	Chl+Fsp	42.74	0.65	34.92	10.34		7.84	1.36	2.14													100	64
2	90	Brt (cont)				0.78							52.74					43.60	2.89				100	65
2	91	Qz+other	99.77			0.22																	100	128
2	92	Py+Cal	0.34		0.21	28.38			3.19				67.90										100	202
2	93	Kfs+other	66.08	0.28	18.03	2.65		0.68	0.78	0.36	11.14												100	120
2	94	Chl+Kfs	37.91	1.33	21.71	32.46		3.15	0.53	0.93	1.59												100	74
2	95	Sd+Chl+Cal+other	11.79	0.63	7.19	29.87		1.57	5.26		0.17	0.51											57	86
2	96	Qz	99.81			0.18																	100	125
2	97	Qz+other	38.25		6.95	2.70		1.33	0.22	0.54	0.66	15.24		0.77									100	104
2	98	Sd+Qz	0.79			39.96	0.25	10.88	5.13														57	65
2	99	Ms+other	53.89	0.25	31.05	10.29		1.84	0.38	0.44	1.88												100	101
2	100	Chl+Kfs+Py+other	41.97	0.62	15.49	17.89		2.12	0.66	0.34	2.42		17.78								0.72		100	97
2	101	Kfs+other	61.16	0.65	22.56	6.23		2.27	3.19	0.47	3.46												100	104
2	102	Ank	0.44			7.54	0.48	14.50	33.03														56	63
2	103	Sd+other	4.98	0.78	4.89	43.41		1.09	0.24		0.27	1.07											57	85
2	104	Chl+Kfs	32.39	1.26	18.25	21.82		8.06		0.39	2.82												85	95
2	105	Sd+Chl+Kfs	26.61	0.37	4.17	23.26		0.71	0.19		1.22										0.49		57	87
2	106	Sd+other	4.22	0.38	5.60	43.87	0.15	0.73	0.22		0.23	0.56									1.05		57	81
2	107	Sd+other	5.08	0.39	6.28	41.97		0.74	0.26		0.31	0.72			0.16						1.08		57	74
2	108	Sd+Chl+other	8.13	0.90	7.36	37.18		1.38	0.29		0.43	0.47									0.59		57	80
2	109	Sd+Cal+Chl+other	21.34	0.52	2.17	17.92	0.14	0.96	13.44		0.13	0.39											57	87
2	110	Sd+Chl+Kfs+other	11.02	0.90	5.56	36.06		1.09	0.22		0.97	0.60									0.58		57	87
2	111	Sd+Chl+Kfs+other	8.41	1.23	6.36	37.95		0.76	0.26		0.54	0.68			0.15						0.67		57	81
2	112	Sd+Chl+Kfs+other	8.66	0.87	6.09	37.31		1.08	0.32		0.58	0.64			0.15						1.08		57	75
2	113	Sd+other	2.59	0.91	4.94	45.61		0.91	0.26			0.80			-				1	1	0.76		57	74
2	114	Sd+Py+other	5.02	1	1.61	43.89	0.55	0.49	0.80		0.14		1.03		0.15				0.78		2.54		57	61
2	115	Py				29.18			0.14				70.44							1			100	207
2	116	Sd+Py+other	4.88	İ	1.66	43.82	0.31		0.79		0.20		0.83				0.72		1	1	3.20		57	68
2	117	Qz+other	72.30		1.83	23.52	0.23	0.63	0.18				0.77				0.51		1	1			100	93
2	118	Cal+Py+Chl+Kfs	13.31	1	4.26	4.49		1.93	27.73		0.75		3.54										56	77
2	119	Sd+Chl+other	10.16		5.92	28.18	0.42	3.33	3.78	0.48	0.41	2.31	0.40						1	1	1.59		57	81

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	Cr_2O_3	CuO	ZnO	SrO	ZrO_2	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
2	120	Py+other	2.85		0.79	41.19	0.18	0.30	0.94				53.79											100	161
2	121	Qz	99.47			0.30			0.22															100	123
2	122	Cal				1.93	0.22	0.96	52.89															56	55
2	123	llm+other	6.46	60.35	2.55	26.98	0.46		1.78	1.44														100	98
2	124	Sd+Chl+Kfs	17.16	0.76	8.05	27.49		1.07	0.38	0.37	0.66	0.34										0.50		57	85
2	125	Qz	96.95	0.23	0.68	1.90					0.22													100	123
2	126	Sd+other	5.97	0.83	5.27	42.45		0.95	0.46		0.28	0.56												57	70
2	127	Qz	99.52			0.48																		100	121
2	128	Sd+other	0.64			46.15	5.45	4.52	0.24															57	56
2	129	F-Ap (diag)+other	8.86	=	5.56	8.32		1.49	36.07	0.62	0.17	31.92	0.95	6.04										100	108
2	130	lim+other	0.90	/1.19	0.91	26.42	0.36	0.00	0.22	0.44	0.00													100	99
2	131	lim+Cni+other	36.30	24.24	25.23	9.22		3.08	0.59	0.44	0.88	0.00												100	83
2	132	Chi+Kis	56.00	0.97	27.83	6.65		2.54	0.52	0.39	4.49	0.60	CO 40											100	94
2	133	Py+Cai	0.32	0.00	7.50	27.21		4.00	9.08	0.00	0.74	0.00	63.40									0.70		100	160
2	134	Sd+Cnl+Kts+other	10.76	0.93	7.58	33.93		1.09	0.29	0.38	0.71	0.60										0.72		57	86
2	135	Sd+other	0.22	1.25	0.30	39.83		0.74	0.25		0.43	0.71										1.03		5/	81
2	136	QZ	97.95	0.70	0.44	2.05		4.04	0.05	0.00	0.75	0.40										0.50		100	121
2	137		14.46	0.78	8.44	29.16		1.01	0.25	0.33	0.75	0.48										0.52		57	86
2	138	Sa+Cni+Kis+other	12.29	1.01	7.68	32.01		1.29	0.26		0.75	0.39	2 5 9		0.01							0.49		57	84
2	139	Su+Py+ouner	10.90	0.61	9.01	30.55		1.05	0.52		0.50	0.62	2.30		0.21							0.07		57	40
2	140	Py+oliner	1.03		5.20	45.39		1.23	0.52				39.00											100	101
2	141	Q2	90.92		1 1 1	1.00	0.70	0.20	0.90	0.50			0.00			0.00						0.70		57	74
2	142	ChluKfauothor	4.75	1.50	1.41	20.00	0.70	2.70	0.60	0.52	2.05		0.69			0.22						2.70		57	74
2	143	Chitristoulei	0.41	1.52	13.21	0.00	0.72	2.79	20.02		3.00											0.02		56	91
2	144	Pytother	2.78		1.80	35.52	0.72	14.15	0.62	0.46			56 71									2 1 2		100	152
2	145		2.70		1.00	0.35			0.02	0.40			30.71									2.12		100	102
2	140	07	99.64			0.35																		100	116
2	148	Chl+Kfs+other	37.89	0.23	22.88	29.51		4 4 1	1 97	0.53	2 57													100	03
2	149	07	99.81	0.20	22.00	0.19		7.71	1.07	0.00	2.01													100	118
2	150	Chl+Kfs	29.88	1 59	17 23	24 00		7 16	0.93	0.54	3.51													85	98
2	151	llm+Chl+other	29.24	31.74	20.22	14.87		2.47	0.29	0.36	0.79													100	108
2	152	F-Ap (diag)+other	2.80	• • • •	1.63	1.51			44.75	0.80	0.16	37.81	1.35	8.56								0.68		100	106
2	153	Sd+other	6.74	0.84	6.34	40.06		1.08	0.42		0.24	0.47										0.81		57	76
2	154	Chl+other	29.22		19.35	30.74		4.39	0.41	0.36	0.54													85	89
2	155	Py				27.65			1.64				70.72											100	210
2	156	Cal+Py+other	5.78		4.19	4.86		1.89	35.27		0.19		3.82											56	71
2	157	Sd+Py+other	6.17		2.15	38.86	0.54	0.58	1.20	0.39	0.17		0.83									6.12		57	75
2	158	Chl+Kfs	32.71	1.05	18.05	20.15		8.25		0.37	4.41													85	95
2	159	Py+Cal+other	1.67		0.53	43.78		0.35	1.44				49.19									3.05		100	124
2	160	Ilm+other	9.39	55.78	1.08	33.28	0.22		0.25															100	83
2	161	Ilm+other	7.21	65.59	1.02	25.18	0.99																	100	86
2	162	Qz	85.76	9.16	1.36	3.23	0.15				0.33													100	123
2	163	Sd+Chl+other	13.43	0.72	9.24	29.97		2.18	0.31		0.48				0.16							0.50		57	74
2	164	Sd+Chl+other	7.28	0.91	5.41	40.50	0.15	0.99	0.63		0.40	0.58			0.14									57	72
2	165	Sd+Chl+other	6.98	0.61	1.84	28.51	0.48	1.02	6.01	0.87	0.40	4.58	0.80		0.19	0.19						4.26		57	77
2	166	TiO2 mineral	0.64	98.92		0.28			0.17															100	99
2	167	Ilm+Chl+kfs+other	47.23	21.70	17.04	6.93		1.33		0.97	3.22								1.59					100	103
2	168	Sd+other	5.18	1.04	5.36	41.75		0.98	0.29	0.36	0.30	0.56			0.17							0.99		57	77
2	169	Cal+other	3.26		1.58	1.39	0.17	2.07	47.42		0.14													56	54
2	170	Sd+other	8.51	1.16	7.46	36.76		0.83	0.36		0.43	0.67										0.82		57	64

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	CuO	ZnO	SrO	ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
2	171	Cal				4.53	0.24	0.93	50.31															56	54
2	172	Sd+Chl+Kfs+other	10.76	0.18	4.64	37.06	0.35	1.78	0.46		1.04	0.75												57	77
2	173	Py+other	1.65		0.49	47.47			0.94	0.59			45.50		0.19							3.17		100	114
2	174	Py	0.17			28.12							71.69											100	208
2	175	Py+other	2.52		0.57	47.07			0.84				47.24									1.74		100	123
2	176	Kfs+other	55.36	1.58	23.83	9.29	0.17	3.43	0.53	0.47	3.78		0.50									1.05		100	89
2	177	Py+Qz+other	22.80	0.20	1.93	25.34		0.23	0.25		0.18		48.34									0.73		100	147
2	178	Sd+other	8.90	1.01	7.01	37.09		0.96	0.23	0.34	0.54	0.73												57	96
2	179	Sd+Cal+other	3.18	1.00	3.47	31.40		1.67	14.58	0.38	0.17		0.44									0.54		57	86
2	180	Sd+other	4.77	0.71	4.81	43.88	0.15	0.93	0.30		0.21	0.55										0.69		57	79
2	181	Sd+other	8.29	0.95	6.65	37.09	0.16	0.96	0.36	0.35	0.36	0.43										1.40		57	77
2	182	Py				28.30							71.69											100	193
2	183	Py+Chl	8.30		3.33	30.49		1.03	0.88		0.28		55.73											100	167
3	1	Py	0.28		0.17	28.21							71.34											100	243
3	2	Qz	99.71			0.30																		100	135
3	3	Sd+other	2.98		1.37	39.88	0.48	7.24	5.06															57	73
3	4	Clt (cont)				0.40							49.97					42.44		7.21				100	110
3	5	Ank				8.57	1.01	14.59	31.83															56	69
3	6	Chl+Cal+other	27.42	0.30	16.50	40.83	0.40	6.85	4.65	0.59	1.61											0.83		100	86
3	7	Cal+Py+other	1.04	0.29	0.87	8.36		2.95	40.92	0.41			1.15											56	71
3	8	Sd+other	6.12	1.04	6.04	40.24	0.14	0.79	0.38		0.21	0.62			0.45							0.75		57	86
3	9	Sd+other	6.96	0.99	6.56	38.83		0.82	0.28	0.44	0.30	0.60			0.22							0.81		57	91
3	10	Sd+Kfs+other	11.41	0.74	8.33	33.16		1.06	0.23	0.40	0.54	0.43			0.14							0.57		57	89
3	11	Sd+other	4.00	1.03	5.49	44.05		0.69	0.26		0.13	0.85										0.52		57	90
3	12	Ank+other	1.02		0.80	10.29	0.69	13.47	29.74															56	73
3	13	Rt	4.09	89.54	2.17	3.41			0.52		0.28													100	102
3	14	Sd+other	4.04		1.49	37.47	0.38	8.99	4.35		0.30													57	73
3	15	Kin+other	53.76		40.27	3.20		0.58	0.22					1.97										100	109
3	16	Chl+other	35.48	0.20	23.47	18.37	0.21	3.75	1.90		1.65													85	95
3	1/	Qz+other	94.81	0.15	2.80	1.89			0.17		0.20													100	142
3	18	Cal+other	0.71		0.33	1.58		1.51	51.39				0.49											56	69
3	19	Sd+other	7.18	1.34	6.17	38.70	0.00	0.79	0.28	0.36	0.40	0.66										0.91		57	80
3	20	Ank	0.45		10 70	11.19	0.68	12.94	30.73															56	68
3	21	Chi+Kts+other	29.16	0.52	16.76	37.62	0.53	7.61	4.42	0.00	2.35	1.03												100	93
3	22	Kfs+Chl+other	63.56	0.30	14.36	14.79	0.17	2.30	1.26	0.36	2.90	0.00										0.04		100	109
3	23	Kis+Chi+other	35.08	0.93	10.98	42.97		2.60	0.38	0.42	4.76	0.66										0.91		100	105
3	24	Sd+other	7.96	0.70	6.37	39.73		0.95	0.23	0.40	0.38	0.68												5/	96
3	25		40.66	0.21	25.64	15.35	0.40	3.31	2.34	0.48	1.85	0.55												100	114
3	26	Sd+Cal+other	11.65	1.09	3.93	32.00	0.18	1.09	6.14	0.57	0.13	0.55	0.70	0.05								4.00		5/	85
3	27	F-Ap (diag)+other	4.34	0.35	2.46	1.03	0.46	0 4E	41.98	0.57	0.52	37.14	0.72	9.85								1.03		100	124
3	28	Ap+Sa+other	5.56	0.00	3.08	39.30	0.46	2.45	25.40	0.58	0.37	20.65	0.77	0.00								1.30		100	96
3	29	F-Ap (diag)+other	18.42	0.22	11.45	18.69	0.31	1.77	21.63	0.75	1.95	21.10	0.50	3.20										100	119
3	30	QZ	99.64	0.07	04.04	0.15		4.00	0.21	0.00	0.07													100	127
3	31		33.02	0.37	21.34	24.51		4.06	0.47	0.36	0.87		70.07											85	107
3	<u>ა∠</u>	ry+Gai	0.11	6E 20		20.01	0.25		1.53				10.37											100	239
3	33 24		04.24	2 97		34.20	0.35																	100	126
2	34		94.34	3.07		1.79																		100	126
2	30	QZ ChlaCala By Lothor	39.01	0.00	7 47	0.10		1 1 2	0.25		0.95	0.42										0.50		57	04
2	27	Kfor Sdr Chl	50.76	0.90	12.02	25.60		2.67	0.55		7.20	0.42										0.50		100	34
2	31 20	NIS+OU+UII	0.04	0.23	7.92	25.0U		2.07	0.50		1.30	0.44										0.49		57	107
3	30	Sutolinei	5.94	0.07	1.30	33.13		0.97	0.20		0.00	U.44			1		1					U.40		57	90

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	Cr_2O_3	CuO	ZnO	SrO ZrO	2 BaO	HfO ₂	WO_3	PbO	Total	Actual Total
3	39	Kfs	65.76		17.97	0.23				1.27	14.77												100	126
3	40	Ank				8.52	1.01	14.20	32.27														56	67
3	41	Chl+Cal+other	22.55	0.97	13.40	38.99	0.34	5.65	16.12		1.99												100	79
3	42	Chl+other	23.46	1.11	14.84	37.59	0.31	6.33	0.59		0.79												85	72
3	43	PbO (cont)			1.64	0.81																97.55	100	97
3	44	Ank				10.36	0.30	14.21	31.13														56	65
3	45	Ank	0.55		0.38	8.28	0.54	13.95	32.31														56	63
3	46	Py	0.92		0.32	34.32			0.43				63.20								0.81		100	200
3	47	llm+Qz+other	37.95	38.00	2.25	20.16	0.43	0.95	0.28														100	114
3	48	F-Ap (diag)+other	3.25			0.58			47.80			43.31	0.57	3.98				0.59			-0.09		100	136
3	49	Chl+Kfs+other	28.20	1.11	17.08	29.62		6.58			2.41												85	104
3	50	III+Kfs+ChI+other	44.42	0.86	19.58	12.74		1.91	3.57	0.39	2.98	3.55											100	108
3	51	Sd+other	3.27	0.25	2.31	39.67	0.36	6.22	4.74		0.19												57	74
3	52	(Alt IIm) Rt+other	2.14	94.68	1.44	1.14		0.40	0.21														100	116
3	53	Clt (cont)		0.58		0.46							51.89					43.37	3.68				100	112
3	54	Sd+other	2.77		1.35	38.58	0.58	9.03	4.47		0.23												57	70
3	55	Qz+other	98.04		1.19	0.45					0.31												100	130
3	56	Sd+Chl+Kfs+other	12.18	0.98	8.34	32.61		1.22	0.30		0.73										0.64		57	92
3	57	Sd+Chl+other	6 4 9	1.31	6.18	40.14		0.71	0.29		0.28	0.43									0.96		57	85
3	58	Qz+Sd	95.30		0.91	3.78			0														100	122
3	59	Sd+Chl+other	19.27	0.95	10.93	19.51	0.15	5 28	0.18		0.72												57	78
3	60	(Alt IIm) Rt		95.06	1 10	1 18	0.10	0.20	0.22		0.12	0.73											100	104
3	61	Sd+other	2.88	00.00	1.10	40.42	0 90	6.20	5.40			0.10											57	70
3	62		97.20		1.20	0.33	0.50	0.20	0.40		1 25												100	129
3	63		52.64	0.61	24.97	5 54		2.07		1 1 1	2.88												100	51
3	64	Sd+other	2 77	0.01	1.64	41.08	0.48	7.84	3.00	1.11	2.00												57	70
3	65	Cal+other	4.07	0.10	1.04	10.58	0.10	0.66	38 13		0.27												56	68
3	66	Sd+Chl+other	8.22	0.20	5.96	39.96	0.20	0.00	0 44		0.55				0.18								57	65
3	67	Sd+Oz	0.89	0.10	0.00	39.67	0.59	9.55	6.30		0.00				0.10								57	67
3	68	Kfs+Cal+Chl	60.37	0.62	20.82	9.48	0.00	2.65	2.64	0.30	3.08												100	103
3	69	Chl+other	26.61	0.02	17 41	32.24		6.02	0.27	0.00	1 54												85	73
3	70	Sd+other	3.83	0.60	2.58	47 73		0.67	0.26		1.01	0.51									0.83		57	83
3	70	Pytother	2.18	0.00	1.53	31.61		0.07	0.20			0.01	64 12								0.00		100	104
3	72	Chl+other	36.68		10 03	21.16		4.45	0.36	0.50	1 25		04.12								0.66		85	104
3	73	Clt (cont)	30.00		10.00	0.59		4.40	0.50	0.00	1.20		51 59					47 32			0.00		100	98
3	74	Ank				8 24	1 09	14.63	32.03				51.55					41.52					56	61
3	75	ill+other	43.86	0.47	18.01	19.63	1.05	2.03	2.52	0.56	2.03												100	101
3	76	Sd+other	9.56	0.43	8 27	35.40		1 71	0.38	0.00	0.14	0.40			0.13						0.58		57	82
3	70	Sd+other	6.36	1 1 2	6.67	38.02	0.18	0.83	0.50		0.14	0.40	0.38		0.15						1.44		57	73
2	70	Sdrother	5.92	0.04	6.15	40.92	0.10	0.00	0.00		0.30	0.00	0.50		0.10						0.95		57	75
2	70		00.40	0.94	0.15	40.03		0.85	0.20		0.25	0.07			0.15						0.65		100	10
3	19		99.49		0.55	0.01							60.07										100	204
3	00	Fy	0.03		0.55	20.40	0.49		0.42				09.97		0.04								57	204
3	01	Buyether	T.20		0.32	27.20	0.40	1.26	0.43				0.34		0.04								100	19
3	02	Chlusthar	5.95	2.07	4.14	37.30		1.30	0.24	0.70	2.24		51.02										100	101
3	03		31.91	2.07	19.50	21.08		16.0	0.37	0.72	2.24	27.52	1.00	0.25							0.02		00	112
3	84 05	r-Ap (diag)+other	4.24	67.64	2.15	0.87			42.09	0.57	0.40	31.53	1.22	9.35					-		0.93		100	113
3	80		0.44	07.01	1.30	23.89	0.04	4.45	0.78				0.04						-				100	94
3	00 07	Cal+other	1.10	0.00	0.62	1.35	0.21	1.15	0.20	0.21	1 1 2	0.44	0.34		0.11				-		0.69		50	54
3	ŏ/		15.85	0.88	9.50	20.57		1.13	0.38	0.31	1.13	0.44	1 1 7	0.22	0.11				-		0.68		5/	80
3	ŏŏ	r-Ap (diag)+other	1.50		1.13	0.40			45.87	0.62	0.14	39.23	1.17	9.32						<u> </u>	0.47		100	113
3	89	F-Ap (diag)+other	2.31		1.80	0.73			45.47	0.58		38.63	1.20	8.41						1	0.90		100	108

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	Cr_2O_3	CuO	ZnO	SrO ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
3	90	Ank				6.99	0.30	15.51	33.20														56	59
3	91	Py+Qz+other	2.14		0.36	44.15			0.69	0.43			48.49								3.72		100	141
3	92	Qz	99.56			0.45																	100	120
3	93	III+other	52.19	0.66	24.70	4.01		1.76	0.25	1.12	3.32		0.32	1.54									100	133
3	94	Py+Cal	0.66		0.42	26.59			8.52				63.83										100	168
3	95	Qz+other	94.72	0.22	2.21	1.93		0.80			0.11												100	110
3	96	llm+other	3.70	75.98	1.19	18.69	0.44																100	95
3	97	Sd+other	7.55	0.77	5.87	39.85		1.12	0.22		0.40	1.03											57	78
3	98	PbO (cont)				0.55																99.46	100	86
3	99	Py				28.12							71.59										100	229
3	100	III+other	49.30	1.13	25.02	6.26		3.58		0.48	4.25												100	101
3	101	Pv+Qz	1.22		0.85	29.58							68.34										100	209
3	102	Sd+other	4.37	1.21	4.93	43.55		1.05	0.22		0.14	0.66									0.87		57	78
3	103	Sd+other	6.11	1.32	5.91	40.70		1.38	0.22		0.19	0.59									0.57		57	77
3	104	Sd+other	6.07	1 04	5.01	41 73		0.86	0.40		0.29	0.52			0.18						0.91		57	70
3	105	Sd+other	1.99		0.66	40.70	0.33	7.81	5.51		0.20	0.02			0.10						0.01		57	65
3	106	Kfs+Chl	56.80	2 15	24.68	9.25	0.00	1.01	1 20	0.70	3.26												100	94
3	107	07	99.99	2.10	24.00	0.20		1.07	1.20	0.70	0.20												100	120
3	108	Clt (cont)	00.00			0.27							51 59					45.12	3.03				100	103
3	100		00.88			0.27							51.55					40.12	0.00				100	115
3	110	Cal+Sd+Kfc	15 53		1 37	18 28	0.22	2.65	21 13		0.64												56	68
2	110		56 74	0.22	4.37	6 75	0.22	2.00	21.13	0.41	1.07												100	00
3	110	Cd u other	4.07	0.23	21.20	0.75	1 10	Z.20	0.40	0.41	0.25												57	92
3	112	Sd+other	4.37	1 1 2	2.60	37.00	1.19	5.43	5.20	0.26	0.25	0.60									0.71		57	00
3	113	Sd+olliel	4.17	1.12	5.00	37.90	0.40	1.12	5.70	0.30	0.16	0.62									0.71		57	09
3	114	Suffollier	5.33		4.00	34.91	0.40	7.95	3.12				74 47										57	70
3	115	Py	0.11	0.04	00.04	28.44		0.50		0.70	5.00		71.47										100	212
3	116		47.76	0.21	33.64	1.68		0.52	0.00	0.79	5.39		17.44										100	100
3	117	Py+other	4.90	0.05	3.02	43.46		0.96	0.22	0.50	4.00		47.44										100	135
3	118		48.81	0.25	17.55	8.49		2.81	0.45	0.59	4.20	00.50	0.80	0.70							0.07		100	65
3	119	F-Ap (diag)+Py	0.04			0.24			47.04	0.92		39.53	1.85	9.73							0.67		100	111
3	120	Py+Cal	0.21			29.27			2.92				67.60										100	183
3	121	QZPy+Qz+other	71.92	0.40	8.79	6.25	05 50	2.04	3.86	0.40	1.94		4.39										100	98
3	122	Alm-Sps	39.38	0.23	20.54	9.16	25.56		5.12														100	110
3	123	Cal+other	0.61		0.36	1.20	0.44	0.92	52.15				0.34					0.10	=0.40				56	54
3	124	Brt (cont)				0.36							38.38					3.10	58.19				100	109
3	125	Chl+Kfs	28.13	1.05	13.99	30.68	0.19	7.60		0.54	2.85												85	89
3	126	Qz	99.71			0.30																	100	115
3	127	Py+Cal	0.86			34.63			3.36				61.15										100	159
3	128	Sd+other	9.21	1.01	7.40	35.51	0.18	1.24	0.36		0.54	0.64									0.66		57	70
3	129	Cal+other	0.57	0.31	0.73	10.04	0.90	2.36	40.65				0.45										56	57
3	130	Qz	98.70		0.57	0.58					0.16												100	116
3	131	Qz+Sd+other	73.57	0.48	3.08	22.13		0.58			0.18												100	98
3	132	Py+Cal	0.49			31.57			7.19				60.75										100	153
3	133	Py+Cal	0.56			34.03			0.22				65.20										100	179
3	134	Clt (cont)				0.42							51.81					47.77					100	98
3	135	Chl+Kfs	23.02	1.98	15.27	53.47		2.44	0.46	0.62	1.25	1.08											100	75
3	136	III+Sd+other	41.26	0.32	18.03	20.52		5.44	0.35	0.59	2.91										0.66		100	91
3	137	Qz+IIm	89.78	9.56		0.64																	100	111
3	138	(Alt IIm) Rt	0.92	91.71	0.64	6.43			0.31														100	88
3	139	IIm	0.68	68.01	0.96	30.09	0.26																100	82
3	140	Sd+other	1.54		0.99	40.27	1.32	7.04	5.82														57	59

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	CuO	ZnO	SrO	ZrO_2	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
3	141	III+other	42.93	0.25	20.40	17.60		1.97	0.62	2.93	3.29													100	102
3	142	Kfs	65.22	0.22	18.40	1.33		0.50			14.33													100	112
3	143	Py+other	7.72		7.01	29.25		0.35	0.28		0.37		53.86									1.15		100	145
3	144	Py+other	6.25		5.18	32.36		1.41	0.11				54.69											100	156
3	145	Sd+other	6.28	0.80	6.01	41.18		0.84	0.17		0.51	0.44										0.52		57	77
3	146	Qz	99.26			0.75																		100	116
3	147	llm		68.71	0.53	30.12	0.66																	100	91
3	148	Cal+llm+Chl	3.82	5.76	2.59	4.40		1.24	36.33		0.12	1.73												56	62
3	149	Clt (cont)				0.51							51.19					45.89		2.41				100	98
3	150	Sd+other	8.07	0.68	6.54	39.28		1.12	0.26		0.36											0.70		57	68
3	151	Sd+other	5.64	0.19	2.98	39.71	0.48	4.46	3.54															57	63
3	152	Qz	99.62			0.37																		100	117
3	153	Chl+Kfs	40.32	0.28	24.47	26.63		4.33	0.78	0.50	2.70													100	90
3	154	Chl+other	21.96	0.21	15.92	39.39		3.49	0.44		0.38	1.95												85	84
3	155	Sd+other	7.19	0.84	6.45	39.47		0.82	0.30		0.45	0.50										0.96		57	62
3	156	Qz	99.88			0.12																		100	112
3	157	Py+other	7.44		5.29	32.68		1.28	0.29		0.12		52.91											100	192
3	158	Qz+other	67.79	0.22	17.21	6.51		1.23	2.10	0.42	2.78	1.74												100	99
4	1	Ank				7.45	0.42	14.91	33.22															56	68
4	2	Sd+other	3.55	0.86	4.85	45.21		1.06	0.25			1.03												57	87
4	3	Sd+other	7.23		5.04	35.61	0.39	5.57	2.12													1.04		57	78
4	4	Chl+Kfs+other	26.78	0.50	16.08	38.25	0.34	3.50	6.06	0.71	2.07	3.32										2.23		100	96
4	5	llm+other	15.70	63.79	8.26	8.30		1.26	0.52	0.47	1.02	0.71												100	99
4	6	Cal+Qz	0.95		=	3.35		0.58	51.13															56	63
4	/	Sa+Cni+other	11.31	1.14	7.26	33.68		1.17	0.30		0.81	0.48										0.62		57	83
4	8	Qz+Sd+otner	80.43	0.23	5.93	11.67		1.01	4.00	0.00	0.71													100	129
4	9	Sd+Qz+other	30.76	0.32	7.79	14.58		1.15	1.20	0.20	1.00	0.54			0.40							0.05		57	124
4	10	Sd+other	9.17	0.91	7.14	36.16		0.95	0.34		0.68	0.54			0.16							0.95		57	59
4	11	Sa+other	8.35	0.96	6.02	38.07		0.80	0.34		0.63	0.51	74.40									1.08		57	82
4	12	Fy Cali Oz	0.20			20.20	0.20	0.00	E1 04				71.49											100	240
4	13		1.30	0.72	0.70	1.55	0.39	0.09	27.55		0.20		0.05											50	00 70
4	14		0.17	0.73	2.12	3.20	0.07	2.23	37.55	0.46	0.30		0.95									2.07		50	70
4	10	Su+Py+other	0.03	0.16	3.50	39.30	0.97	12 07	20.70	0.40	0.30		0.60									2.07		57	90
4	17	Allk+Other Schothor	0.72	0.75	0.33	9.49	0.04	0.07	0.24		0.17	0.50										1.04		50	09
4	10	Sduothor	5.01	0.75	6.52	41.24		0.07	0.24		0.30	0.50										1.04		57	80
4	10		36.71	2.34	10.72	22.75	0.21	8.62	5.44		4.23	0.55										1.10		100	106
4	20	(Alt Ilm) Rt+other	10.07	79.18	631	1 26	0.21	0.02	3.44		1.23													100	124
4	20		28.79	0.33	15 36	39.69	0.30	8 36	4 56		1.05											0.76		100	03
4	22		65.65	8.64	6.73	8 98	0.00	2 22	3.40		0.39	3 00										0.70		100	116
	22	llm	0.41	65.42	0.73	33.28	0.46	2.22	0.40		0.00	0.00												100	112
4	24		15.47	0.45	5 29	12 10	0.40	1.00	27 79		0.63													56	82
4	25	Dol+other	1 28	0.40	0.60	16.00	2 34	24.66	55 11		0.00													100	70
4	26	Sd+other	5.96	1.05	6.26	40.16	2.01	0.90	0.34		0.29	0.75										1.08		57	82
4	20	Sd+other	10.60	1 14	7.53	33.89		1.04	0.43	0.34	0.50	0.54										0.75		57	80
4	28	Sd+Chl+other	13.30	0.79	8.51	31 18		1 25	0.32	0.04	0.93	0.47										0.70		57	89
4	29	Chl+Kfs+other	31 40	2 17	16.34	22.64	0.19	6.75	0.02		5.51	0.11												85	111
4	30	F-Ap (diag)+other	11 68		6 73	7 46	50	1 23	35.67	0.54	0.13	31.30	0.60	4 68										100	123
4	31	Sd+Chl+other	10.02	0.79	6.50	37.68		0.86	0.30	0.07	0.67	5	0.00		0.16									57	79
4	32	Sd+Chl+other	12.34	0.78	10.39	30.23		1.03	0.20	0.31	0.89	0.38										0.44		57	99
4	33	Qz+Sd+other	60.84	0.78	4.21	32.24		0.81	0.36		0.34	0.41										-		100	121

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	CuO	ZnO	SrO	ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
4	34	Kfs+Chl+other	37.03	3.27	17.71	34.12		1.79	0.67	0.46	3.96	0.73			0.26									100	88
4	35	Chl+Cal+other	37.22	4.89	19.10	20.56		3.83	12.49		1.87													100	95
4	36	llm		64.52	0.51	33.94	0.23	0.81																100	107
4	37	Sd+other	2.94		2.05	41.10	0.71	5.57	4.64															57	73
4	38	Chl	30.06		18.90	30.51		4.39	0.37	0.32	0.44													85	103
4	39	Py+other	7.94		2.95	33.62		0.58	0.49		0.12		52.64									1.44		100	168
4	40	Sd+other	2.00		1.26	43.25	0.46	4.74	4.35		0.17	0.77												57	69
4	41	Qz	98.32	0.15	0.70	0.64			0.18															100	128
4	42	Sd+Chl+other	13.23	0.91	9.02	30.14	0.14	0.78	0.29	0.30	1.00	0.52										0.68		57	89
4	43	Kfs+Chl+other	33.33	1.45	11.70	44.72		2.22	0.59	0.58	4.02	0.55										0.84		100	98
4	44	Ilm+other	1.97	68.74	1.51	26.59	0.87		0.32															100	101
4	45	Kfs	65.18		18.31	0.18				0.58	15.27									0.47				100	131
4	46	Ank				9.63	0.64	16.10	29.64															56	64
4	47	Ank				10.84	0.69	13.05	31.42															56	68
4	48	Ank	0.73		0.34	9.13	1.58	14.08	30.13															56	64
4	49	Qz	99.99																					100	133
4	50	Clt (cont)				0.27					. = /		54.39					45.36						100	114
4	51	Sd+Chl+other	11.78	1.57	8.33	31.76		1./1	0.23	0.29	0.54	0.36										0.44		57	100
4	52	llm+other	9.71	57.20	7.86	21.97	0.40	1.31	1.12		0.00		0.00									0.83		100	104
4	53	Sd+CnI+other	16.52	0.48	7.58	28.32	0.48	0.66	0.46	0.55	0.82	4.07	0.32									1.36		57	99
4	54	Sd+other	5.24		1.56	38.73	0.32	1.93	3.00	0.55	0.21	1.37	0.52									3.56		57	80
4	55	Sd+otner	7.15	0.00	1.15	38.01	0.42	4.00	3.84	0.42	0.13	1.15										0.75		5/	74
4	56	III+other	45.80	0.33	22.45	13.34	0.05	2.20	0.98	0.56	4.35													100	92
4	57		43.79	0.27	19.54	18.77	0.25	2.33	1.67	0.51	2.85	0.00												100	103
4	50	Su+Chi+other	12.20	0.55	5.60	34.45		1.20	0.21	0.27	0.71	0.90												57	93
4	59		20.07	0.23	12.00	19.74		2.25	0.12	0.27	0.71	20 50	1 20	0.20								0.66		57	107
4	61	Pricel	3.94		0.07	25.91			7.09	0.59		30.00	67.12	9.30								0.00		100	204
4	62	Fy+Cai Caluether	E 92		0.75	20.01	0.16	1 5 2	1.00				07.12	1 / 1										56	204
4	63	(Alt IIm) Pt	1 11	02.64	2.32	1.25	0.10	1.52	44.32			0.80	0.76	1.41										100	107
4	64	Caltother	6.04	32.04	3.40	3.54	0.15	0.96	41.62		0.27	0.00												56	68
4	65	Pv+Cal	0.01		0.10	27 41	0.10	0.00	5.47		0.21		66 57											100	203
4	66	Ill+other	48 13	0.38	23.65	8.82		1 99	3.89	0.94	2 21		00.57											100	103
4	67	Ill+other	41 54	4.32	27.65	11.03		0.95	0.00	0.79	1.96		0.99											100	67
4	68	(Alt IIm) Rt+Qz	45.07	54 70	21.00	0.22		0.00	0.70	0.70	1.00		0.00											100	126
4	69	Py+other	6.05		4 61	25.94		1 26	4 88		0.28		57 01											100	189
4	70	Qz	99.11		0.59	0.28																		100	126
4	71	Py+other	0.19			28.23			0.31				68.44	2.83										100	227
4	72	Ank				6.41	0.20	16.60	32.80															56	62
4	73	Sd+other	5.28	1.00	5.28	42.69		0.80	0.34		0.17	0.58										0.67		57	82
4	74	Chl+Kfs	35.77	0.85	19.88	38.14		2.45	0.38	0.54	2.00													100	93
4	75	Py+Cal				14.45		1.51	47.70				36.36											100	71
4	76	Cal+other	0.87			1.06		2.95	49.23				1.89											56	52
4	77	Sd+Chl	11.51	0.84	7.60	33.58		1.65	0.24		0.48						0.18					0.66		57	89
4	78	Qz	97.87			2.14																		100	125
4	79	Ру				28.14							71.87											100	236
4	80	Sd+other	8.69		2.60	35.87	0.21	0.58	1.65	0.62	0.23		0.63									5.94		57	65
4	81	Ank			0.31	10.00	0.65	13.67	31.38															56	61
4	82	Ank+Qz	1.28		0.79	16.58	1.82	24.09	55.44															100	64
4	83	Py+other	3.17		1.78	38.21		0.36	0.78	0.39			53.31									1.61		100	154
4	84	ChI+Kfs	49.89	0.22	31.65	13.52		2.07	0.34	0.42	1.92													100	101

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	Cr_2O_3	CuO	ZnO	SrO	ZrO_2	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
4	85	Ank				8.02	0.78	15.49	31.71															56	62
4	86	Ank	0.46		0.39	9.56	0.92	13.84	30.83															56	62
4	87	Py+other	10.97		10.90	25.63			0.11				52.39											100	190
4	88	Kfs+Chl+IIm	61.50	6.16	23.30	4.75		1.43	0.25	0.49	2.12													100	106
4	89	Qz	99.47			0.53																		100	128
4	90	Chl+kfs+other	35.06	1.13	18.88	38.13		2.12	0.69		2.02	0.48										1.45		100	81
4	91	Chl+Kfs+other	33.59	1.12	12.19	45.13		2.16	0.59		4.26											0.97		100	88
4	92	Clt (cont)				0.40							52.39					47.21						100	104
4	93	F-Ap (diag)+other	24.69		0.96	0.87			34.77	0.35	0.25	30.52	0.85	5.46								1.30		100	112
4	94	Py+Cal+Qz	10.10			23.04		0.61	11.81				54.14											100	173
4	95	Py	0.21			28.26							71.54											100	219
4	96	Qz	99.04			0.54							0.42											100	118
4	97	Chl+Cal	33.29		20.15	23.92		3.92	3.10		0.61													85	86
4	98	Py+Cal	0.34			21.38	0.37	0.58	40.77				36.58											100	84
4	99	Py+Cal	0.24			23.14	0.18	0.38	27.33				48.77											100	120
4	100	Cal+Py+other				5.54	0.27	0.69	41.31				8.19											56	72
4	101	Py	0.88		0.81	27.72							70.59											100	217
4	102	III+ChI+other	49.82	0.95	27.32	4.17		1.86		0.48	3.98			1.44										100	106
4	103	Qz	98.08		0.76	1.02					0.14													100	122
4	104	Kfs	65.72		18.03	0.28					15.97													100	116
4	105	Py+other	7.51		5.93	35.67		1.44	0.24				48.84											100	151
4	106	Py+other	7.87		6.16	32.97		1.77	0.20				51.02											100	153
4	107	Py+other	4.73		3.70	32.91		1.18					57.48											100	170
4	108	Sd+Chl+other	9.84	0.70	8.09	34.73		1.65	0.17	0.38	0.34	0.42										0.50		57	84
4	109	Sd+other	4.88	0.70	5.59	43.18	0.14	1.08	0.19		0.21	0.82												57	80
4	110	Sd+other	7.35	0.94	6.86	38.04		1.19	0.21	0.38	0.26	0.58			0.14							0.82		57	79
4	111	Sd+other	11.86	0.64	8.12	34.19		1.12	0.17	0.48	0.40													57	101
4	112	Cal			0.31	1.73	0.22	1.68	51.42				0.64											56	55
4	113	Py+Cal	0.81			31.60			3.81	0.30			63.50											100	1/6
4	114	Py Cali ath an	0.50		0.40	28.28		4.40	0.80				70.94	0.07										100	213
4	115	Cal+other	0.53	0.07	0.43	1.46		1.10	49.44		0.00	0.50		3.07								0.00		56	55 77
4	110	Chluether	7.19	0.97	10.72	36.96		1.22	1.65	0.22	0.38	0.56										0.66		5/	11
4	117	Crit+other	29.73	0.64	10.73	20.22		7.09	0.23	0.33	1.44	0.55			0.45							0.00		60	95
4	118	Satother	11.39	0.59	5.89	34.97	0.50	1.15	0.39	0.34	0.92	0.55			0.15							0.68		57	/8 69
4	120	Chluether	4.01	0.15	2.45	30.30	0.56	4.00	0.20	0.26	0.20	2.15										1.30		57	00
4	120	Chi+other	37.09	0.15	23.90	10.71	0.79	2.09	0.30	0.30	0.62													60 57	93
4	121		0.04			26.82	0.70	0.65	22.67				10.22											100	121
4	122	F y+Cai	42.42	0.47	22.44	17.02	0.21	2.42	1 1 2	0.51	1 95		49.ZZ											100	02
4	123	Chl+other	73 00	1 02	23.44	30.52		2.43	0.57	0.51	1.00	0.54	\vdash									0.74		85	75
4	124	Sd+Cal+other	23.99	0.52	3 02	20.07	0.18	2.04	25.28		1.20	0.54	0.43									0.74		57	64
4	125	Sd+other	0.14	0.32	7.66	20.37	0.10	1.70	23.20	0.31	0.56	0.48	0.43											57	83
4	120	Ank	3.14	0.09	1.00	8 15	1.86	14 22	31 75	0.31	0.00	0.40								-				56	58
4	128		7 95	0 99	5 79	35.27	1.00	1 48	4.06		0.38											0.85		57	67
4	120		13.73	67 1/	0.68	18 22		1.40	0.21		0.00											0.00		100	Q1
-	130		96.07	3 27	0.00	0.66			0.21															100	116
4	131	Oz+Cal+other	61.80	0.47	13.64	5.44		0.95	11 10	2.82	2 43		1.35											100	95
4	132	Sd+Chl+other	15 24	0.52	6.30	30.88		1.52	0.24	2.02	1.73	0.56	1.00											57	85
4	133	Clt (cont)	10.24	0.02	0.00	50.00		1.02	0.24		1.75	0.00	51 44					47 42		1 16				100	95
4	134	07	98.68			0.39							31.44					0.92		1.15				100	110
4	135	Sd+other	6.45	1.28	5.87	40.09		1.00	0.30	0.32	0.29	0.59						5.02				0.60		57	77

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	CuO	ZnO	SrO Zr	D ₂ BaO	HfO ₂	WO_3	PbO	Total	Actual Total
4	136	Qz+Cal+other	77.42		3.00	4.99		0.85	13.39		0.35												100	99
4	137	Chl+Kfs	26.08	1.15	15.02	33.55		6.21	0.25	0.39	2.37												85	83
4	138	Chl+Kfs	30.93	1.77	12.68	37.91		2.26	10.83	0.73	2.45												100	76
4	139	Cal+Chl	26.85		16.34	20.91		5.21	30.04		0.65												100	79
4	140	Py+other	3.19		1.91	43.57		0.68	0.56				49.09								1.01		100	123
4	141	Sd+other	3.44		2.95	48.00	0.15	1.02	0.27			1.16											57	69
4	142	Brt (cont)											38.45						61.55				100	104
4	143	Ру	1.80			41.84			1.55	0.35			53.01								1.44		100	135
4	144	Qz+other	91.64		4.52	1.53		0.40	0.21	0.32	0.54		0.82										100	95
4	145	Qz	99.75			0.26																	100	111
4	146	Sd+Chl	10.39	0.68	6.96	36.37		1.17	0.20		0.56	0.47											57	78
4	147	Sd+Py+other	6.14		2.58	43.18	0.41	0.49	0.39		0.26		1.71						1.82				57	76
4	148	Sd+Py+other	4.71		1.62	40.76	0.38	0.59	0.46		0.20		2.60		0.23				3.97		1.48		57	71
4	149	F-Ap (diag)+other	4.21		2.55	1.02		0.36	43.95	0.70	0.61	37.12	0.70	7.94							0.83		100	102
4	150	Py+Cal+other	11.21		8.50	25.36		4.43	10.38	0.34	0.16		39.65										100	123
4	151	Ank				11.07	0.68	15.48	28.76														56	57
4	152	Chl+toher	40.04	0.23	14.77	24.56		3.15	1.19		1.05												85	96
4	153	Ank				9.61	0.17	14.01	31.25				0.96										56	59
4	154	Sd+other	10.25	0.32	3.96	34 79	1.04	0.50	0.88	0.48	0.65		0.40								3 34		57	77
5	1	Ank	.0.20	0.02	0.00	10.75	0.68	13.24	31.33	0.10	0.00		0.10								0.01		56	73
5	2	07	99.52			0.48	0.00		01.00														100	140
5	3	Sd+Chl	9.67		8 1 3	29.99	0.26	5.60	3.06		0.30												57	94
5	1	Ill+other	11 81	0.20	21.53	16.07	0.20	2.40	1 20	0.52	2.16												100	121
5	5		26 10	0.23	21.33	26.07	0.72	2.43	1.20	0.52	2.10												85	121
5	6	Oziether	20.10		25.50	0.01	0.72	0.72		0.20	0.76												100	141
5	7	Sd+other	94.02	1.00	7.57	36.23		1.04	0.18	0.20	0.70	0.58									0.56		57	08
5	0		42.20	1.00	1.57	44.20	0.67	1.04	0.10	0.51	0.00	0.00									0.50		100	102
5	0	Sdu Chluothor	43.30	0.69	0.40	25.64	0.07	4.00	4.40	0.27	0.25	0.92									0.59		57	102
5	9	Bucol	0.69	0.00	0.44	20.04		3.03	6.20	0.27	0.77		61.00								0.56		100	206
5	10	Fy+Cai	0.00			32.10			0.20				01.00										100	200
5	12		99.77	0.59	22.17	21 20		4.02	0.52	0.42	2.20		1 17								1 1 2		100	133
5	12	Cdu other	44.00	0.56	23.17	21.20	0.50	4.92	0.55	0.43	2.29		1.17								1.12		F7	99 70
5	13	Su+other	2.33		1.41	39.52	0.50	0.20	4.95		0.00												57	70
5	14		3.00		1.90	40.01	0.50	0.00	4.41	0.54	0.22	40.05	4 40	0.00							0.00		57	19
5	15	F-Ap (diag)+other	1.10	0.40	0.79	0.84		2.00	45.47	0.54	0.18	40.05	1.40	9.29							0.30		100	135
5	16	Chi+Kis+Cai	44.58	0.40	22.83	21.82	0.05	3.90	2.28	0.50	3.70												100	112
5	17	Sa+other	10.07		6.05	30.77	0.35	6.12	3.04		0.59		04.00										5/	89
5	18	Py+other	2.46		1.83	33.26		0.35	0.28				61.83										100	217
5	19	Chl	24.20	0.75	17.44	36.83		4.54	0.33	0.36	0.56												85	109
5	20	Qz+other	90.12	0.18	6.22	2.32		0.55			0.60												100	134
5	21	Qz	99.99																				100	145
5	22	Cal+Py+other				9.42	0.35	0.27	28.72	0.41			14.96	1.38							0.48		56	77
5	23	Py	0.13			28.51							71.37										100	261
5	24	Clt (cont)											51.36					47.96	0.68				100	123
5	25	Py+Cal	0.51			28.61			2.52				68.10						_				100	240
5	26	Cal+Chl	12.14	0.26	7.32	9.37	0.12	2.02	23.87		0.45										0.44		56	93
5	27	Ank				10.86	0.62	13.15	31.37														56	73
5	28	llm+other	2.48	66.71	0.74	29.32	0.77																100	117
5	29	Qz	99.69			0.30																	100	144
5	30	Qz+other	96.71		1.17	1.69					0.41												100	144
5	31	py+other	1.93		0.53	35.13		0.30	0.35				60.03					0.8	35		0.88		100	203
5	32	Sd+Chl+other	7.56	0.95	6.25	39.76	0.14	0.95	0.22		0.31				0.16						0.72		57	87

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	CuO	ZnO	SrO	ZrO_2	BaO	HfO_2	WO_3	PbO	Total	Actual Total
5	33	Py+other	3.10		2.15	28.70		0.81			0.10		65.12											100	229
5	34	III+Chl+other	48.88	0.97	23.69	6.26		3.34	3.28	0.46	3.13													100	116
5	35	Chl+Kfs	31.38	0.90	12.77	47.64		2.34	0.57		3.31	0.82												100	106
5	36	Chl+Cal+Py	22.35	0.55	14.91	43.29	0.50	5.67	4.21		1.87		5.04									1.60		100	100
5	37	Qz	98.19		0.45	0.99		0.36																100	142
5	38	Sd+other	8.06	1.25	6.69	38.37		0.79	0.20	0.34	0.47											0.83		57	93
5	39	Chl	26.78		22.68	19.36	0.14	16.04																85	121
5	40	Sd+other	3.00		1.55	37.85	0.53	9.84	3.93		0.29													57	77
5	41	Qz+other	40.41			6.15								46.84										100	2
5	42	Kfs	62.85	0.35	24.55	5.02		1.01		0.53	5.69													100	139
5	43	Sd+other	4.26		2.03	41.08	0.60	5.08	3.64		0.29													57	78
5	44	Sd+other	5.46		3.56	36.49	0.54	6.21	4.40		0.34													57	80
5	45	III+Chl+other	43.05	1.13	20.80	15.92		2.88	2.06	0.56	3.29		0.33											100	108
5	46	Sd+Chl+other	9.16	0.87	6.89	36.39		1.28	0.34		0.50	0.63										0.74		57	80
5	47	Sd+Chl+other	16.40	0.71	9.15	27.10		1.91	0.32		0.80											0.60		57	90
5	48	Chl	26.10		21.94	20.61	0.48	15.87																85	116
5	49	llm+other	3.53	82.99	3.78	6.45		0.53	0.90	0.40			0.42									1.05		100	111
5	50	Sd+other	9.75	0.37	4.16	31.38	0.30	6.53	3.72		0.78													57	81
5	51	Qz+Sd+other	63.47	1.35	15.25	11.01	0.17	3.28	2.06	0.51	2.90	05.44	0.07	7.40			0.00					4.50		100	111
5	52	F-Ap (diag)+other	15.32		8.65	11.89		2.37	25.03	0.75	0.34	25.41	0.87	7.48			0.36					1.50		100	78
5	53	Sd+other	1.17		0.38	39.83	2.11	4.51	6.77	0.00	0.40	2.23	0.70	1.0.1			0.00					4.40		57	/4
5	54	F-Ap (diag)+Chi	20.47	0.00	9.96	12.25		2.67	23.87	0.80	0.46	22.80	0.72	4.24	0.45		0.29					1.49		100	97
5	55	Sd+otner	3.78	0.96	3.53	45.43		0.87	0.29		0.00	0.64			0.15							1.16		57	69
5	50	Sd+Chi+other	8.23	0.77	6.84	38.34		1.19	0.28		0.33	0.50	0.47		0.13							0.74		57	85
5	5/	Sd+Cni+other	0.06	0.76	5.89	40.60	0.00	0.71	0.30	0.74	0.43	0.59	0.47									1.19		57	80
5	58	Sd+other	8.91		2.66	36.80	0.23	0.43	1.32	0.71	0.26		0.50									5.17		57	79
5	59	Su+olifier Duu othor	7.95		2.31	30.99	0.25	0.33	1.54	0.57	0.19		0.04									0.22		57	03
5	61	Py+olner Dv: other	3.30		1.00	39.02		0.55	0.76				10.09									0.97		100	170
5	62	Prt (cont)	1.52		0.04	0.26		1.24	02.00				20 70							61.05				100	120
5	63	Chl+other	24.20	1 25	11 13	0.20		1.8/	0.48		2 37	0.70	30.70							01.05		0 00		85	86
5	64	Sd+Cbl+other	10.68	0.73	636	35.35		1.04	0.40		0.07	0.70										0.55		57	00
5	65	Pytother	6.18	0.75	4 31	39.33		1.25	0.20		0.57	0.53	49.02									0.55		100	167
5	66	Pytother	2.37		1.61	33.15		0.40	0.21				62.28											100	215
5	67	Kfs+Chl+other	58 76	0.67	24.28	6.60		2 10	2.08	0.51	3.46		1 45											100	114
5	68	Oz+Sd	97 14	0.85	24.20	1.81		2.10	0.20	0.01	0.40		1.40											100	132
5	69		0.45	86.32	0.64	12 17	0.41		0.20															100	110
5	70	III+Cal+Py+other	42 74	4 49	26.36	5.46	0.11	1 20	2 99	0.88	3.18		272											100	79
5	71	Pv+CuO	-12.7-1	1.10	20.00	22.68		1.20	2.00	0.00	0.10		53.66			23.66								100	208
5	72	Sd+other	4.33	1 29	5 56	43 10		0.85	0.25		0.14	0.71	00.00			20.00						0.78		57	84
5	73	III+Chl	45.48	0.43	19.66	19.31		2.24	0.34	0.31	2.23	0										0.10		100	110
5	74	Chl+Kfs+other	31 45	1.35	16.68	44 42		3.63	0.70		1 76													100	94
5	75	Chl	31.62		21.94	22.00	0.24	8.44	0.110		0.57				0.17									85	104
5	76	Sd+Chl+other	14.64	0.82	8.34	25.33	0.16	4.91	0.34	0.44	1.31											0.72		57	87
5	77	Sd+Chl+other	16.23	0.87	6.54	30.38		1.74	0.24		0.36	0.50												57	96
5	78	llm		62.65	0.40	35.74	1.23																	100	110
5	79	Ilm+other	28.54	37.23	23.17	10.10	0.23	0.38			0.36													100	123
5	80	Sd+Chl+other	9.85	0.63	6.65	37.16		0.93	0.26		0.85	0.68												57	95
5	81	F-Ap (diag)+Kfs+other	33.74	1.77	18.25	9.75		1.87	15.01	0.50	2.47	13.79	0.40	2.43										100	115
5	82	Ap+Chl+other	21.76	0.43	12.11	29.43	0.32	1.72	19.29	0.43	1.36	11.37	0.60									1.16		100	101
5	83	Sd+Qz+Py+other	1.49	0.27	0.34	40.73			0.68				1.03			1.27	5.18					3.65	2.38	57	68

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	CuO	ZnO	SrO	ZrO ₂	BaO	HfO ₂	WO ₃	PbO	Total	Actual Total
5	84	Qz+other	90.19	1.88	2.32	4.32		0.38			0.89													100	136
5	85	Py+other	6.72		3.67	29.19		0.81	0.24		0.29		59.08											100	175
5	86	llm+other	28.32	65.75	2.44	2.68	0.23		0.28		0.33													100	132
5	87	Chl+Kfs	45.39	0.75	15.27	28.96		3.65	0.50	0.44	4.44											0.59		100	115
5	88	Qz+other	73.14	0.28	15.02	6.97		1.89	0.34	0.27	2.07													100	124
5	89	Sd+Qz+other	18.90		1.53	26.32	0.16	0.36	1.57	0.51	0.15		0.57									6.79		57	91
5	90	Py+other	5.48		3.89	34.68		0.93	0.14				54.89											100	182
5	91	Sd+Chl+other	13.63	0.14	6.83	27.39	0.37	4.41	3.06		0.34											0.83		57	92
5	92	Py	0.21			28.28							71.52											100	247
5	93	Py+other	22.93	0.35	17.40	21.01		0.99	0.17	0.28	1.37		35.51											100	147
5	94	Sd+Kfs+other	26.09	0.24	6.00	19.15		1.76			3.44	0.31												57	110
5	95	Cal+Qz+other	44.35		2.36	4.66		0.82	23.08		0.24													56	93
5	96	Sd+Chl+other	11.62	0.82	8.26	29.95		2.28	2.18		0.36	1.29												57	94
5	97	Sd+Chl	7.94	0.68	6.59	36.55		2.56	1.24		0.18	0.44										0.66		57	92
5	98	Cal+Py+Chl	6.51		1.95	5.59		2.46	38.60		0.26		0.64											56	70
5	99	Sd+other	6.65	1.11	6.17	39.31	0.15	1.17	0.38		0.31	0.52			0.15							0.80		57	80
5	100	Sd+Chl+other	9.28	0.97	6.99	36.48		1.31	0.22	0.33	0.46	0.50										0.48		57	91
5	101	Py+Kfs	35.13	0.17	14.38	14.46		0.55	0.32		1.20		33.79											100	133
5	102	Cal+Chl+other	13.12		6.94	4.08	0.20	0.80	29.74		1.13													56	67
5	103	Py+other	5.35	0.40	3.76	33.90		0.96	0.41	0.38	0.12		53.51									1.21		100	161
5	104	Kfs+other	63.66	1.22	20.10	9.12		2.01	0.27	0.35	3.28													100	114
5	105	Sd+other	2.67		1.68	41.13	0.26	7.04	4.08		0.15													57	71
5	106	Sd+other	6.99	1.09	6.82	39.08		0.95	0.27		0.36	0.62										0.62		57	91
5	107	Qz+Sd	88.18	0.23	0.93	10.65																		100	139
5	108	Sd+other	9.44	0.87	7.65	35.87		0.93	0.21	0.31	0.51	0.62										0.60		57	94
5	109	Kfs+other	62.06	0.23	28.66	3.91		0.99		0.46	3.70													100	124
5	110	Kfs+Chl	41.65	1.87	19.88	17.14	0.30	10.45		0.35	7.68											0.69		100	114
5	111	Py+Cal	0.60			33.19			4.06				62.15											100	186
5	112	Qz+other	86.89	0.30	8.07	2.07		0.51	0.45		1.70													100	128
5	113	Sd+Chl+Kfs	21.89	0.46	6.31	22.79		1.54	0.24	0.25	2.61	0.46										0.47		57	101
5	114	llm+other	10.87	64.30	1.11	23.52	0.21																	100	106
5	115	III+Chl	44.72	0.70	24.88	13.04		2.64	0.56	0.55	2.93													100	110
5	116	llm	0.53	66.71	0.89	31.33	0.34		0.21															100	98
5	117	Sd+Kfs+other	15.94	0.68	7.30	22.86	0.21	6.43	2.26		1.32													57	69
5	118	Sd+other	8.11	1.37	7.00	37.49		0.82	0.30		0.52	0.56										0.64		57	88
5	119	III+Chl+other	48.40	0.77	24.22	9.59		2.51	0.32	0.42	3.39		0.38											100	100
5	120	Py+other	5.73		3.72	35.30		0.90	0.38	0.30	0.20		52.64									0.86		100	155
5	121	Qz	99.77			0.23																		100	131
5	122	Qz	99.81			0.17																		100	130
5	123	Sd+other	3.53	0.56	5.40	44.47		0.87	0.27		0.15	0.58										1.17		57	76
5	124	Sd+other	0.93		0.71	41.50	0.63	6.99	6.22															57	67
5	125	III+ChI+Cal	44.48	0.42	24.71	7.87		2.56	6.65	0.44	2.88													100	99
5	126	Chl+Kfs	25.86	1.12	14.59	32.33	0.18	7.51	0.21	0.60	2.59													85	96
5	127	llm+Chl+other	26.42	31.93	16.40	13.42		2.95	0.31	0.67	0.43			6.64								0.68		100	113
5	128	Qz+Rt	50.57	47.82	0.74	0.86																		100	120
5	129	Chl	27.64	0.20	21.22	24.20	0.41	11.33				1			l		1					1		85	105
5	130	Qz	98.45		0.77	0.78																		100	130
5	131	Sd+other	3.66	0.99	3.53	45.77		0.80	0.50			0.60										0.93		57	76
5	132	Sd+other	7.68	1.15	6.26	38.51		0.90	0.36		0.54	0.60			0.15							0.86		57	77
5	133	IIm	0.45	65.45	0.87	33.24																		100	99
5	134	Py+other	8.45		6.54	36.46		1.94	0.24				46.07											100	158

5 135 Cale-Score 2.50 0.41 1.50 <	Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	Cr_2O_3	CuO	ZnO	SrO ZrO ₂	BaO	HfO ₂	WO_3	PbO	Total	Actual Total
5 16 In-Churcher 316 Day CA 202 128 127 273 0.71 100 92 5 137 Day CA 128	5	135	Cal+Sd+other	2.59	0.49	1.37	13.98	0.28	1.09	37.26		0.10												56	66
5 137 Py-Cal 0.26 P 22 10.31 6.133 6.138 0.4 0.4 0.44	5	136	Ilm+Chl+other	34.16	5.09	20.22	33.05		2.29	1.29	0.47	2.73	0.71											100	92
5 138 Schulter 446 0.46 573 4309 0.18 0.28 0.29 0.61 0.97 77 72 5 140 FAg (Bay)-Ohr 4.50 0.61 72 2.77 0.63 0.97 72 72 5 140 FAg (Bay)-Ohr 3.65 72 2.47 0.64 3.64 0.63 0.77 </td <td>5</td> <td>137</td> <td>Py+Cal</td> <td>0.26</td> <td></td> <td></td> <td>27.52</td> <td></td> <td></td> <td>10.31</td> <td></td> <td></td> <td></td> <td>61.93</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>100</td> <td>154</td>	5	137	Py+Cal	0.26			27.52			10.31				61.93										100	154
5 130 Set-other 43.12 0.78 0.37 0.27 0.63	5	138	Sd+other	4.46	0.64	5.73	43.09	0.18	0.83	0.28		0.20	0.60									0.97		57	79
6 140 F-Ap (asp)-other 9.58 7.78 2.78 7.6 7.6 7.6 7.6 7.6 7.6 7.7 <td>5</td> <td>139</td> <td>Sd+other</td> <td>4.50</td> <td>0.64</td> <td>5.61</td> <td>43.12</td> <td>0.19</td> <td>0.76</td> <td>0.30</td> <td></td> <td>0.27</td> <td>0.63</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.99</td> <td></td> <td>57</td> <td>72</td>	5	139	Sd+other	4.50	0.64	5.61	43.12	0.19	0.76	0.30		0.27	0.63									0.99		57	72
5 141 S4-Checkeber 158 0.82 0.83 0.21 1.72 0.84 0.8	5	140	F-Ap (diag)+other	9.35		7.82	2.47		0.46	36.81	0.69	1.24	32.72	0.67	7.76									100	124
5 142 NB-Chi OH 46.8 0.38 12.4 30.44 3.25 0.24 5.64 0 0 0 100 100 100 5 144 Py-ether 5.08 1.44 Py-ether 5.08 1.42 0.42 0.43 0.45 5.49 0.45 3.27 0.01 100 </td <td>5</td> <td>141</td> <td>Sd+Chl+other</td> <td>16.18</td> <td>0.62</td> <td>5.85</td> <td>30.20</td> <td></td> <td>1.49</td> <td>0.21</td> <td></td> <td>1.72</td> <td>0.58</td> <td></td> <td>57</td> <td>97</td>	5	141	Sd+Chl+other	16.18	0.62	5.85	30.20		1.49	0.21		1.72	0.58											57	97
6 143 Ill-Chieben 5.08 1.44 2.30 0.30 2.30 0.42 0.42 0.45 0.45 0.45 0.45 0.45 0.46 0.42 0.46 0.45 56.86 0 0.45 0.46 0.46 0.46 0.46 0.45 56.86 0 0.45	5	142	Kfs+Chl	46.61	0.38	12.74	30.84		3.25		0.54	5.64												100	105
1 144 Py-other 5.00 3.24 3.203 1.18 0.20 5.1.49 4.5.33 2.72 1.00 181 5 145 Schother 8.21 1.12 6.68 7.88 0.33 0.39 0.34 1.02 4.5.33 2.72 0.91 5.7 76 5 144 Py-other 1.14 6.65 4.3.2 1.11 1.18 0.47 3.2.6 0.01 0.53 1.00 1.26 5 149 Sc-other 7.76 0.53 0.00 0.55 0.00 0.55 0.00 1.26 0.53 0.00 1.26 0.56 0.64 0.40 0.62 0.77 66 0.66 0.66 0.64 0.64 0.66 0.66 0.66 0.66 0.64 0.64 0.64 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.66<	5	143	III+Chl+other	50.89	1.44	24.30	6.90		2.30	0.29	0.42	3.45												100	106
6 146 Criticonth 0 0.6 0 <	5	144	Pv+other	5.80		3.84	32.03		1.18	0.20				56.96										100	181
i i	5	145	Clt (cont)				0.46							51.49					45.33	2.72				100	108
6 147 Ozrother 55.38 0.27 19.69 18.89 2.20 0.99 0.34 14.9 12.0 1 1 1 0.07 1 2.26 1 1 0.02 1.00 12.0 6 149 Sd+cell+orter 7.96 0.29 5.30 35.17 1.09 4.48 1.32 0.38 0.40 0.47 32.26 1 0.32 1.00 1.26 5 150 Sd+Cal+other 2.14 1.03 2.88 0.00 0.95 2.00 1.05 1.05 0.02 5.7 86.6 151 Cal 1.67 0.88 4.49 0.27 0.55 0.05 0.15 0.46 5.7 86.0 153 Sd+Cal+other 1.97 0.98 0.23 0.45 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48 0.48	5	146	Sd+other	8.21	1.12	6.66	37.88		0.63	0.31	0.35	0.33	0.59									0.91		57	76
6 148 Py-other 11.44 m 6.04 32.28 m m 32.0 100 122 6 150 Sch-chlerber 2.14 1.08 2.88 30.00 0.96 20.00 m m m m 57 66 6 151 Cal m 1.16 0.22 0.87 53.63 m m m m 57 66 6 152 RH-other 0.49 9.70 0.87 0.55 m m m m 0.46 57 86 5 154 Ank-other 1.97 0.88 47.18 0.07 0.33 1.55 0.35 m m m 0.46 57 88 5 156 Ank-other 1.92 0.81 1.46 1.00 1.02 1.06 0.88 1.48 m m 1.00 1.06 0.04 57 69 1.00 1.00 1.00	5	147	Qz+other	55.38	0.27	19.69	16.89		3.20	0.99	0.34	1 49		1 20								0.53		100	121
6 140 Sch-Chierter 2.40 2.30 2.40 0.46 2.40 1.18 0.27 0.13 2.40 0.42 0.42 0.42 0.42 0.42 0.42 0.41 1.14 2.42 0.30 0.41 1.44 3.02 0.45 0.41 1.44 3.02 0.45 0.41 1.44 3.02 0.45 0.41 1.44 3.02 0.45 0.44 1.44 3.02 0.45 0.45 1.00 1.10 1.00 1.00	5	148	Py+other	11 44	0.2.	6.05	43.32		1 11	1 18	0.01	0.47		32.26								3.20		100	126
6 150 Soft-24-other 214 203 288 2000 Color Colo	5	140	Sd+other	7.96	0.29	5 30	35.17	1 00	4.48	1.10	0.38	0.40		02.20								0.62		57	82
6 161 Correlation 1.14 1.20 1.18 0.20 0.83 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.85 1.18 0.84 0.85 0.84 0.85 0.84 0.84 0.73 0.86 0.84 0.73 0.86 0.85 0.85 0.15 0.15 0.46 57 88 5 155 Py-other 4.34 0.33 1.16 0.73 0.45 0.85 0.08 0.45 0.46 57 88 5 155 Py-other 4.34 0.33 1.16 0.73 0.46 0.85 0.08 0.46 0.46 57 68 64 5 157 Ill-other 4.982 0.81 1.16 2.28 0.51 2.90 1.88 0 0.04 56 66 6 160 Oz-other 1.99 0.95 1.18 0.28 0.27 0.22<	5	150	Sd+Cal+other	2.14	1.03	2.88	30.00	1.05	0.95	20.00	0.00	0.40										0.02		57	66
6 100 Reventer 0.40 95.70 116 21.00 0.40 0.85 0 0.46 0.46 57.7 184 6 153 Side/Chleather 16.67 0.88 6.48 27.18 0.07 0.23 1.55 0.45 0.15 0 0.46 57.88 6 156 Adventiter 0.37 0.31 0.45 0.42 0.66 56.98 0.15 0 0.46 57.88 6 156 Adventiter 0.32 0.35 0.51 0.88 0.45 0.46 59.98 0.46 57.98 1.68 0.46 56.99 1.68 0.26 56.96 66	5	151	Cal	2.14	1.00	2.00	1 18	0.32	0.33	53.63														56	61
1 102	5	152	Bt+other	0.49	95 70	1 15	2.12	0.52	0.07	0.55														100	114
1 133 Construction 103 Construction 100 106 66	5	152	SduChluothor	16 57	0.00	0.40	2.12		0.07	0.33		1 66	0.25			0.15						0.46		57	00
103 Disk isk< th=""> Disk Disk D</thdisk<>	5	155	Anky other	10.57	0.00	0.49	7.04	0.45	0.97	0.23		0.45	0.35			0.15						0.40		57	00
5 153 Pytother 4.34 3.3 3.13 10.73 0.13 0.08 0.99.96 10.0 100	5	104	Alik+otilei	1.97		0.90	7.31	0.45	14.24	30.02		0.45		50.00										100	400
5 186 Attik-Onter 0.92 0.99 0.94 0.36 0.05 0.05 0.06 0 0.16 0	5	155	Py+other	4.34		3.31	31.51	0.00	0.73	0.13		0.00		59.98										100	186
5 157 IllHomer 44.882 0.18 31.40 2.24 0.50 2.93 1.18 1.08 1 100 110 120 100 110 120 100 110 120 100 110 120 100 120 100 120 100 120	5	150	Ank+other	0.92	0.40	0.99	6.94	0.38	14.16	32.53	0.54	0.08			4.00									50	64
5 158 Sd+Other 2.50 0.91 41.70 0.26 0.55 5.95 0.96 1 0 0 5 150 0.7 69 99 5 150 Q2+other 82.55 8.94 6.95 0.85 0.22 0.51 0 0.88 1.48 0 100 120 5 161 Chi+Calvother 22.03 16.10 44.72 0.66 6.38 1.75 0 0.63 57 77 5 162 Sd+other 5.03 0.14 0.22 0.27 0.22 0.56 0 0.63 57 76 5 163 Sd+other 4.40 0.16 0.23 0.23 0.23 0.24 0.88 1.11 0.63 57 63 5 166 IIIm 0.45 67.84 0.79 0.88 0.55 3.18 0.23 0.16 0.16 0.88 57 71 5 166 Sd+other 7.19 1.54 36.22 0.75 0.36 0.60 0	5	157	lii+otner	49.82	0.18	31.46	2.84	0.00	0.50	5.00	0.51	2.99			1.68									100	116
5 159 Cal+other 1.99 0.95 1.18 2.28 48./2 0.36 0.16 0.88 1.48 1 1 100 180 5 160 C2+coher 82.55 8.94 6.95 0.86 0.22 0.51 1 1 100 180 100 180 5 162 Sd+other 22.03 16.10 44.72 0.66 6.33 6.18 0.22 0.56 1 1.08 100 180 5 163 Sd+other 4.40 0.18 2.92 0.27 0.22 0.56 1 1.08 1.08 57 66 5 164 ChH-Cal+other 23.09 0.58 0.32 0.33 1.11 1 1.09 1.06 1.06 1.00 100 95 3.18 1.09 0.16 1.08 6.58 57 63 1.00 100 100 100 100 105 1.01 1.06 5.7 71 5.6 5.6 57 63 1.65 1.01 1.06 5	5	158	Sd+otner	2.50		0.91	41.70	0.26	5.95	5.69														5/	69
5 160 C2x+other 82.55 8.94 6.55 0.85 0.22 0.51 0 0 120 5 161 Chi-Cal+other 5.63 0.91 4.92 42.77 0.16 0.92 0.27 0.22 0.56 0 0 0.63 57 76 5 162 Sd-other 5.63 0.91 4.92 42.77 0.16 0.92 0.27 0.22 0.56 0 0 0.63 57 76 5 164 Chi+Cal+other 4.40 0.18 4.99 10.34 0.33 1.11 0 0 0.63 57 66 5 165 lim 0.45 67.84 0.79 30.58 0.32 0.33 1.11 0 0 0.68 57 71 5 166 lim+other 7.19 1.54 38.07 0.22 0.53 1.81 0.90 0.16 0.18 0.88 57 71 5 167 Sd-other 1.40 0.54 522 3.34 <th< td=""><td>5</td><td>159</td><td>Cal+other</td><td>1.99</td><td></td><td>0.95</td><td>1.18</td><td></td><td>2.28</td><td>46.72</td><td>0.36</td><td>0.16</td><td></td><td>0.88</td><td>1.48</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>56</td><td>66</td></th<>	5	159	Cal+other	1.99		0.95	1.18		2.28	46.72	0.36	0.16		0.88	1.48									56	66
5 161 Chl+Cal+other 22.03 16.10 44.72 0.66 6.93 0.18 0.53 1.75 100 1.08 1.07 1.77 77 1.64 1.08 1.08 0.63 1.77 1.07 1.08 1.08 1.00 9.57 1.66 1.08 1.07 9.308 0.33 1.11 1.08 1.00 9.56 1.64 9.016 1.00 9.56 1.63 1.07 9.44 1.00 9.56 1.03 1.010 9.66 1.08 0.16 0.16 0.658 57 77 5 170 Sd+other 11.40 0.57 3.54 0.62 0.25	5	160	Qz+other	82.55		8.94	6.95		0.85	0.22		0.51												100	120
5 162 Sd+other 5.8 0.91 4.92 4.27.7 0.16 0.27 0.22 0.56 57 77 5 163 Sd+other 2.40 8.58 0.84 6.58 5.73 0.23 57 66 5 164 Chi+Cal+other 2.30 0.58 14.63 29.94 4.99 10.34 0.33 1.11 57 66 5 166 IIm 0.45 67.4 0.79 0.58 0.32 100 106 100 106 100 106 100 106 100 106 100 106 100 106 100 106 100 106 100 106 100 106 100 106 100 106 100 106 100 106 100 106 100 106 100 107 106 100 133 107 100 133 107 103 103 <td>5</td> <td>161</td> <td>Chl+Cal+other</td> <td>22.03</td> <td></td> <td>16.10</td> <td>44.72</td> <td>0.66</td> <td>6.93</td> <td>6.18</td> <td>0.53</td> <td>1.75</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1.08</td> <td></td> <td>100</td> <td>88</td>	5	161	Chl+Cal+other	22.03		16.10	44.72	0.66	6.93	6.18	0.53	1.75										1.08		100	88
5 163 Sd+other 4.40 0.18 2.46 85.8 0.84 6.6.8 5.73 0.23 5 66 5 166 Ilm 0.45 67.84 0.79 30.58 0.32 </td <td>5</td> <td>162</td> <td>Sd+other</td> <td>5.63</td> <td>0.91</td> <td>4.92</td> <td>42.77</td> <td>0.16</td> <td>0.92</td> <td>0.27</td> <td></td> <td>0.22</td> <td>0.56</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.63</td> <td></td> <td>57</td> <td>77</td>	5	162	Sd+other	5.63	0.91	4.92	42.77	0.16	0.92	0.27		0.22	0.56									0.63		57	77
5 164 Chl+Cal-other 23.08 0.58 14.63 29.94 4.99 10.34 0.33 1.11 Image: Constraint of the state	5	163	Sd+other	4.40	0.18	2.46	36.58	0.84	6.58	5.73		0.23												57	66
5 165 Im 0.45 67.84 0.79 30.58 0.32 - - - - - - - 100 95 5 166 Ill+Chi-other 51.79 0.60 23.07 4.12 2.09 3.88 0.55 3.18 - - - 100 96 5 167 Sd+other 11.82 0.73 5.46 36.22 0.75 0.38 0.60 0.18 0.18 0.88 57 71 5 169 Sd+other 13.34 0.70 8.33 31.43 1.07 0.25 1.34 0.55 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.66 0.55 0.77 77 5 171 Py+other 1.93 1.36 3.62 0.55 0.46 61.83 0.66 0.78 0.58 100 139 5 172 Py+other 2.59 1.80 35.53 0.55 3.46 54.89 0.2 0.73 0.073 100 114	5	164	Chl+Cal+other	23.08	0.58	14.63	29.94		4.99	10.34		0.33	1.11											85	73
5 166 Ill+Chl+other 51.79 0.60 23.67 4.12 2.09 3.88 0.55 3.18 100 106 100 106 5 167 Sd+other 11.82 0.73 5.46 36.02 0.75 0.36 0.60 0.18 0.18 0.88 57 71 5 169 Sd+other 11.82 0.73 5.46 36.22 0.75 0.36 0.60 0.18 0.18 0.88 57 71 5 170 Sd+other 14.40 0.54 5.92 33.41 0.07 0.25 1.34 0.55 0.18 0.100 139 5 172 Py+other 1.93 <t< td=""><td>5</td><td>165</td><td>llm</td><td>0.45</td><td>67.84</td><td>0.79</td><td>30.58</td><td>0.32</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>100</td><td>95</td></t<>	5	165	llm	0.45	67.84	0.79	30.58	0.32																100	95
5 167 Sd-other 7.19 1.54 38.07 0.22 1.82 1.09 0.16 6 6.58 57 63 5 168 Sd+other 11.82 0.73 5.46 36.22 0.75 0.36 0.60 0.18 0.16 0.88 57 71 5 169 Sd+other 14.40 0.54 5.92 3.21 0.95 0.22 0.89 0.66 0.18 0.08 57 94 5 170 Sd+other 13.34 0.70 8.33 31.43 1.07 0.25 1.34 0.55 0.66 0.60 0.61 0.88 0.60 0.77 77 5 171 Py+other 1.93 1.36 33.62 0.66 61.83 0.60 0.58 1000 172 5 173 Py+other 1.07 0.85 0.45 45.71 0.55 0.13 38.38 1.17 10.97 0.73 1000 154 5 176 Qz+other 65.61 0.42 0.41 0.61 <td>5</td> <td>166</td> <td>III+ChI+other</td> <td>51.79</td> <td>0.60</td> <td>23.67</td> <td>4.12</td> <td></td> <td>2.09</td> <td>3.98</td> <td>0.55</td> <td>3.18</td> <td></td> <td>100</td> <td>106</td>	5	166	III+ChI+other	51.79	0.60	23.67	4.12		2.09	3.98	0.55	3.18												100	106
5 168 Sd+other 11.82 0.73 5.46 36.22 0.75 0.36 0.60 0.18 0.18 0.88 57 71 5 169 Sd+other 13.34 0.54 5.92 33.41 0.95 0.22 0.89 0.66 0 0 0 0 57 94 5 170 Sd+other 13.34 0.70 8.33 31.43 1.07 0.22 0.89 0.66 0 0 0 0 57 77 5 171 Py+other 6.48 3.84 40.67 0.95 0.55 1.34 0.55 0.66 61.83 0 0 0.58 100 139 5 173 Py+other 2.59 1.80 35.53 0.55 3.46 54.89 0 0 0.73 100 114 5 174 F-Ap (diag)+other 1.07 0.85 0.45 45.71 0.55 0.13 38.38 1.17 10.97 0.73 100 114 5 176 <	5	167	Sd+other	7.19		1.54	38.07	0.22		1.82				1.09		0.16						6.58		57	63
5 169 Sd+other 14.40 0.54 5.92 33.41 0.95 0.22 0.89 0.66 57 94 5 170 Sd+other 13.34 0.70 8.33 31.43 1.07 0.25 1.34 0.55 57 77 5 171 Py+other 6.48 3.84 40.67 0.95 0.55 47.52 0.58 100 139 5 173 Py+other 1.93 1.36 33.62 0.66 61.83 0.58 100 172 5 173 Py+other 2.59 1.80 35.53 0.55 0.46 54.89 0.73 100 114 5 175 Ilm+other 17.78 71.69 6.65 0.41 0.61 0.37 0.73 100 114 5 176 Q2+other 65.61 0.42	5	168	Sd+other	11.82	0.73	5.46	36.22		0.75	0.36		0.60				0.18						0.88		57	71
5 170 Sd+other 13.34 0.70 8.33 31.43 1.07 0.25 1.34 0.55 57 77 5 171 Py+other 6.48 3.84 40.67 0.95 0.55 47.52 100 139 5 172 Py+other 1.93 1.36 33.62 0.66 61.83 0.58 100 172 5 173 Py+other 2.59 1.80 35.53 0.55 3.46 54.89 1.00 154 5 174 F-Ap (diag)+other 1.07 0.85 0.45 45.71 0.55 0.13 38.38 1.17 10.97 0.073 100 114 5 176 Ilm+other 17.78 71.69 6.65 1.44 0.61 0.37 0.05 0.42 100 103 5 177 Dy+cal 24.42 11.97 0.97 </td <td>5</td> <td>169</td> <td>Sd+other</td> <td>14.40</td> <td>0.54</td> <td>5.92</td> <td>33.41</td> <td></td> <td>0.95</td> <td>0.22</td> <td></td> <td>0.89</td> <td>0.66</td> <td></td> <td>57</td> <td>94</td>	5	169	Sd+other	14.40	0.54	5.92	33.41		0.95	0.22		0.89	0.66											57	94
5 171 Py+other 6.48 3.84 40.67 0.95 0.55 47.52 0 0 100 139 5 172 Py+other 1.93 1.36 33.62 0.66 61.83 0 0 0.58 100 172 5 173 Py+other 2.59 1.80 35.53 0.55 3.46 54.89 0 0 0.58 100 172 5 174 F-Ap (diag)+other 1.07 0.85 0.45 45.71 0.55 0.13 38.38 1.17 10.97 0 0.73 100 114 5 175 Ilm+other 17.78 71.69 6.65 1.44 0.65 0.41 0.61 0.37 0.35 0.42 0.42 100 103 5 176 Q2+other 65.61 0.42 14.97 0.97 0.34 1.31 0.35 0.35 0.42 0 100 100 101 100 101 151 100 114 100 100 181 54.91 0	5	170	Sd+other	13.34	0.70	8.33	31.43		1.07	0.25		1.34	0.55											57	77
5 172 Py+other 1.93 1.36 33.62 0.66 61.83 0 0 0.58 100 172 5 173 Py+other 2.59 1.80 35.53 0.55 3.46 54.89 0 0 0 1.20 100 154 5 174 F-Ap (diag)+other 1.07 0.85 0.45 45.71 0.55 0.13 38.38 1.17 10.97 0 0 0.73 100 154 5 176 Qz+other 65.61 0.42 1.97 0.97 0.34 1.31 0.35 0.42 0 0 100 100 103 5 177 Qz+other 65.61 0.44 0.65 0.41 0.61 0.37 0.35 0.42 0.35 0.42 0.42 100 100 103 5 176 Qz+other 10.42 1.97 0.97 0.34 1.31 0.35 0.42 0.42 0.00 181 5 178 Sd+other 10.51 8.70 3	5	171	Py+other	6.48		3.84	40.67		0.95	0.55				47.52										100	139
5 173 Py+other 2.59 1.80 35.53 0.55 3.46 54.89 1 1 1.20 100 154 5 174 F-Ap (diag)+other 1.07 0.85 0.45 45.71 0.55 0.13 38.38 1.17 10.97 0 0.73 100 114 5 175 Ilm+other 17.78 71.69 6.65 1.84 0.65 0.41 0.61 0.37 0.35 0.35 0.42 0 100 100 100 103 5 176 Q2+other 65.61 0.42 19.48 8.79 1.97 0.34 1.31 0.35 0.35 0.42 0 100 100 100 100 101 105 100 1181 100 115 11.95 63.63 0 0 0.57 84 57 84 57 84 57 84 57 84 57 84 57 84 57 67 57 67 57 67 57 57 67 57 5	5	172	Py+other	1.93		1.36	33.62			0.66				61.83								0.58		100	172
5 174 F-Ap (diag)+other 1.07 0.85 0.45 45.71 0.55 0.13 38.38 1.17 10.97 0 0 0.73 100 114 5 175 Ilm+other 17.78 71.69 6.65 1.84 0.65 0.41 0.61 0.37 0.37 0 100 103 5 176 Q2+other 65.61 0.42 19.48 8.79 1.97 0.34 1.31 0.35 0.35 0.42 0 100 103 5 177 Py+Cal 24.42 11.95 63.63 0.42 0 100 181 5 178 Sd+other 10.51 8.70 30.64 0.27 5.30 1.58 0.21 0.83 0.42 0 0.57 84 5 179 Sd+other 2.31 1.25 38.66 0.25 9.03 5.29 0.21 0.60 0.66 62 57 67 5 180 Cal+Sd+other 4.21 1.90 11.24 0.23 0.88	5	173	Py+other	2.59		1.80	35.53		0.55	3.46				54.89								1.20		100	154
5 175 Ilm+other 17.78 71.69 6.65 1.84 0.65 0.41 0.61 0.37 0.37 0 0 100 103 5 176 Q2+other 65.61 0.42 19.48 8.79 1.97 0.37 0.34 1.31 0.35 0.35 0.42 100 100 105 5 177 Py+Cal 24.42 11.95 63.63 0 0.42 100 181 5 178 Sd+other 10.51 8.70 30.64 0.27 5.30 1.58 0.21 0.21 0.23 0.88 39.22 0.21 0.21 0 57 84 5 179 Sd+other 4.21 1.90 11.24 0.23 8.8 39.22 0.21 0.21 0 57 67 5 180 Cal+Sd+other 4.21 1.90 11.24 0.23 0.88 39.22 0.16 0 0 56 62 5 180 Cal+Sd+other 4.21 0.23 0.88 3	5	174	F-Ap (diag)+other	1.07		0.85	0.45			45.71	0.55	0.13	38.38	1.17	10.97							0.73		100	114
5 176 Qz+other 65.61 0.42 19.48 8.79 1.97 0.97 0.34 1.31 0.35 0.35 0.42 100 100 105 5 177 Py+Cal 24.42 11.95 63.63 100 181 5 178 Sd+other 10.51 8.70 30.64 0.27 5.30 1.58 100 181 5 179 Sd+other 2.31 1.25 38.66 0.25 9.03 5.29 0.21 100 100 181 5 179 Sd+other 2.31 1.25 38.66 0.25 9.03 5.29 0.21 100 100 181 5 180 Cal+Sd+other 4.21 1.90 11.24 0.88 39.22 0.16 100 125 5 181 Qz 98.60 0.68 0.59 0.13 101 100 125 5 182 IIm 0.49 69.52 0.53 0.22 100 100 100 100 100 1	5	175	llm+other	17.78	71.69	6.65	1.84		0.65	0.41		0.61		0.37										100	103
5 177 Py+Cal 24.42 11.95 63.63 1 1 100 181 5 178 Sd+other 10.51 8.70 30.64 0.27 5.30 1.58 1	5	176	Qz+other	65.61	0.42	19.48	8.79		1.97	0.97	0.34	1.31		0.35			0.35	0.42						100	105
5 178 Sd+other 10.51 8.70 30.64 0.27 5.30 1.58 0 0 57 84 5 179 Sd+other 2.31 1.25 38.66 0.25 9.03 5.29 0.21 0 57 84 5 179 Sd+other 2.31 1.25 38.66 0.25 9.03 5.29 0.21 0 0 57 67 5 180 Cal+Sd+other 4.21 1.90 11.24 0.23 0.88 39.22 0.16 0 56 62 5 181 Qz 98.60 0.68 0.59 0.13 0 100 125 5 182 IIm 0.49 69.52 0.68 28.55 0.53 0.22 0.84 0 0.64 57 93 5 183 Sd+Chi+other 19.30 0.60 11.70 18.05 0.10 5.15 0.52 1.58 0.84 0.84 0.84 0.44 57 93 5 184 Sd+othe	5	177	Pv+Cal				24.42			11.95				63.63										100	181
5 179 Sd+other 2.31 1.25 38.66 0.25 9.03 5.29 0.21 0.21 57 67 5 180 Cal+Sd+other 4.21 1.90 11.24 0.23 0.88 39.22 0.16 57 67 5 180 Cal+Sd+other 4.21 1.90 11.24 0.23 0.88 39.22 0.16 56 62 5 181 Qz 98.60 0.68 0.59 0.13 100 125 5 182 Ilm 0.49 69.52 0.68 28.55 0.53 0.22 0.13 100 125 5 183 Sd+Chl+other 19.30 0.60 11.70 18.05 0.10 5.15 0.52 1.58 0.44 57 93 5 184 Sd+other 12.98 0.77 8.78 31.87 1.08 0.24 0.84 0.84 0.44 57 82 5 185 Ank 787 0.49 155 32.49 0.84 0.84 <t< td=""><td>5</td><td>178</td><td>Sd+other</td><td>10.51</td><td></td><td>8.70</td><td>30.64</td><td>0.27</td><td>5.30</td><td>1.58</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1</td><td>1</td><td></td><td></td><td>57</td><td>84</td></t<>	5	178	Sd+other	10.51		8.70	30.64	0.27	5.30	1.58										1	1			57	84
5 180 Cal+Sd+other 4.21 1.90 11.24 0.23 0.88 39.22 0.16 56 62 5 181 Qz 98.60 0.68 0.59 0.13 100 125 5 182 Ilm 0.49 69.52 0.68 28.55 0.53 0.22 100 125 5 183 Sd+Chl+other 19.30 0.60 11.70 18.05 0.10 5.15 0.52 1.58 100 96 5 184 Sd+other 12.98 0.77 8.78 31.87 1.08 0.24 0.84 0 0.44 57 82 5 185 Ank 787 0.49 15 32.49 0 0.84 0 0.44 57 82	5	179	Sd+other	2.31		1.25	38.66	0.25	9,03	5,29		0.21									1			57	67
5 181 Qz 98.60 0.68 0.59 0.13 0.10 0.12 5 182 Ilm 0.49 69.52 0.68 28.55 0.53 0.22 0.13 0.00 100 125 5 183 Sd+Chi+other 19.30 0.60 11.70 18.05 0.10 5.15 0.52 1.58 0.84 0.44 57 93 5 184 Sd+other 12.98 0.77 8.78 31.87 1.08 0.24 0.84 0.84 0.44 57 82 5 185 Ank 7.87 0.49 15 15 32.49 0.84 0.44 57 82	5	180	Cal+Sd+other	4.21		1.90	11.24	0.23	0.88	39.22		0.16									1			56	62
5 182 IIIm 0.49 69.52 0.68 28.55 0.53 0.22 100 96 5 183 Sd+Chi+other 19.30 0.60 11.70 18.05 0.10 5.15 0.52 1.58 100 96 5 184 Sd+other 12.98 0.77 8.78 31.87 1.08 0.24 0.84 0.44 57 82 5 185 Ank 787 0.49 15 15 32.49 0.84 0.44 57 82	5	181	Q7	98 60		0.68	0.59	0.20	0.00	50.22		0.13									1			100	125
5 183 Sd+Chl+other 19.30 0.60 11.70 18.05 0.10 5.15 0.52 1.58 57 93 5 184 Sd+other 12.98 0.77 8.78 31.87 1.08 0.24 0.84 0.44 57 82 5 185 Apk 787 0.49 15 15 32.49 0.84 56 60	5	182	llm	0.49	69.52	0.68	28.55	0.53		0.22		55									1			100	96
5 184 Sd+other 12.98 0.77 8.78 31.87 1.08 0.24 0.84 0.84 0.44 57 82 5 185 Apk 787 0.49 15,15 32,49 0.84 <td>5</td> <td>183</td> <td>Sd+Chl+other</td> <td>19.30</td> <td>0.60</td> <td>11 70</td> <td>18.05</td> <td>0.00</td> <td>5 15</td> <td>0.52</td> <td></td> <td>1.58</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>1</td> <td><u> </u></td> <td></td> <td>57</td> <td>93</td>	5	183	Sd+Chl+other	19.30	0.60	11 70	18.05	0.00	5 15	0.52		1.58								1	1	<u> </u>		57	93
5 185 Ank 787 049 15 13 249	5	184	Sd+other	12.98	0.77	8.78	31.87	0.10	1.08	0.24		0.84								1	1	0 44		57	82
	5	185	Ank	12.00	0.11	0.70	7 87	0.49	15 15	32 49		5.04								1	1	0.17		56	60

Sito	Position	Mineral	SiO.	TiO.	AL-O-	FaO	MnO	MaO	C20	Na.O	K-0	P.O.	SO.	F	Cr.O.	0	ZnO	SrO	ZrO.	BaO	HfO.	WO.	PhO	Total	Actua
Olic	r Usition	Willeral	0102	1102	A12O3	1.60	WINO	ivigO	CaO	11020	120	1 205	003		01203	CuO	2110	310	2102	DaO	11102	WO3	100	l	Total
5	186	Ank+other	1.10		0.68	7.04	0.69	16.64	29.85															56	61
5	187	Qz+other	82.51		13.21	1.04				0.27	2.95													100	119
5	188	Ank+Py				18.19	1.07	22.85	50.20				7.69											100	70
5	189	Py+other	2.29		1.08	36.77		0.41	0.60				57.16									1.36		100	148
5	190	Sd+other	6.44	1.07	5.90	40.42		0.96	0.32		0.30	0.60										1.00		57	78
5	191	F-Ap (diag)+other	6.80		5.35	6.41		0.78	42.00	0.59	0.14	29.88	0.60	7.44										100	97
5	192	Clt (cont)				0.26							51.86					46.68		1.19				100	105
5	193	Chl	29.71		24.72	18.50	0.21	11.86																85	112
5	194	Sd+other	5.67		1.20	44.46	1.11	0.36	1.23	0.42			0.64									1.90		57	85
5	195	Sd+other	6.71	0.99	5.80	41.49		0.83	0.25		0.31	0.64												57	95
5	196	Chl+other	26.99	1.16	17.96	33.51		4.13	0.39		0.26											0.60		85	115
5	197	Sd+Kfs+other	16.17	0.46	6.04	29.87		1.08	0.22		2.07	0.32										0.76		57	111
5	198	III+ChI+other	48.79	0.23	19.75	14.39		1.95	1.67	0.97	2.26													100	122
5	199	llm+other	21.73	55.43	13.83	3.85		1.87	1.62		1.65													100	106

Appendix 5-5 Back-scattered images and EDS geochemical mineral analyses of sample Mohican I-100 8810 (ft) (2685.28 m)



Figure 5-5.1: Sample I-100 8810 (ft) (2685.28 m) site 1 (SEM). (Table 5-5)

- 1 Zrn
- 2 Zrn
- 3 Clt (cont)
- 4 Ilm+other
- 5 Sd+other
- 6 Sd+other
- 7 Sd+other
- 8 Bt
- 9 Chl+Kfs+other
- 10 Sd+other
- 11 (Alt IIm) Rt
- 12 Ilm+other
- 13 Sd+Chl+Kfs+other
- 15 Ilm
- 16 Sd+Chl+Kfs+other
- 17 F-Ap
- 18 Chl
- 19 TiO2 mineral+Qz
- 20 Sd+other
- 21 Chl



- 1 Zrn
- 2 Chl+other
- 3 Chl
- 4 Sd+Chl+other
- 5 Sd+Chl+Kfs+other
- 6 TiO2 mineral
- 7 Ilm+Qz
- 8 Sd+Chl+other
- 9 (Alt IIm) Rt+other
- 10 (Alt Ilm) Rt+Qz
- 11 Ilm+other
- 12 Sd+Chl+other
- 13 Sd+Chl+other
- 14 llm
- 15 Sd+Chl+other
- 16 Sd+Chl+other
- 17 Chl+Ms

Figure 5-5.2: Sample I-100 8810 (ft) (2685.28 m) site 2 (SEM). (Table 5-5)



Figure 5-5.3: Sample I-100 8810 (ft) (2685.28 m) site 3 (SEM). (Table 5-5)



Figure 5-5.4: Sample I-100 8810 (ft) (2685.28 m) site4 (SEM). (Table 5-5)



Figure 5-5.5: Sample I-100 8810 (ft) (2685.28 m) site 5 (SEM). (Table 5-5)



Figure 5-5.6: Sample I-100 8810 (ft) (2685.28 m) site 6 (SEM). (Table 5-5)



Figure 5-5.7: Sample I-100 8810 (ft) (2685.28 m) site 7 (SEM). (Table 5-5)

- 1 Zrn
- 3 Zrn
- 4 Zrn
- 5 llm
- 7 Sd+Chl+other
- 8 Tur
- 9 Chl
- 11 Sd+Chl+Kfs+other
- 12 Sd+Chl+other
- 13 Ilm+other
- 14 Ilm+other
- 15 Sd+Chl+other
- 16 Sd+Chl+other
- 17 Sd+Chl+other
- 18 Tur
- 19 Sd+Chl
- 20 (Alt IIm) Rt+other
- 23 Ilm+Chl
- 25 Sd+other
- 26 Zrn
- 28 (Alt IIm) Rt+Qz



Figure 5-5.8: Sample I-100 8810 (ft) (2685.28 m) site 8 (SEM). (Table 5-5)



Figure 5-5.9: Sample I-100 8810 (ft) (2685.28 m) site 9 (SEM). (Table 5-5)

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	V_2O_5	Cr_2O_3	SrO	Y_2O_3	ZrO_2	BaO	HfO ₂	WO_3	Total	Actual Total
1	1	Zrn	31.68			0.27													66.74		1.31		100	118
1	2	Zrn	31.60			0.24													67.43		0.73		100	115
1	3	Clt (cont)				0.33							51.61				46.26			1.79			100	89
1	4	Ilm+other	4.92	75.01	4.16	13.91	0.99		0.49		0.53												100	97
1	5	Sd+other	11.98	0.67	3.90	34.67	0.21	0.46	1.21		0.53		0.35									3.01	100	84
1	6	Sd+other	10.24	1.14	6.78	35.63	0.14	0.86	0.38		0.54	0.48			0.19							0.64	100	65
1	7	Sd+other	8.16	0.93	6.60	38.06	-	1.27	0.60		0.54	0.63			0.21								100	78
1	8	Bt	38.65	2.54	19.59	19.07	0.25	8.64		0.36	6.78				-								96	88
1	9	Chl+Kfs+other	29.42	1.38	16.30	25.30	0.27	8.10	0.35	0.43	3.43												85	83
1	10	Sd+other	8.05	0.73	6.24	39.26	0.15	1.06	0.34		0.54	0.64											100	74
1	11	(Alt IIm) Rt	0.39	97.30	-	0.46			1.86														100	94
1	12	Ilm+other	1.52	74.75	1.42	20.74	1.23		0.36														100	84
1	13	Sd+Chl+Kfs+other	14.88	0.59	8.86	28.90	0.14	2.14	0.30	0.25	0.96												100	87
1	15	llm	0.66	69.62	0.72	27.97	0.84		0.18														100	75
1	16	Sd+Chl+Kfs+other	14.42	1.78	9.38	27.63		1.57	0.36		0.71	0.38			0.25							0.54	100	66
1	17	F-Ap	0.53			0.24		_	50.61		-	44.20	0.52	3.92								-0.01	100	101
1	18	Chl	29.89	1.62	15.80	27.03	0.20	9.34	0.26		0.85	_											85	89
1	19	TiO2 mineral+Qz	7.83	82.60	6.86	0.77			0.95	0.51	0.48												100	102
1	20	Sd+other	9.58		2.05	34.66	0.15	0.31	2.58	0.38	0.20		0.61									6.37	100	81
1	21	Chl	26.86		20.58	24.96	0.22	12.40															85	82
2	1	Zrn	29.88		1.40	0.99			1.08									2.63	62.66		1.36		100	87
2	2	Chl+other	21.74	1.00	15.20	40.68		4.78	0.31		1.30												85	73
2	3	Chl	25.64		20.91	26.64	0.33	10.84	0.63														85	93
2	4	Sd+Chl+other	6.27	1.45	5.76	40.65		0.89	0.39		0.42	0.86			0.17	0.13							100	67
2	5	Sd+Chl+Kfs+other	10.92	1.24	8.27	33.59		1.12	0.32		0.81	0.54			0.21								100	68
2	6	TiO2 mineral		99.00	0.59	0.26			0.17														100	88
2	7	llm+Qz	2.12	67.06	0.70	29.91	0.22																100	88
2	8	Sd+Chl+other	7.26	0.80	6.25	39.67	0.16	0.95	0.39		0.34	0.44										0.72	100	72
2	9	(Alt IIm) Rt+other	1.97	84.29	1.06	11.57	0.43		0.69														100	72
2	10	(Alt IIm) Rt+Qz	33.63	64.17	1.27	0.63					0.31												100	104
2	11	llm+other	5.26	69.27	3.55	20.74			0.50		0.67												100	89
2	12	Sd+Chl+other	7.73	0.78	6.46	38.71		1.26	0.34		0.44	0.52			0.18							0.57	100	76
2	13	Sd+Chl+other	4.00	0.81	4.66	44.62		0.66	0.51		0.19	0.63										0.91	100	57
2	14	llm	0.51	68.01		26.49	4.98																100	83
2	15	Sd+Chl+other	7.35	0.84	6.37	39.57		0.95	0.31	0.35	0.38				0.17							0.69	100	63
2	16	Sd+Chl+other	10.66	1.19	6.65	34.30		0.96	0.35		1.27	0.63			0.21							0.78	100	79
2	17	Chl+Ms	30.57	0.43	18.98	23.17		6.47	3.54		1.84												85	84
3	1	llm+Qz	2.80	71.29		25.73			0.18														100	78
3	2	(Alt IIm) Rt+Qz	31.68	62.77	0.87	4.40			0.27														100	93
3	3	Sd				44.13	0.98	5.81	5.57			0.51											57	50
3	4	(Alt IIm) Rt+Qz	0.58	77.00	1.76	19.12	1.32		0.22														100	85
3	5	Sd+Chl+other	9.25	0.44	6.10	38.20		1.03	0.26		0.54	0.71										0.47	100	74
3	6	Chl	28.27		23.02	17.14	0.57	15.57			0.43												85	86
3	7	llm+Qz	7.02	63.89	0.55	27.47	0.87		0.21														100	82

Table 5-5: SEM analyses from sample I-100 8810 ft (2	(2685.28 m)
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Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	V_2O_5	Cr_2O_3	SrO	Y_2O_3	ZrO_2	BaO	HfO ₂	WO_3	Total	Actual Total
3	8	llm+Qz	3.23	71.59		24.12	0.75		0.31														100	88
3	9	llm+Qz	31.13	53.73	0.34	14.22	0.43		0.17														100	110
3	10	Sd+Chl+Kfs+other	26.46	1.33	10.34	52.59		2.26	1.12	0.47	2.72	1.37			0.32							1.02	100	78
3	11	Ilm+other	1.84	65.65	1.40	29.83	0.48		0.21	0.58													100	100
3	12	Chl+Kfs+other	38.27	1.00	17.48	35.04		2.50	1.08	0.50	3.38											0.74	100	84
3	13	Tur	40.51	0.37	25.96	9.15		6.19	0.71	2.11													85	99
3	14	Bt	41.21	1.49	21.98	15.62		8.77			6.90												96	85
3	15	Qz	98.32		0.59	0.76		0.33															100	112
3	16	Sd+Chl+other	2.05	1.04	4.63	46.84		0.59	0.31			0.82										0.75	100	60
3	17	(Alt IIm) Rt+other	19.81	73.66	3.02	2.32		1.01	0.17														100	97
3	18	Chl+Kfs+other	27.64	1.55	16.56	29.51	0.20	5.74	0.21	0.37	3.21												85	86
4	1	llm	0.98	70.08	0.70	26.94	0.99		0.31														100	83
4	2	llm+other	1.07	67.51	0.40	30.22	0.83																100	100
4	3	TiO2 mineral	0.47	98.35		0.58	0.39		0.21														100	107
4	4	Sd+Chl+other	2.64	0.89	3.75	46.98		0.79	0.29			0.64										1.01	100	82
4	6	Zrn	31.92		0.32	0.28													65.78		1.18		100	128
4	7	Sd+other	6.96		3.03	33.99	0.37	2.86	3.92	0.34	0.27	1.46	0.41			0.15						3.23	100	73
4	8	(Alt IIm) Rt+other	3.23	92.89	3.10	0.31					0.47												100	108
4	9	Źrn	31.62			0.19													66.84		1.36		100	120
4	10	Bt	37.42	4.51	13.03	25.16	0.21	6.08		0.60	8.61												96	103
4	11	Sd+Chl+other	5.71	1.33	4.83	41.62	0.18	1.19	0.30		0.37	0.80										0.68	100	78
4	13	Sd+Chl	11.94	0.70	8.95	31.58	0.18	2.56	0.21		0.52	0.35											100	69
4	14	Sd+Chl+other	16.76	0.70	10.90	24.13		3.41	0.26	0.39	0.44												100	75
4	15	Bt	37.64	3.02	15.36	8.66	0.16	20.14			8.81			2.19									96	94
5	1	Zrn	31.80			0.33													66.24		1.32		100	136
5	3	Sd+Chl+other	5.81	0.60	5.61	41.92		1.40	0.22		0.44	0.78			0.18								100	76
5	4	Chl	29.77	0.51	19.12	28.19		5.83	0.26		1.32												85	61
5	5	Sd+other	2.88	1.64	1.64	50.06		0.52	0.27														100	75
5	6	llm		72.03		26.13	0.22		0.67													0.96	100	78
5	7	Clt (cont)				0.55			0.29				52.19				45.48			1.50			100	94
5	8	llm	0.47	74.16	0.87	24.28			0.24														100	97
5	9	Sd+Chl+other	4.71	0.70	4.41	45.18		0.95	0.28		0.14	0.63											100	72
5	10	llm	0.75	71.53	0.68	25.52	1.52																100	87
5	11	(Alt IIm) Rt	1.39	94.61	1.21	2.50			0.28														100	99
5	12	Sd+Chl+Kfs+other	12.36	1.00	8.45	32.15		1.29	0.44		0.71	0.44			0.17								100	70
5	14	(Alt IIm) Rt+other	2.03	90.31	1.66	3.95	0.32		0.84													0.88	100	101
5	15	Ilm+other	1.58	63.70	0.64	31.89	0.80		1.37														100	93
5	16	F-Ap (diag)+other	4.15	0.18	2.87	0.89			43.32	0.97	0.57	36.32	1.25	8.93									100	106
6	1	Zrn	31.77																66.78		1.45		100	115
6	2	Zrn	31.72			0.30													66.43		1.56		100	98
6	3	Zrn	32.28			0.19													66.54		1.12		100	113
6	4	llm		67.32	0.74	31.94																	100	83
6	5	llm+Qz	2.61	65.04	0.81	26.51	4.80		0.22						-								100	85
6	6	llm	0.41	70.53	1.34	27.13	'		0.60														100	91

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	V_2O_5	Cr_2O_3	SrO	Y_2O_3	ZrO_2	BaO	HfO ₂	WO_3	Total	Actual Total
6	7	Sd+Chl+other	1.98	1.40	3.98	46.00		0.80	0.31			1.36			0.21	0.18						0.77	100	72
6	8	Sd+Chl+other	7.42	0.83	6.10	39.44	0.18	0.90	0.30		0.57	0.51			0.18							0.58	100	68
6	9	Sd+Chl+other	5.60	1.07	5.53	41.67	0.15	0.80	0.32		0.24	0.52			0.19							0.86	100	68
6	10	Sd+Chl+Kfs	12.55	0.27	5.23	35.24		0.95	0.21		1.57	0.50										0.47	100	70
6	11	Chl	26.37		22.60	22.99	0.20	12.84															85	78
6	12	Alm-Sps	38.29		20.56	8.98	27.71		2.57					1.88									100	115
6	13	llm	0.71	67.26	0.79	30.08	0.97		0.20														100	95
6	14	Sd+Chl+other	7.67	0.98	6.32	38.81		1.12	0.35		0.33	0.56										0.88	100	58
6	15	Qz	99.81			0.17																	100	95
6	16	Chl	27.36		23.24	20.53	0.20	13.67															85	91
6	17	(Alt IIm) Rt+other	5.33	89.26	1.66	2.77			0.46							0.51							100	79
6	19	Sd+Chl+other	6.94		3.21	36.53	0.51	3.52	3.23		0.27	1.16										1.66	100	58
6	20	(Alt IIm) Rt+Qz	22.89	73.68	1.08	2.16			0.20														100	85
7	1	Zrn	31.70																67.20		1.10		100	123
7	3	Zrn	31.72			0.32													67.11		0.84		100	107
7	4	Zrn	31.62			0.35													67.11		0.92		100	106
7	5	llm		70.14		29.55	0.31																100	71
7	7	Sd+Chl+other	4.39	0.70	4.70	44.36		0.85	0.70		0.11	0.93			0.27								100	62
7	8	Tur	37.54	0.72	31.85	6.29		6.10	0.53	1.97													85	87
7	9	Chl	26.46		22.10	20.58	0.39	15.48															85	84
7	11	Sd+Chl+Kfs+other	11.00	0.92	8.24	32.85	0.14	2.50	0.19		0.74	0.42											100	73
7	12	Sd+Chl+other	8.00	0.82	6.67	37.87	0.39	1.80	0.35		0.36											0.77	100	81
7	13	Ilm+other	2.20	77.08	1.53	18.56	0.21		0.42														100	96
7	14	Ilm+other	2.80	73.11	2.99	19.32		1.51	0.27														100	87
7	15	Sd+Chl+other	7.39	0.92	6.12	39.02		0.92	0.56		0.38	0.60			0.19							0.76	100	70
7	16	Sd+Chl+other	8.34	0.88	6.26	38.20		0.95	0.47		0.46	0.55			0.17							0.71	100	71
7	17	Sd+Chl+other	6.63	0.86	5.55	40.28	0.15	0.75	0.46	0.35	0.39	0.46										1.11	100	66
7	18	Tur	37.83	0.71	31.90	5.30		6.54	0.44	2.17						0.14							85	100
7	19	Sd+Chl	9.67		6.89	33.20	0.50	2.44	2.92	0.42	0.41	0.56											100	78
7	20	(Alt IIm) Rt+other	28.88	58.35	6.84	3.34		1.43		0.30	0.87												100	120
7	23	llm+Chl	3.81	63.82	3.42	25.46	2.07	1.21	0.24														100	72
7	25	Sd+other	15.08	0.71	7.25	29.79		1.48	0.36		1.41	0.71			0.21								100	73
7	26	Zrn	29.88		0.87	0.49			0.83									2.02	63.87		1.24		100	108
7	28	(Alt IIm) Rt+Qz	3.53	86.42	0.89	8.66			0.52														100	92
8	1	Zrn	31.66			0.18													66.85		1.31		100	116
8	2	Tur	38.11	0.65	31.65	5.37		6.68	0.48	2.03													85	91
8	3	llm		67.34	2.02	30.31			0.34														100	76
8	4	(Alt IIm) Rt+Qz	4.21	95.60		0.21																	100	82
8	5	Chl	26.44	0.20	21.92	21.72	0.35	13.81	0.56											l			85	74
8	7	llm		68.57	0.74	29.95	0.34		0.39														100	87
8	8	Sd+Chl	8.96		3.71	36.92	0.19	0.74	2.61		0.46		0.48									2.93	100	81
8	9	(Alt IIm) Rt+other	10.95	79.73	4.78	0.36			0.69	3.52													100	110
8	10	(Alt IIm) Rt+other	3.76	90.06	2.61	2.75			0.67		0.17												100	86
8	11	Sd+Chl	8.41		3.55	70.13	1.08	6.85	6.17		0.35	1.17										2.32	100	59

Cito	Desition	Minoral	80	TiO		F -0	M20	MaQ	C -0		× O		80	F	VO	C C	<u> </u>	V O	7rO	D _o O	ЦfО	WO	Tatal	Actual
Sile	Position	Mineral	3102	10_2	$A_{12}O_3$	геO	IVINO	ivigO	CaO	Na ₂ O	R ₂ 0	P_2O_5	303	Г	v ₂ O ₅	$0_{2}0_{3}$	510	1 ₂ O ₃	2102	БаО	ΠO_2	VVO3	Total	Total
8	13	Chl	26.18		23.15	20.33		15.35															85	95
8	14	Rt		99.60		0.40																	100	97
9	1	llm+other	3.10	78.95	2.14	14.88	0.37		0.31		0.24												100	91
9	2	Sd+Chl+other	6.14	0.93	6.48	40.21	0.20	2.09	0.21			0.75											100	68
9	3	TiO2 mineral	0.96	95.03	0.76	2.16													1.09				100	89
9	4	Sd+Chl+other	6.57	0.47	6.14	41.50		1.01	0.25		0.34	0.75											100	69
9	5	(Alt IIm) Rt+Qz	32.13	46.76		20.97					0.16												100	94
9	6	llm	0.56	73.58		25.87																	100	83
9	7	llm+other	9.54	61.48	4.91	22.04	0.19	0.55	0.35	0.42	0.53												100	82
9	8	(Alt Ilm) Rt+other	9.16	86.11	3.65	0.41					0.66												100	81
9	9	Ilm+other	1.35	65.79	1.00	30.94	0.50				0.42												100	75
9	10	Sd+Chl+Kfs	8.15	0.47	4.81	40.16		0.93	0.32		0.75	0.64			0.21							0.55	100	63
9	11	Sd+Chl+other	11.07	0.73	8.65	32.00	0.18	3.61	0.26			0.51											100	56

Table 5-5: SEM analyses from sample I-100 8810 ft (2685.28 m)

Appendix 5-6 Back-scattered images and EDS geochemical mineral analyses of sample Mohican I-100 11400 (ft) (3474.72 m)



Figure 5-6.1: Sample I-100 11400 (ft) (3474.72 m) site 1 (SEM). (Table 5-6A)



Figure 5-6.2: Sample I-100 11400 (ft) (3474.72 m) site 2 (SEM). (Table 5-6A)



Figure 5-6.3: Sample I-100 11400 (ft) (3474.72 m) site 3 (SEM). (Table 5-6A)



Figure 5-6.4: Sample I-100 11400 (ft) (3474.72 m) site 4 (SEM). (Table 5-6A)



Figure 5-6.5: Sample I-100 11400 (ft) (3474.72 m) site 5 (SEM). (Table 5-6A)



Figure 5-6.6: Sample I-100 11400 (ft) (3474.72 m) site 6 (SEM). (Table 5-6B) see location in Fig.5-6.2



- 2 Sd+other
- 3 Sd+other
- 4 Sd+other
- 5 Sd+other
- 6 Sd+other

Figure 5-6.7: Sample I-100 11400 (ft) (3474.72 m) site 7 (SEM). (Table 5-6B) see location in Fig.5-6.2



1 Sd+other

Figure 5-6.8: Sample I-100 11400 (ft) (3474.72 m) site 8 (SEM). (Table 5-6B) see location in Fig.5-6.2


1 Sd+other

2 Sd+other

3 Chl+other

- 4 Qz+Sd+other
- 5 Sd+other
- 6 Sd+other
- 7 Sd+other

Figure 5-6.9: Sample I-100 11400 (ft) (3474.72 m) site 9 (SEM). (Table 5-6B)



Figure 5-6.10: Sample I-100 11400 (ft) (3474.72 m) site 10 (SEM). (Table 5-6B) see location in Fig.5-6.3



- 1 Sd+other
- 2 Sd+other
- 3 Sd+other
- 4 IIm+other
- 5 Sd+Qz+other
- 6 Sd+other
- 7 Sd+other
- 8 Sd+other

Figure 5-6.11: Sample I-100 11400 (ft) (3474.72 m) site 11 (SEM). (Table 5-6B) see location in Fig.5-6.6



Figure 5-6.12: Sample I-100 11400 (ft) (3474.72 m) site 12 (SEM). (Table 5-6.B) see location in Fig.5-6.5

Site	Position	Mineral	SiO	TiOa	Al ₂ O ₂	FeO	MnO	MaQ	CaO	Na ₂ O	K ₂ O	PaQe	SO ₂	F	CI	ZnO	SrO	Y ₂ O ₂	ZrOa	BaO	La ₂ O ₂	Ce ₂ O ₂	Nd ₂ O ₂	Sm ₂ O ₂	GdaQa	Dv ₂ O ₂	Er ₂ O ₂	Yb ₂ O ₂	HfQ ₀	wo.	UO3	Total	Actual
0.10	- oonion				1.12-3			inge	- Cuc			. 2-5						-2-3			2-3	2-3		0	2-3	- 12-3	2-3		2				Total
1	1	Cal+Py		=0.00	-	1.11	0.66	1.51	51.81				0.91			l	ļ		ļ									L				56	61
_1	2	Ilm+other	32.13	52.83	2.61	2.66					0.41			9.34		ļ	L		ļ									L				100	25
1	3	lim+other	12.09	75.48	5.93	2.78		0.41	0.42		2.32		07.00	0.56					<u> </u>	00.40												100	98
1	4	Brt (cont)				10.00	0.40	0.00	04.07				37.83						ļ	62.19												100	119
	5	Ank	47.00	0.04	0.00	13.96	0.43	9.93	31.67										ļ													56	66
1	6	Chi+	17.38	0.24	9.80	43.58	0.55	7.11	5.49		0.86								·													85	79
1	- /	Rt+QZ	3.53	96.06	1.00	0.42				0.00	0.00			4.45					· · · · ·													100	107
1	8	Qz+other	95.17	1.43	1.28	0.44		1.00	0.00	0.26	0.26		40.04	1.15																·		100	104
	9	Py+otner	1.23		5.03	37.32		1.23	0.30				40.04																			100	103
	10	Py+Gai	0.20	0.42	20.05	20.41		0.00	11.11	0.50	0.10		02.23																			100	1/4
1	40	TiO2 mineral / On	47.05	02.02	30.65	1.20		0.00		0.52	9.19																					90	122
	12	CH CH	0.95	92.63	20.77	0.22	0.55	12 77		·····										l				+	·					·		05	106
1	14	Ank	20.05	0.15	20.11	23.71	0.55	15.77	22.02																					·		65 E6	64
1	14		4.62		2.10	0.0Z	0.25	0.62	0.20				E4 01																			100	171
1	16	Fy	4.02		0.42	22 71		0.03	0.29				62.25																	·		100	170
1	17	гу В+	1.20	00 59	0.42	0.41			2.32				02.35																			100	111
1	10	Oziethor	01.45	99.00	1.44	6.72		l			0.22									l		+		+								100	122
1	10	Chl+other	25.00	0.10	14 31	30.07		2 79	0.36		1.68					<u> </u>				1		-		+								85	86
1	20	Brt (cont)	20.00	0.13	14.01	0.28		2.13	0.00	1	1.00		38.28			<u> </u>	2.00		+	59.43				+				1				100	119
1	21	Oz+other	99 77	+	+	0.23		·····					50.20				2.00		<u> </u>	- 55.45		+		+								100	131
1	22	Sd+other	6 78	0.68	5.28	41 47		0.88	0.34		0.40	0.93								1	· · · · · ·	+		+								57	89
1	23	Sd+other	10.18	0.74	6.28	36.53		1.12	0.34	1	0.91	0.67								1	· · · · · ·	1		<u> </u>				1				57	91
1	24	Pv+Cal	0.83		0.20	32.36			7.57	1	0.01	0.07	58.63						1	1		-		-						0.63		100	165
1	25	Ah	70.21		18 48	0.40		1	0.38	10.54			00.00						1											0.00		100	106
1	26	Pv	0.56		10.10	28 70		· · · · ·	0.20	10.01			70.54			·			1					· · · · · · · · · · · · · · · · · · ·								100	212
1	27	Cal		†	<u> </u>	1.65	0.23	0.73	53.38	1			10.01						1	1		1		<u>†</u>	·			1		·		56	58
1	28	Pv	0.66	<u> </u>		31.42			1.61	·		·	66.32			1			<u>† </u>	†								<u> </u>				100	180
1	29	Pv			1	28.53		1					71.47																			100	223
1	30	Cal+Qz	21.27		1.46	2.18		0.73	29.53		0.40		0.42							1												56	74
1	31	Sd+other	17.46	0.93	8.46	27.11		1.12	0.39	0.27	1.24											1										57	85
1	32	Ank				13.50	0.31	11.12	31.07																							56	62
1	33	Chl	26.40		21.76	22.07	0.48	14.29		1																						85	101
1	34	Ank				9.09	0.55	14.70	31.66																							56	64
1	35	Py+Qz	5.31			26.10							68.59																			100	223
1	36	Qz	99.71			0.28																										100	126
1	37	Ank				12.45	0.31	11.40	31.85																							56	64
1	38	Ank				11.49	0.18	12.56	31.78																							56	63
1	39	Cal	1.66	ļ	0.83	1.94	0.25	1.09	50.05		0.16						L		ļ	I		1		1								56	59
1	40	Sd+other	1.84		0.84	40.00	0.38	7.83	5.89		0.21																					57	63
1	41	Ank	0.48		0.34	7.76	0.17	15.14	32.11																							56	61
1	42	Qz	99.77			0.22																		-								100	123
1	43	Py	0.56			31.25		ļ	1.58				66.62			1			ļ	ļ												100	153
1	44	Cal	0.59			1.42	0.25	0.68	53.06	ļ						ļ	l		ļ	ļ		+						ļ		ļ		56	46
1	45	Qz+other	88.50	0.78	5.10	2.98		0.70	-		0.98		0.92																			100	121
1	46	Py	0.30			29.15		0.27	7.04				63.25																			100	178
1	47	Py	1.39			34.64		0.75	1.30				62.65									+										100	184
1	48	Sd				43.21	0.88	6.72	6.19	l		ļ	0.07			ļ			ļ													57	64
1	49	Cal		0.46	1.74	2.39	0.24	0.83	52.21		0.50		0.34			<u> </u>			<u> </u>	<u> </u>		+		+							·	56	60
1	50	Sa+other	9.89	0.16	4./1	30.92	0.43	5.63	4.76		0.50		60.62			<u> </u>			<u> </u>					+				+			·	5/	80
1	51		0.21	+	+	0.09		<u> </u>	0.11	1			09.02						<u> </u>	ł				+				+				100	211
1	52	QZ Art	99.41	+		0.24	0.22	13.45	32.70										+					+					+			100	62
1	53	ANK	7 74	0.70	5 42	9.44	0.32	13.45	0.24	+	0.24		56 71						+	+				+					+			50	62
	54	Py+ouner	06.37	0.78	2.42	0.78		0.25	0.24		0.24	<u> </u>	30.71			<u> </u>			<u> </u>	<u> </u>		+		+				+	+		·	100	104
1	50	QZ Bytother	1.80	+	0.74	34 21		0.23	0.14		0.39		63.13						<u> </u>	<u> </u>		+		+	·			+				100	120
1	57	Pytother	6.97		4.76	42 74		1.08	0.14	1			42.25							1	1	+		+				1		1.80		100	135
1	58	r y+otner Apk	0.97		4.70	11 11	0.17	12 72	32.00				42.20			l			·	1		+		+			·····	1		1.00		56	62
1	50		38 01	0.27	25.92	1.41	0.17	0.79	16.79	1 40	4 18		0.33			<u> </u>			<u> </u>	1		+		+				1				00	106
1	60	Pv+Cal	2.85	0.21	0.26	38.84		0.13	3.60	1.40			53.31			<u> </u>			<u> </u>	1								1		1 15		100	141
1	61	Ank	2.00	+	0.20	8 15	0.25	15 70	31.89	1			55.51						<u> </u>	1		+		+				+				56	60
1	62	Qz+other	91.84	0.35	4,40	1.29	0.20	0.40	0,20	0,23	0,95		0.32			1	1		1	1	1	1		1				1	1	· · · · ·		100	119
1	63	Pv	0.17	0.00	1	28.16		0.10	0.20	1 0.20	0.00		71.67			1			1	1		-		1				1	1			100	220
	~~	· /		1				1	1		1	1				1		1	1		1		-	1			1	1			i		

Site	Position	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MnO	MaO	CaO	Na ₂ O	K₂O	P ₂ O ₅	SO3	F	CI	ZnO	SrO	Y ₂ O ₃	ZrO ₂	BaO	La ₂ O ₃	Ce ₂ O ₃	Nd ₂ O ₃	Sm ₂ O ₃	Gd ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Yb ₂ O ₃	HfO ₂	WO ₃	UO3	Total	Actual
			4.00	- 2	0.74	07.70			4.55		2 -	2-5	50.00					2 - 5	- 2		-2-3	2-3	-2-3	- 2-3	2 - 3	72-3	2-3	-2-3	- 2			100	Total
1	64	Py	1.90	0.45	0.74	37.78		2.04	1.55	0.50	5 00	0.42	58.03							<u> </u>												100	151
	66	Bulether	5 22	0.45	4.02	31.07		1.08	0.02	0.59	5.00	0.43	57.26							<u> </u>				÷								100	90
1	67	Ank	0.43		4.02	9.70	0.53	14.52	30.83				57.20							<u> </u>				h								56	50
1	68	Pv+Cal	0.40			29.69	0.00	14.02	10.82				58.88							<u> </u>												100	154
1	69	Cal+other	2.93	0.32	0.57	2.35	0.50	1.86	44.87				2.60											·								56	62
1	70	Clt (cont)				0.30							51.61				45.98			2.11												100	98
1	71	Py	0.68		0.55	27.96			0.15				70.67																			100	212
1	72	Sd+other	7.03		3.29	35.43	0.41	5.12	4.55		0.17	0.98																				57	68
1	73	Qz	99.47			0.53																										100	119
1	74	Ank				8.83	0.55	14.10	32.52																							56	60
1	75	Sd+other	10.23	0.83	6.38	36.63		1.08	0.32		0.58	0.95	54.00				45.00		ļ	0.05	l								ļ			57	80
	77	Cit (cont)	41.60	0.51	12 17	0.22		264	17 45	0.20	2.10		1 1 2				45.62			2.95												100	103
1	78	Pv+other	13 00	0.51	8.43	4.15		2.04	0.18	0.29	0.30		43.90				1.00														-	100	135
1	79	Esp+Cal+other	59.26	2.62	22.52	4.37		1.66	3.81	1.62	3.66		0.47																	······		100	103
1	80	Pv	0.94		0.60	28.14							70.34																			100	211
1	81	Py+Chl	25.84		13.94	30.71		4.96	0.76	0.39	0.28		21.67							1				1						1.46		100	103
1	82	(Alt IIm) Rt	0.34	97.40	1.10	1.17																										100	103
1	83	Cal+other	1.44		0.77	2.21	0.35	0.83	50.27		0.12																					56	56
1	84	Sd+other	8.24	1.11	6.89	37.98		1.21	0.32		0.41	0.58																		·		57	75
1	85	Ab	68.97		18.93	0.28		0.40	10.11	11.81			50.04																			100	114
1	87	Oztother	0.49	1.60		29.90		0.40	13.14			·	56.01																		· · · ·	100	142
1	88	TiO2 mineral+Oz	47.51	51 16	0.91	0.21																										100	126
1	89	Cal		01.10	0.01	1.28	0.26	0.83	53.63																							56	52
1	90	Kfs+IIm+Py+other	41.03	19.83	15.31	7.26		0.45	0.56	0.89	3.77		8.04	2.16						1				1						0.69		100	97
1	91	TiO2 mineral	0.71	98.92		0.39																										100	100
1	92	Qz	99.75	ļ		0.24	L	l					L						l	ļ	1		1			L			1			100	115
1	93	Py			0.70	27.99							72.02																ļ	·		100	213
1	94	Qz+other	76.39	0.23	9.73	9.34	0.22	1.61	1.02		1.69																					100	101
1	95	Col+Q2	0.97		0.45	40.55	0.33	2.98	50.17	0.39			1 38							ł											-	56	56
1	97	Pv+other	4.68		4.06	28.87		2.50	0.43	0.00			61.98																			100	175
1	98	Sd+other	2.79		0.59	48.93	0.51		0.60																					3.30		57	71
1	99	Sd+other	7.10		0.97	38.09			1.62	0.57			1.24		0.23															7.03		57	72
1	100	Sd+other	3.93		1.41	37.35	1.24	3.78	9.05		0.25																					57	62
1	101	Cal+Py	0.48	ļ		1.10		2.37	50.58				1.47																ļ			56	55
1	102	Py	0.75	04.40	0.00	27.78	0.04		0.00		0.40		72.24			· · · · ·																100	213
1	103	(Alt IIm) Bt	0.75	24.12	0.32	22.02	0.21		0.36		0.10		51.89											-								100	145
1	104	Sd+other	6.10	1 10	5.43	41.95	0.18	0.76	0.32	··· ···	0.33	0.69								ł										ŀ		57	71
1	106	Cal	0.10	1.10	0.40	1.58	0.10	0.51	53.91		0.00	0.00								1												56	51
1	107	Cal				0.93	0.30		54.77																							56	52
1	108	Py	1.03		0.42	30.93			0.35				67.30							1												100	177
1	109	Ank				8.89	0.27	14.13	32.70																							56	56
1	110	Sd+other	5.33	1.31	5.49	41.75	0.18	1.51	0.29		0.20	0.68																				57	73
1	111	Kfs+other	67.47	0.52	20.26	5.02		2.02	0.49		4.25		50.74																			100	101
	112	Py+otner	5.28	<u> </u>	4.35	30.68		0.98					58.71							<u> </u>												100	168
1	114	Sd+other	9.22	······	4.76	32.84	0.45	5.86	3.64		0.23	·	71.42						· · · ·						· · · · · · · · · · · · · · · · · · ·							57	72
1	115	Kfs+Chl	44.07	0.20	25.72	20.70	0.10	3.68	0.43	0.55	4.66									1			1	1						· · · · ·		100	91
1	116	Qz	99.49			0.50														1												100	115
1	117	Ank				8.48	0.72	15.36	31.44											1									1			56	57
1	118	Py+other	4.58		3.57	37.02		1.03	0.25				53.54																			100	149
1	119		48.91	0.16	32.08	2.52		0.86		1.04	4.46		74.5.							l		ļ										90	100
1	120	Py E Apuether (diac)	0.17	0.27	2.00	28.30		l	41 70	0.00	0.42	37 05	1.54	7.02						l		+		+	ŀ							100	204
1	127	Ap+oiner (diag)	1.86	0.27	2.00	35.47	0.21	1 49	41.72	0.09	0.43	0 47	1.02	1.33					· · · · ·			·····										57	60
1	123	Cal+Sd+other	0.98	0.49	1.93	24.62	0.24	1.66	26.08			0.47																				56	62
1	124	F-Ap		1				1	48.89			44.75		6.35						1		1		1					1			100	110
1	125	Py	0.17			27.78			0.76				71.32																			100	202
1	126	Ank				9.40	0.52	14.82	31.25																							56	55

Site P	osition	Mineral	SiO ₂ TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K_2O	P_2O_5	SO3	F	CI	ZnO	SrO	Y_2O_3	ZrO ₂	BaO	La ₂ O ₃	Ce_2O_3	Nd_2O_3	Sm ₂ O ₃	$\rm Gd_2O_3$	$\mathrm{Dy}_2\mathrm{O}_3$	$\mathrm{Er}_{2}\mathrm{O}_{3}$	Yb ₂ O ₃	HfO ₂	WO_3	UO3 T	otal	Actual Total
1	127	Zrn	31.70		0.24				1									66.61	1									1.44		1	00	114
1	128	Ank			8.30	0.20	15.83	31.66											1												56	54
1	129	Ank			13.52	0.54	10.52	31.42											1												56	56
1	130	Cal			1.88		0.89	53.23											1												56	51
1	131	Py+Cal	0.17		18.72	L	0.45	10.07	L		ļ	58.33			12.10	L			ļ		<u> </u>	L	ļ							1	00	152
1	132	Py+other	4.32	2.95	33.87		0.53	0.22	3.40	0.20		54.49																		1	00	111
1	133	Py+other	3.83	2.25	41.08			0.31	7.44	1.47		43.62																		1	00	79
1	134	Sd+other	10.28 1.27	6.78	35.70		1.06	0.52		0.41	0.62																				57	64
1	135	Sd+other	9.23 0.87	5.41	38.26	0.55	1.45	0.29		0.56	0.67							0.47													5/	75
	130	Um unthor	1.57	9.06	1.01	0.55	3.37	43.57	2 10	2.00								-0.17													00	41
1	138	IIm+Outer	496 20.84	1.42	25.23		0.05	0.60	0.54	2.00		35.13																	1.0/	1	00	111
	139	Ilm+Pv+other	33 65 34 25	16.48	3.63		0.53	0.00	3.73	3 19	·	4 54							ł	+	+								1.34		00	97
1	140	Kfs+Chl	65.42 0.68	19.76	7.35		2.35	0.46	0.47	3.48									1	-											00	88
1	141	Sd	0.52		43.11	0.99	6.15	6.23																							57	54
1	142	Ank			8.64	0.25	15.38	31.74																							56	51
1	143	Py+other	5.58	4.46	30.77		1.13					58.06																		1	00	155
1	144	kfs+Chl	65.93 0.55	22.81	4.40		1.91		0.43	4.00																				1	00	96
1	145	Ank			8.46	0.67	15.55	31.33											L												56	52
1	146	Cal			0.86		0.85	54.30											ļ												56	47
1	147	(Alt IIm) Rt	0.62 96.75	1.36	0.76			0.52																						1	00	90
1	148	Ank	0.44	0.35	11.59	0.38	11.50	31.74	1.45	0.40		1.00																	0.00		56	54
1	149	Satother	5.79	1.01	41.73	0.18	0.34	1.40	1.15	0.19	22.00	1.29	0.50																3.89		5/	59
1	151	Pytother	9.10	1 00	31 31		1 31	0.24	0.05	0.45	32.00	55.61	0.50																		00	152
1	152		53.58 0.61	23.45	4.85		1.94	0.44	0.32	4.82	· · · · ·	00.01			·				· · · · ·	+											90	92
1	153	Pv+other	4.68	3.46	27.54		0.30	2.46	0.02		·	61.55						<u> </u>		· · · · · ·	1		·							1	00	159
1	154	Qz+Py+Cal+other	59.98	6.39	4.98		0.36	16.05		1.00	·	11.24			1				1	1	1									1	00	104
1	155	llm+other	22.50 67.86	4.40	1.17		0.51	2.24		1.31									1											1	00	87
1	156	QZ+other	91.13 0.42	5.03	0.42				2.56	0.42																				1	00	101
1	157	Py+Cal	0.21		28.75			3.68				67.35																		1	00	162
1	158	F-Ap+other (diag)	3.38	1.91	0.50		1.00	44.83	0.44	0.19	39.41	1.25	8.09																	1	00	102
1	159	Py+other Sduothor	6.27	5.57	32.65	1 5 4	1.30	0.25		0.56		52.71								+										-1	57	67
1	161	JII+Sd	40.41 0.88	14 27	27.32	1.04	1.27	2.70		6.08										-											90	79
1	162	Qz	99.75	14.21	0.26		1.00			0.00										-										1	00	104
1	163	Pv+other	14.16 5.77	5.42	28.07		1.09			0.35		45.12							1											1	00	128
1	164	Qz+other	60.26 0.18	19.20	14.05		3.02	0.98	0.44	1.87									1											1	00	86
1	165	Cal+other	1.04	0.44	0.46		1.11	51.98		0.10		0.87																			56	60
1	166	Rt+Qz	2.12 96.63	0.51	0.24			0.52																						1	00	112
1	167	Qz+other	65.74 0.37	13.62	8.83		3.78	5.16	0.34	1.64		0.52			L				ļ			L								1	00	107
1	168	Py+Cal	0.24	04.07	28.79		0.40	2.21	0.00	5.00		68.77																		1	00	210
1	169		49.64 0.88	24.37	5.67		2.12	1.50	0.60	5.20																					90	107
1	171	Pv	0.15		27.65		0.31	J4.32				71 79				0.41															00	216
1	172	Pv+other	4.06	3.12	31.52		0.73	0.25				60.33				0.41				-											00	158
1	173	Ank	1.76		11.97	0.32	12.78	29.18	· · · · ·																						56	50
1	174	Sd+other	6.49 0.84	5.31	41.74		0.78	0.28		0.30	0.69								1	1									0.59		57	63
2	1	Qz	99.56		0.44														1											1	00	129
2	2	Sd+other	6.16 0.96	4.98	42.19		0.83	0.38		0.34	0.42				l														0.58		57	83
2	3	Ank		01.00	8.58	0.48	15.34	31.60																							56	65
2	4	Chl	25.59	21.99	25.03	0.31	12.06								ļ					+											85	103
2	5	QZ Sduothor	99.79	6.24	37.94		1.03	0.23		0.74	0.55									+										1	57	126
2	7	Sd+other	3.96	3.49	39.01	0.51	5.54	4.05		0.14	0.44									+											57	68
2	8	Q7	99.56	0.10	0.44		0.07		· · · · ·						1				1	1	<u> </u>	· · · · · · · · · · · · · · · · · · ·				· · · · · ·				1	00	122
2	9	Sd+other	10.65 1.51	8.01	33.33		0.83	0.39	0.34	0.65	0.42					1			1		1								0.54		57	76
2	10	Py	0.32 0.13	0.21	28.26							71.09																		1	00	229
2	11	Qz	99.71 0.15		0.14																									1	00	126
2	12	llm+Chl	9.50 81.43	3.44	3.60		2.04				ļ				ļ						ļ									1	00	111
2	13	Ank	0.45		7.94	0.57	15.77	31.72			ļ	05 75																			56	64
2	14	Py Ank	0.45		20.03	0.20	0.30	0.90			· · · · · ·	65.75			l				ł	+										-1	00	197
	10	Allh			14.17	0.53	11.00	51.77								1		1	1	1	1					1			l		00 [55

0111	Decision	M*1	6:0	Tio		5.0	14-0	14-0	0.0	Nia O	KO	D O	80	-	0	7:0	0.0	V O	7-0	D -0	1.0	C+ 0		6m 0	010	Du O	F + O	VI- O	140	14/0	1100	T	Actual
Site	Position	Minerai	SIO ₂	1102	Al ₂ O ₃	FeO	IVINO	MgO	CaO	INa ₂ O	R ₂ 0	P ₂ O ₅	503	F		ZnO	SrO	1 ₂ O ₃	2102	BaO	La ₂ O ₃	Ce ₂ O ₃	Nd ₂ O ₃	5m ₂ O ₃	Gd ₂ O ₃	Dy ₂ O ₃	EI ₂ O ₃	1D ₂ O ₃		VVO ₃	003	Iotai	Total
2	16	Py	0.15			28.03			0.14				71.69			40.01			ļ													100	215
2	1/	Znc (cont)	····			0.24							37.81			49.01			ļ	62.21												100	1/4
2	10		99.73			0.28							57.01							02.21												100	112
2	20	Sd+other	7.96 (0.75	6.29	39.77		0.95	0.30		0.51	0.48																				57	76
2	21	Ank				8.20	0.40	16.09	31.31											1									1			56	58
2	22	Cal+Py			0.31	3.99		3.37	46.79	0.40			1.16																			56	58
2	23	Sd+other	5.72 (0.74	5.68	42.68		0.88	0.39		0.26	0.64								ļ												57	79
2	24	Cal+Sd+other	0.83 (0.30	0.91	11.92	0.19	2.19	39.43		0.00	0.05				0.24				ļ												56	60
2	25	Sd+Chl	9.48	1.05	6.22	36.73	0.14	1.20	0.58	1 47	0.63	0.95				0.27				l												5/	/5
2	20	Pv+other	3.64	0.42	2 80	30.22		0.76	0.45	1.47	2.79		61.45			0.27			0.86	l												100	176
2	28	Pv+other	5.86		4.42	34.74		1.16	0.25		0.00		53.56						0.00	1												100	150
2	29	Qz	99.77			0.22				1										1												100	113
2	30	Ру	1.39		1.11	28.10							69.39																			100	193
2	31	Sd+other	7.35 (0.59	6.82	40.12		0.86	0.16		0.32	0.60								ļ												57	77
2	32	Py	0.90			35.76	0.00	10.00	0.94				62.43							ļ												100	127
2	33	Ank Prt (cont)				9.16	0.36	16.06	30.42				45.60				20.04			25.02												100	56
2	35	Sd+other	5.93	0.73	5 33	42.82		0.96	0.25		0.23	0.73	45.00				29.04		-	25.02												57	70
2	36	Pv+other	5.78	0.10	4.70	31.40		1.16	0.27		0.20	0.70	56.68						-													100	152
2	37	Ank				11.03	0.20	12.94	31.82											1												56	53
2	38	Sd+other	9.71 (0.68	6.73	36.31		1.33	0.75		0.68	0.58																				57	77
2	39	Tur	38.00	0.81	32.59	5.41		6.04	0.26	1.90										ļ												85	99
2	40	Py+other	8.51		6.22	30.77		0.36	0.34				53.81						1	ļ												100	161
2	41	F-Ap+other (diag)	18.65 (0.92	12.21	5.56		0.80	27.96	0.92	1.06	26.58	0.52	4.83			1 20		ļ	60.60												100	101
2	42	Sd+Kfs+Chl	16.58	0.39	6.78	29.72	·	0.95	0.27		1.81	0.42	57.00				1.2.5		<u> </u>	00.00				+					+			57	93
2	44	Ank	10.00	0.00	0.10	9.75	0.48	13.01	32.76			0.12																				56	61
2	45	Sd+other	10.29	1.11	6.43	35.65		0.93	0.36	0.31	0.99	0.64								1									1			57	79
2	46	Sd+Kfs+Chl	17.54 (0.47	7.12	27.98		1.06	0.26		2.14	0.42																				57	87
2	47	Kfs+Chl+other	46.66	0.32	24.39	17.75		3.02	2.84	0.38	2.75	1.74																				100	92
2	48	Qz	99.49			0.49							27.02							62.00												100	120
2	49 50	Bit (COnt)	10.93 6	37 99	8 1 8	10.09		1 72	0.42		0.17	0.50	37.93							02.09												100	101
2	51	Sd	10.00 0	1.55	0.44	45.91	7.76	2.39	0.50		0.17	0.00								1												57	63
2	52	Brt (cont)				9.67	1.55		0.29				35.56							52.94												100	111
2	53	Sd+Py+Qz	9.44			40.55			2.39				2.03																	2.59		57	12
2	54	Py+Cal	0.45			30.34			9.65				59.58						ļ	ļ				ļ								100	150
2	55	Ank	44.00		44.75	9.61	0.39	14.78	31.21	0.74	0.10	24.22	4.75	2.62																		56	56
2	57	Pv	14.69		11.75	27.93		3.37	20.93	0.74	0.19	21.22	71.02	3.03																		100	233
2	58	Pv	0.81			35.51		0.36	2.45				60.88							1												100	184
2	59	Ank				8.13	0.59	15.62	31.67											1												56	53
2	60	TiO2 mineral	0.66 9	97.73		1.31			0.29																							100	95
2	61	Ilm+other	34.14 5	58.00	6.24	0.32		15.00	0.21		1.11																					100	104
2	62	Ank	1.65		0.20	8.92	0.52	15.39	31.17				EE 04											·								56	53
2	64	Py Sd+Kfs+Cbl+otbor	16.40	1 27	7.75	27.83		1.50	0.30	0.34	1 / 8		55.34																			57	76
2	65	Ank	10.40	1.21	1.13	11.32	0.67	12.26	31.75	0.34	1.40																					56	53
2	66	Sd+Py+Qz	5.72		0.48	47.65	0.18		1.36				1.62							1												57	69
2	67	Sd+Py+Qz	5.29		0.57	42.37	0.18		1.61	0.36			0.97																	5.65		57	70
2	68	Ilm+other	31.70 6	64.67	2.49	0.41			10 =-		0.72								ļ	ļ	ļ			ļ		ļ			ļ			100	98
2	69	Py+Cal	0.43	224	5 00	26.27		0.50	13.75		1 40	0.30	59.26						<u> </u>													100	153
2	70	IIm+QZ+0ther	13 41 9	81 17	2.80	2.20		0.50	0.27		0.63								<u> </u>	<u> </u>	+			+								100	125
2	72	Brt (cont)+Pv+Oz	4.09		2.00	6,06		0.55	0.27		0.03		35.61							54.26				+								100	110
2	73	Sd+other	8.46		2.52	38.86	0.31	0.65	1.02	0.77			0.86						1	1	1			1					1	3.17		57	51
2	74	F-Ap				0.41	0.85		46.90			44.20		7.76																-0.13		100	128
2	75	Tur	37.44	1.05	27.10	10.77		5.82	0.48	2.34																L						85	104
2	76	Sd+other	6.90	1.01	5.35	40.52	0.15	0.79	0.42	0.32	0.36																			0.97		57	73
2	78	ANK Chl+Cal	17.73	0.23	10.22	0.48	0.45	15.59	31.48		1.02									ł	+											20	50
2	10	UIIITUai	11.13	0.20	10.22	41.41	0.74	0.01	4.04	1	1.02									1	1						1	1	1			00	10

Site	Position	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	SO3	F	CI	ZnO	SrO	Y ₂ O ₃	ZrO ₂	BaO	La ₂ O ₃	Ce ₂ O ₃	Nd ₂ O ₃	Sm ₂ O ₃	Gd_2O_3	Dy ₂ O ₃	Er ₂ O ₃	Yb ₂ O ₃	HfO ₂	WO ₃	UO3	Total	Actual Total
2	79	Ank			1	9.22	0.42	13.42	32.95											<u> </u>									-			56	59
2	80	(Alt IIm) Rt+Qz	50.53	47.34	0.93	0.84					·		0.37																			100	119
2	81	Qz	99.81			0.18	· · · · ·													1												100	120
2	82	Py+other	5.09		2.17	28.93	1	0.48					63.33							1			1									100	187
2	83	Qz+other	84.18		9.86	1.79	1	0.43	0.22	2.95	0.57									1												100	106
2	84	III+Chl	42.17	0.25	26.44	15.77		2.51	0.41	0.41	2.03																					90	90
2	85	Brt (cont)				0.60							37.63							61.76												100	104
2	86	Ank				9.73	0.45	14.59	31.23																							56	56
2	87	Ank				7.87	0.59	15.99	31.56																							56	55
2	88	Py+Cal	0.47			31.15		0.80	21.88				45.72																			100	106
2	89	Chl	27.77		22.01	18.95	0.46	15.69			0.12																					85	80
2	90	TiO2 mineral+Qz	2.70	95.10	0.87	0.46	I	ļ	0.25		0.64									ļ												100	84
2	91	Qz	99.81			0.18														ļ												100	106
2	92	Sd+Qz+other	2.83			49.91	0.66		0.64				0.46																	1.70		57	82
2	93	Mag+Qz	2.78			95.73	0.92		0.28											ļ												100	91
2	94	Py+other	6.65		5.22	33.31		1.49	0.20				53.14								· · · · · ·											100	1/3
2	95	Py+Cai	0.26			23.32	0.26	0.58	24.29				51.29																			100	133
2	96	Py+other	1.22		4.00	32.66	0.13	0.30	5.15				60.55																			100	1/2
2	97	Py+otner	5.97		4.00	30.50		1.40	0.30				40.77							<u> </u>												100	160
2	90	Cal+otrier	3.00		2.44	1.92		1.22	40.35				0.52																			100	160
2	100	Sd+other	6.37	0.17	4.36	32.05	0.20	7.76	5.71		0.20		59.05											-								57	60
2	100	Zrn	31 15	0.17	4.30	0.31	0.29	7.70	3.71		0.29			1.58		0.56			64.28										1 /3			100	114
2	102	07	00.75	0.23	0.45	0.51		÷						1.50		0.50			04.20	ł									1.43			100	110
2	102	Sd+Pv+Oz	4 91	0.20	0.48	44 31	0.23	·····	1.04	0.83			1.05																	4.13		57	83
2	104	Sd+Pv+Oz	6.42		2.09	40.61	0.31	0.38	0.80	0.91	0.36		0.98							<u> </u>										4.10		57	69
2	105	Pv+other	23.55	0.28	12.62	19.50	1.0.01	1.34	0.56	0.51	1.43		40.05			·				†		+								0.68		100	109
2	106	Sd+other	12.13	0.81	6.66	35.10	<u> </u>	0.67	0.26	0.31	0.43									†										0.63		57	73
2	107	Sd+other	4.84	0.97	5.16	43.55		0.90	0.27		0.19	0.55											1							0.57		57	67
2	108	Pv+other	24.64		16.78	22.10		2.50	17.56	0.51	0.69		15.21							1												100	54
2	109	Pv	0.56			34.26		1	0.27				64.92							1												100	167
2	110	(Alt IIm) Rt+Qz	23.10	75.56	0.55	0.58			0.21																							100	119
2	111	Py+Cal	0.88			18.23	0.25	0.46	47.21				32.99							1												100	81
2	112	Sd+other	10.45	0.56	5.58	38.13		0.87	0.22		0.32	0.68								1												57	93
2	113	Sd+Py+other	10.55	-	3.24	33.13		1	1.76	0.64	0.40		1.14		0.17															5.97		57	56
2	114	Clt (cont)				0.21			0.53				50.92				46.37			1.99												100	103
2	115	Sd+other	10.29	0.88	6.46	36.46		0.95	0.29		0.87	0.78								l												57	77
2	116	Rt		99.83		0.18																										100	94
2	117	Ank+Qz	2.61		2.28	7.94	0.47	14.01	28.68	l																						56	67
3	1	Mag+Qz	1.73		1	95.35	0.59	0.70	0.90				0.72							I												100	91
3	2	Ank				9.86	0.42	14.67	31.05											ļ												56	63
3	3	Sd+other	10.04		1.39	35.53	0.25	0.60	1.06	0.76	0.11		1.17							1.05										4.50		57	78
3	4	Tur	37.78	0.82	31.48	1.42	0.00	9.83	1.79	1.50														+								85	107
3	- 5	Ank	0.00	+	0.47	12.93	0.39	9.45	33.23				74.00								· · · · · · ·	+										56	65
3	7	Py 07	0.26		0.17	27.98	0.18	l			0.12		0.75		0.10					<u> </u>												100	237
2	- /	Q2	90.34		0.40	19.07	27 42	2.01	7 17		0.13		0.75		0.10					l				+								57	74
3	- °	Su+Cal	0.41	<u>.</u>	0.40	24.27	27.43	2.01	15 17				60.09											÷								100	167
2	10		0.41	+		24.37			15.17				6 77																			56	72
3	11	Dytother	8 /7		6.22	32.86	·	1 1 3	40.00		·		50.04							<u> </u>										······		100	166
3	12	Chl+Kfc+Pv	32 13	0.37	19.22	6.00	<u> </u>	1.15	16.75	0.54	1 90		6 32											·								85	100
3	13	llm+Chl	12.92	60.25	9.64	13.93	<u> </u>	2.12	0.56	0.04	1.55	0.57	0.02							<u> </u>		+		<u>†</u>					<u> </u>			100	97
3	14	Tur	37.60	0.36	30.68	6,67		6,94	0.38	2,36		- 0.0.												1								85	109
3	15	Pv+other	4.11	0.00	2.93	32.05	<u> </u>	0.86	0.14	-2.00			59.90			·				<u> </u>		+		1								100	184
3	16	Ank	0.44	1	0.33	11.50	0.18	12.16	31.40											1				1								56	65
3	17	Tur	37.51	0.41	28.85	10.06	1	5.59	0.36	2.21										1				1								85	105
3	18	Pv+other	1.01	1	0.47	14.00		1.21	55.49				27.82							1	1		1	1								100	90
3	19	Py+Cal	0.60		0.28	26.45		0.38	20.74				51.56							1		1		1								100	128
3	20	Ank+other	2.97		0.75	8.00	0.28	15.66	28.34																							56	64
3	21	Sd+other	8.58	1.11	6.73	36.85	0.17	1.03	0.60		0.43	0.54								1										0.54		57	76
3	22	Sd+other	7.50	0.91	6.49	39.42		1.34	0.35		0.25	0.56																				57	84
3	23	Tur	37.80	0.74	31.18	5.54		6.98	0.57	2.19																						85	103
3	24	Sd				42.29	1.06	8.10	5.55																							57	63

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	FC	ZnC	SrO	Y ₂ O ₃	ZrO ₂	BaO	La_2O_3	Ce ₂ O ₃	Nd ₂ O ₃	Sm ₂ O ₃	Gd ₂ O ₃	Dy_2O_3	Er ₂ O ₃	Yb ₂ O ₃	HfO ₂	WO ₃	UO3	Total	Actual
3	25	Ank	0.69		0.34	12.79	0.34	10.85	31.00										1					1							56	59
3	26	Sd+other	11.01	5.92	6.33	25.32	0.62	4.73	2.36		0.71								1												57	71
3	27	Cal+other	2.60		1.52	2.97	0.28	0.57	47.92	L	0.13								ļ												56	63
3	28	Ank		ļ		9.56	0.30	13.99	32.16	I		ļ	l						ļ		ļ		ļ	l					l		56	62
3	29	Ank	1.06	<u> </u>	0.35	10.18	0.54	12.06	31.81								1	1	J		1	1		ļ							56	63
3	30	Ank			_	9.04	0.40	14.97	31.60								_	_													56	62
3	31	Ру	0.39			30.72							68.89					_													100	202
3	32	Qz	99.73			0.26																									100	121
3	33	Tur	37.04	0.40	31.32	7.20		6.16	0.90	2.01																					85	104
3	34	Py+Sd+other	5.56		2.87	18.18	0.25	1.76	40.86	0.47	0.48		29.59																		100	96
3	35	Py+Sd+other	6.25		2.59	14.74	0.27	2.79	50.11	0.50	0.49		22.27																		100	75
3	36	Ank+Qz	24.35		0.33	4.66	0.12	7.87	18.66																						56	88
3	3/	Py+Cal	1.41		0.42	22.13			34.45				37.81	3.80																	100	92
3	38	Cal+Py	0.54		0.33	1.92		0.45	50.19				2.57																		56	61
3	39	Ank	0.92			10.21	0.55	12.31	31.99																						56	63
3	40	Ру			-	28.38							/1.62			-		-													100	221
3	41	Ank	4440	0.07	7.40	8.62	0.35	16.65	30.39		1.01	0.50										.		ļ							56	61
3	42	Sd+other	14.13	0.87	7.46	31.34		1.09	0.40	0.44	1.01	0.58							+												57	82
3	43	Tur	37.75	0.79	30.46	5.84	0.00	7.28	0.48	2.41			0.05																		85	102
3	44	Sol	0.38		0.05	55.84	0.23	7.04	0.19		0.17	0.04	0.35																		57	89
3	40	Su+ourier	1.00		0.05	39.99	0.65	7.04	4.70	0.05	0.17	0.94		2.40																	5/	100
3	46	III+Sd+other	33.43		11.53	8.07		0.94	18.73	0.35	5.74	9.04	62.40	2.19		-		-													90	102
3	47	Py OT	0.66			35.52			0.62				03.10						+	+											100	102
3	40	QZ Calvether	99.67	0.01	4.02	0.33		0.02	0.42		0.00	0.50																			100	123
3	49 50	Su+ouner For	62.20	0.91	4.92	42.15		0.63	0.42	6 20	0.23	0.52																		·	100	117
	50	Putothor	7 10	0.03	5.57	34.48		1.13	0.20	0.30	2.94	·	51 30							+			·	h						· ···	100	162
3	52	Py+other	1 99	÷	1 47	31.45		0.38					64 70						<u>+</u>	+											100	103
3	53	E-An+other (diag)	11.81		3.74	1.66		0.32	37 27	0.65	2.29	33.80	0 97	7 47						+											100	120
3	54	Sd+Oz+other	18.84		2.36	26.81		0.30	1 30	0.00	0.28	00.00	1 48	1.41				+	0.97	+									4.05		57	60
3	55		3.62		1.55	9.56	0.43	13.20	27.28	0.00	0.36		1.40						0.07										4.00		56	46
3	56	Ozeother	71.51	0.20	12 45	11.01	0.10	1.82	0.71	0.39	1.88							-	1												100	111
3	57	Sd±lll	20.66	0.20	9.01	20.54	0.30	3.25	1.58	0.00	1.67							-	1												57	88
3	58	Tur	37.40	0.60	30.86	8.53		4.99	0.26	2.37									1		1										85	99
3	59	Kfs+Chl+other	40.07	1.78	16.33	30.66		2.11	4.30	0.44	3.55		0.47																		100	81
3	60	Pv+Cal	0.41	0.13	0.38	29.10			2.83	-			65.75																	-	100	189
3	61	Cal+Sd+other	1.10	0.57	1.01	9.32		0.62	42.08	0.44			0.88						1												56	62
3	62	TiO2 mineral	0.79	97.93	0.51	0.78													1												100	103
3	63	Qz	99.73	0.15		0.13											1		1	1											100	120
3	64	llm+Chl	33.33	18.77	22.83	14.28	0.39	8.24	0.34	0.40	1.43								1												100	93
3	65	TiO2 mineral+Qz	43.06	56.40		0.54																									100	113
3	66	Ank				10.33	0.55	12.45	32.66										1												56	60
3	67	Chl	27.04	0.31	22.95	21.92	0.49	11.73			0.55																				85	94
3	68	Kfs+Chl	35.43	0.80	13.96	42.24		2.80	0.81		3.95																				100	19
3	69	Sd+other	5.44	0.81	4.55	43.36		0.78	0.35		0.25	0.67						1	I										0.60	L	57	77
3	70	Qz+other	95.99		1.76	1.33		0.36			0.57							1	1												100	113
3	71	Py	0.53	ļ		31.35			0.35				67.77						Į		ļ				ļ						100	189
3	72	Cal+other	8.33	ļ	5.79	6.75	0.30	1.00	33.49	0.32									1						L	ļ					56	70
3	73	Py	0.71	+		29.01		0.55	0.55				65.85	3.80										ļ		ļ					100	179
3	74	Cal+Py		ļ		2.84		0.72	46.83	ļ			5.61						<u> </u>		ļ		ļ	ļ							56	63
3	75	Ank		+	0.05	8.63	0.41	15.48	31.48									+	<u> </u>												56	58
3	76	Ank	0.61		0.36	9.33	0.35	13.31	32.03															ļ							56	61
3	77	Ank	0.00	+	0.47	10.24	0.34	13.19	32.23				74.07						+	+			l								56	58
3	78	Py	0.86		0.47	27.29			0.13	10.00	4.45		/1.27						+	+	<u> </u>										100	215
3	79	Ab	66.02		20.63	0.57	0.57	45.07	0.38	10.96	1.45								<u> </u>	+				<u> </u>							100	114
3	80	Ank+other	0.62	0.57	0.62	8.98	0.57	15.27	29.94	0.40	0.00								+	+			+						1.00		56	59
3	81	III+Chi	47.48	0.57	25.25	8.90	0.40	1.84	0.58	0.49	2.80				0.87		+		+	+	<u> </u>		+	·		+			1.22		90	93
3	82	Ank	04.00	+	22.27	8.30	0.42	15.55	31.74								+			+				·		+					56	58
3	83	Chi	24.68	+	23.3/	30.24	0.19	0.30	0.17																	·····					85	94
3	84	Sa+other	3.93	0.42	1.41	41.19	1.17	4.12	5.18	0.50	2.05			····· ·					+	+			+			·					5/	62
3	C0	For	40.29	0.42	23.00	0.00		3.04	0.02	0.00	3.00								+	+			+	+							100	92
3	00	Sducthor	376	0.53	24.00	9.22	1.05	2.00	0.77	0.34	4.10								+	+			+	·····		+					E7	E0
3	0/	Sutomen	3.10	1	1.40	40.00	1.03	5.07	4.73	I	0.24	1	I			_	1	1	1	1	1	1	1	1	I	1	1	1	I	I	51	1 09

Site	Position	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	SO3	F	CI	ZnO	SrO	Y ₂ O ₃	ZrO ₂	BaO	La ₂ O ₃	Ce ₂ O ₃	Nd ₂ O ₃	Sm ₂ O ₃	Gd ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Yb ₂ O ₃	HfO ₂	WO ₃	UO3	Total	Actual
3	88	(Alt IIm) Rt+other	5.13	90.58	3.29	0.46					0.54																				+	100	99
3	89	Ank		0.52		9.17	0.57	14.60	31.13																							56	59
3	90	Ank				10.04	0.52	13.79	31.66	1										1												56	55
3	91	Sd+other	4.95		4.12	34.86	0.61	3.82	8.65	1										1		1							1			57	68
3	92	Qz	98.70		0.79	0.49														1												100	119
3	93	Py	0.62		0.40	29.78			0.99				68.22																			100	200
3	94	III+ChI	48.29	0.79	19.94	6.60		1.88	7.98	0.32	3.55		0.63																			90	95
3	95	Alm-Sps	39.70		20.96	24.21	12.90	1.38	0.84																							100	112
3	96	Sd+other	8.06	1.41	6.10	37.83		1.03	0.44		0.53	0.80								ļ										0.56	,	57	72
3	97	Sd+other	11.79	1.35	7.25	33.31		0.99	0.46		0.94	0.71	54.40																1			57	69
3	98	Py+other	8.62		4.82	31.16	0.24	1.04	0.20				54.16																-			100	161
3	100	Ank Du Or	2.25		0.24	10.20	0.34	9.93	0.24				E6 26																+			100	1/2
3	100	III+Chl	49.77	1.08	23 11	7.07		2.82	1 20	0.42	4 55		50.50																			90	100
3	102	Sd+other	3 44	1.00	0.62	39.37	0.98	6.42	4 72	0.42	4.00		1 46																			57	64
3	103	Qz+other	91.17		5.59	1.00	0.00	0.55			1.69									1												100	122
3	104	Py+Cal	0.71			31.29			2.32	0.31			65.40							1												100	175
3	105	Qz	99.19		0.38	0.41																						1				100	116
3	106	Qz	99.09	0.28		0.40			0.22																							100	119
3	107	Py+other	2.29		1.81	27.34		0.58	2.80				65.17																			100	194
3	108	TiO2 mineral+Qz	2.08	96.98	0.38	0.58														ļ											·	100	95
3	109	Sd+other	7.47	0.64	5.83	40.75		1.02	0.18		0.37	0.75																				57	79
3	110	Cal+Py+Chl	8.32		2.87	6.76		2.09	26.08	0.32	0.36		9.19							ļ												56	79
3	111	Py Fan	0.71	0.57	40.70	28.52		2.24	0.81	1.40	2.00		69.54																			100	201
3	112	Tur	27.64	0.57	19.70	0.97		2.34	0.51	2.50	3.06																					-100	- 100
3	114	(Alt IIm) Rt+Oz	50 14	49.06	20.00	0.44		0.00	0.38	2.59										<u> </u>												100	109
3	115	Sd+Kfs+other	21.81	0.36	11.06	1.43		1.07	17.11	0.30	2.03		0.52	1.31						<u> </u>												57	82
3	116	Pv+other	3.08		2.17	31.51		0.35	1.93		0.25		58.36	1.66																0.69		100	150
3	117	Qz	99.84			0.15														1		1							1			100	115
3	118	Qz+Py+other	65.33		1.93	10.78		0.30	1.72		0.31		19.63							1												100	110
3	119	Qz+Sd	55.75	0.23	15.36	17.53		2.87	5.72		2.53																					100	97
3	120	Sd+Qz+other	1.74		0.74	41.02	0.43	6.90	6.17																						·	57	59
3	121	Sd+Py+Cal+Qz	6.49	ļ	0.53	45.63			1.37	0.38			1.54																	1.05	┌───┤	57	74
3	122	Ank				9.25	0.57	15.21	30.97																						·	56	57
3	123	lur	37.70	0.47	30.37	6.99	0.45	6.78	0.56	2.14											l										r	85	93
3	124	Ank	+			10.01	0.45	12.50	32.10																				+		ł	50	50
3	125	Sd±other	2.80		0.63	52 70	0.20	12.70	0.31											ł									-			57	67
3	127	Chl+Pv+Cal	40.94		11 73	18.80	0.00	5 17	7.63	0.71	1 10		4 77		0.17				· · · · ·	5.71										246		100	82
3	128	Qz	99.99							-																						100	111
3	129	Mnz+other	2.93	2.99	2.36				1.61		0.34	40.40		-1.16						1		24.91	19.81	3.06	2.77							100	86
3	130	Py	0.86		0.43	28.33			0.64		0.11		69.67																			100	189
3	131	Cal+other	8.10		5.90	1.73	0.13	1.99	34.86		0.62		0.46	2.21																		56	64
3	132	Py+other	8.73		6.03	39.28		1.39	0.35				44.25																			100	133
3	133	Py+other	2.65		1.83	34.93		0.60	3.95				56.03																		,	100	144
3	134	Cal+other	1.41		0.64	1.63	0.22	0.39	51.54		0.16								ļ	Į											r	56	54
3	135	QZ	99.84		0.05	0.17		0.00	0.40				40.70																	1.54		100	107
3	130	ry+QZ Ank	2.40	÷•••••	0.00	8 70	0.62	15 20	0.49				49.79									+								1.54		56	54
3	138	Sd+other	6.01	0.63	6.06	41.91	0.03	1.23	0.19		0.18	0.62							<u> </u>	<u> </u>				<u> </u>						·	\rightarrow	57	75
3	139	Q7	99.99	- 0.00	0.00				0	· · · · ·		0.02								1	1	1		†				1		· · · · ·	, <u>+</u>	100	112
3	140	Chl	29.35	0.85	16.79	30.87	0.20	6.19	0.26		0.51								· · · · ·	1									1			85	82
3	141	Qz+Py	20.51			21.43			0.81				57.26							1								1				100	167
3	142	Py+other	7.27		5.31	31.96		1.03	0.25				54.19																			100	142
3	143	Ank+other	9.14		1.61	7.30	0.33	13.12	24.49																							56	54
3	144	Mnz		ļ								43.93						37.45		ļ		ļ		ļ	2.69	5.24	3.99	4.27			2.24	100	88
3	145	Sd+other	0.90	ļ		48.26	5.99	1.29	0.56																						,	57	53
3	146	Py+other	2.44	·	1.44	49.20	0.40	0.00	0.91	0.50	0.18		39.83									·····								5.52		100	88
3	147	Py+Cai	0.00		0.49	21.30	0.19	0.60	0.27				54.10							ł		+						+		· · · · ·		100	142
3	140	Chl+Cal	30.35	0.21	4.40	26.33	0.53	4 78	2.53		0.52		34.19									+		<u> </u>					1		ł	85	70
3	150	Brt (cont)	00.00	0.21	13.12	0.57	0.00	4.70	2.00		0.02		38.18				1.51			59.74		+						1				100	101
		Bit (boing	1	1	1	5.01			1	1	1		303			1				1 30.1 4	1	1	1	1			1	1	1				

Site	Position	Mineral	SiO ₂	TiO ₂	Al ₂ O ₂	FeO	MnO	MaQ	CaO	Na ₂ O	K₂O	P ₂ O ₆	SO ₂	F	CI	ZnO	SrO	Y ₂ O ₂	ZrO ₂	BaO	La ₂ O ₂	Ce ₂ O ₂	Nd ₂ O ₂	Sm ₂ O ₂	Gd ₂ O ₂	Dv ₂ O ₂	Er ₂ O ₂	Yb ₂ O ₂	HfO ₂	WO ₂	UO3	Total	Actual
		5	0.00	- 2	2.5	0.00				- 2 -	2 -	2-5	00.04	1 70			1.01	2 - 5	- 2	50.00	-2-3	2.3	-2-3	- 2-3	2 - 3	72-3	2-3	-2-3	- 2			100	Total
3	151	Brt (cont)	3.23	00.70	0.55	0.60			0.24		1.00		36.61	1.72			1.01			56.29												100	99
3	152	(Alt IIM) Rt+otner	0.00	63.79	5.42	2.50		0.72	0.31		1.30		0.54																ļ			100	89
3	153	TiO2 minoral Cal	9.00	02.21	1.09	0.59		0.73	6 25		0.10		0.54																			100	01
3	155	Ank	0.34	52.21		5.26	0.20	16.95	33.58																							56	53
3	156	Pv	0.51			33.50	0.20	10.00	0.31				63.68						0.89			1								1.10		100	171
3	157	Sd+other	4.20	0.51	4.75	45.75		0.66	0.36		0.11	0.66										1										57	70
3	158	Brt (cont)				0.63							38.35							61.02												100	103
3	159	Py+other	0.86		0.23	30.43		0.36	3.71				64.42																			100	153
3	160	Cal				2.56	0.62	1.19	51.64																							56	50
3	161	F-Ap+other (diag)	1.43		0.98	0.59			46.02	1.11	0.14	38.93	2.60	7.55																0.64		100	104
3	162	Zrn	30.12		1.38	0.63			0.71					3.00				2.90	58.67										1.75			100	80
3	163	Sd+other	5.59	0.70	5.10	36.94		0.82	6.65		0.23	0.75																				57	64
3	164	Brt (cont)				0.24							38.50				0.91			60.35												100	98
3	165	Sd+other	15.29	0.75	7.55	29.38		0.96	0.36		1.64	0.43																		0.49		57	75
3	166	Tur	39.17	0.44	29.30	7.84		5.61	0.48	2.17																						85	94
3	167	Py+other	6.95		5.84	28.79	0.14		0.14				58.13																			100	162
3	168	QZ Celi Celi ether	99.88	0.50	1.01	0.13		2.40	20.00																							100	114
3	170	Cal+Su+olner	1.00	0.56	1.01	21.06		2.19	20.00																							56	55
3	170	Bytother	12.34		0.35	21.06		10.00	1 70	0.75	1 20		10 50																			100	166
3	172	Sd+other	2.82		1 49	39.92	0.55	5 17	4.99	0.70	0.22	1.84	40.00																			57	60
3	173	Pv+other	16.17	0.13	10.17	23.30	0.00	1.46	0.95	0.31	1.41	1.04	46.10																-	-		100	141
3	174	Pv		-		28.01							71.99						· · · · · ·													100	199
3	175	Py+other	1.35	0.30	0.72	32.21		0.50	8.02				56.91																			100	166
3	176	Ilm+other	2.57	43.10	2.59	50.33		0.48														1										100	105
3	177	Ank				7.77	0.15	15.51	32.58																							56	64
3	178	Py+Cal	1.18			27.67		0.38	14.09				56.68																			100	155
3	179	Py	0.21			27.80	L		0.43				71.54										L									100	224
4	1	Qz	97.98	0.20	0.66	0.87			0.28																							100	122
4	2	(Alt IIm) Rt+other	7.00	86.26	5.05	0.68		-			1.02																					100	113
4	3	Sd+other	7.87	0.22	4.57	32.56	0.34	7.81	3.50		0.15																					57	71
4	4	Ank	0.43	0.14	4.70	9.62	0.62	14.36	30.97		0.40																					56	64
4	5	Su+other	0.74	26.01	4.72	53.03	0.32	0.20	0.30	0.40	0.40			2.12																		100	115
4	7		75 17	0.63	14.83	3.55		1.//	0.30	0.49	2.71			2.12																		100	110
4	8	Sd+other	7.81	0.03	4.81	40.08		0.95	0.27	0.20	0.60	0.62																		0.74		57	87
4	9	Sd+other	11.84	0.00	5.43	35.35		1 11	0.20		1 41	0.54																		0.50		57	94
4	10	Qz+other	93.55	0.10	1.21	3.06			0.20		0.12	0.01	2.07																	0.00		100	120
4	11	Qz+other	86.25		7.56	2.17		1.56			2.47																					100	129
4	12	Sd+other	10.61	1.12	6.93	35.11		1.23	0.44		0.66	0.90																				57	75
4	13	Sd+Qz+other	0.83			41.44	0.41	7.61	6.28				0.44																			57	65
4	14	Cal+other	0.67		0.45	2.06		0.42	52.40																							56	59
4	15	(Alt IIm) Rt	0.96	96.61	0.49	1.36	0.30		0.28																							100	88
4	16	Sd+other	9.19		1.50	36.25	0.15		1.46	1.01	0.27		1.07	2.12	0.13						· · · · · · ·			l						3.85		57	70
4	17	Qz+other	87.90	0.27	3.00	5.17		0.55	2.50	0.10	0.60	0																				100	115
4	18	Chl+other	29.48	1.29	10.84	38.67		2.29	0.44	0.43	0.70	0.54		1.04				4.40	57.54			+		+					4.44		4.40	85	95
4	19	Zm Chl	29.37		1.85	0.73		2.24	1.25		0.20			1.84				4.48	57.54										1.44		1.49	100	104
4	20	Cal+Pytother	35.24	÷•••••	20.93	20.99		2.24	0.23		0.39		15.02						<u> </u>			+										56	85
4	22	Pv	0.47	······	0.30	29.63		0.46	0.56		0.20		69.04									+		+								100	218
4	23	Sd+other	5,35	1.34	4,89	42.48		0.95	0.32		0.27	0,60	00.04						<u> </u>			+		+	<u> </u>					0,61		57	70
4	24	Ank				7.04	0.19	15.33	33.43												1		··· ···	1		· · · · · ·						56	61
4	25	Qz	99.79	1		0.21													1			1		1		· · · · · ·			1	· · · · ·		100	123
4	26	Ank				8.64	0.29	0.31	33.96				12.81																			56	74
4	27	Ab	66.27	1.27	19.24	1.24			0.49	10.91	0.60																					100	118
4	28	Ank+Qz	2.66			11.06	0.89	10.71	30.69																							56	64
4	29	Sd+other	1.69		0.67	41.03	0.74	7.48	5.38																							57	59
4	30	Cal+Sd+other	10.00	ļ	0.41	9.84	0.68	8.32	26.74																							56	72
4	31	Ank	0.52		0.34	10.86	0.90	11.33	32.07												· · · · · · ·			ļ								56	63
4	32	Sd+other	4.20	·	0.29	49.70	0.26	0.36	0.74				1.45																			57	79
4	33	QZ	99.64	00.00		0.36			0.01																							100	120
4	34	(AIT IIM) KT	0.47	98.80	1	0.51			0.21										1		1	1		1			1	1	1	1		100	108

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	SO3	F CI	ZnO	SrO	Y_2O_3	ZrO ₂	BaO	La ₂ O ₃	Ce ₂ O ₃	$\rm Nd_2O_3$	Sm_2O_3	$\rm Gd_2O_3$	Dy ₂ O ₃	Er ₂ O ₃	Yb ₂ O ₃	HfO ₂	WO ₃	UO3	Total	Actual Total
4	35	Py+Chl+IIm	35.00	3.70	21.54	11.44		9.04	0.62	0.35	0.42		17.10					1	1										0.79		100	129
4	36	Py	0.15	0.15		27.84							71.87						1												100	223
4	37	Py+Cal	1.88			27.39			7.37				63.35																		100	171
4	38	Cal	1			1.50	0.30	0.99	52.68				0.52																		56	57
4	39	Qz	99.81			0.17	L			L		l	L			L		l	I			L									100	124
4	40	Qz	99.56			0.45																									100	125
4	41	Py+Cal	0.49		0.21	28.70			1.67				68.94																		100	198
4	42	Ру	0.30			35.51			0.22				63.85																		100	192
4	43	Cal	0.59			2.49		4.43	48.48									ļ	ļ												56	59
4	44	Ру				28.74			0.21				71.07					ļ	ļ												100	221
4	45	Kfs	64.75	0.40	20.48	7.55		1.79	0.46	0.54	4.02																				100	105
4	46	Cal+other	1.20		0.48	7.61		0.60	45.24				0.40			0.48															56	63
4	4/	Ank	1.10		0.68	8.62	0.21	14.02	31.37									ļ	ļ												56	63
4	48	(Alt IIm) Rt+Qz	60.41	39.42		0.17	1.00	0.00	0.00																						100	113
4	49	lim+otner	0.45	45.37	0.40	49.01	1.02	3.83	0.32							l		·	I					······							100	101
4	50	Ank	0.98		0.43	10.03	0.60	12.70	31.25				0.00																		56	62
4	51	Cal	0.54			3.01	0.27	1.32	51.08				0.32		-																50	5/
4	52	Py+Cai	0.51			19.94		1.04	45.22				33.29																-		100	00
4	53	Q2	99.99			44.44		0.00	0.00				57.00						+												100	120
4	54	Py	0.00			41.14		0.32	0.32				57.30																		100	102
4	50	07	99.04			0.15														+											100	119
4	57	QZ	99.04		10 52	0.15			0.14	12.02				1 10						+											100	110
4	57	AD	1 25		16.52	27.49		·	0.14	12.03			60.69	1.10				·	l	+									·		100	122
4	50	Fy	00.41	0.13		0.44			0.50				00.00					<u> </u>	<u> </u>	1											100	118
4	60	Sd+other	2.54	0.13	1.01	30.68	0.71	6.95	5.03		0.18				· · · · · ·			<u> </u>	<u> </u>	· · · · · ·											57	60
4	61	Ank	2.54	·	1.01	11 07	0.40	12 54	31 99		0.10	·			+			<u> </u>	<u> </u>	+		+		······					·		56	60
4	62	Ank				12.45	0.50	11.59	31.46									<u> </u>	<u> </u>												56	59
4	63	Pv	0.83		0.47	28.60	0.00	11.00	01110				70.09		· · · · ·																100	212
	64		99.81	······	0.11	0.17							10.00		· · · · ·				<u> </u>											· · · ·	100	121
4	65	Oz+other	85.29	0.53	9.32	1.76		0.76		0.63	1.70				· · · · · ·			1	1	· · · · · · · · · · · · · · · · · · ·											100	112
4	66	Ank	0.90		0.51	11.51	0.32	11.85	30.90																						56	56
4	67	Pv+other	7.49		5.93	30.32		1.41	0.15				54.69																		100	164
4	68	Chl+Fsp	37.51	1.32	28.13	8.94		6.23	0.37	2.50									1												85	87
4	69	Py+Cal	0.19			24.93		0.38	17.21				56.83																		100	143
4	70	Ank				12.52	0.67	10.82	32.00																						56	61
4	71	Qz+other	75.79	0.28	11.75	3.74		1.19	1.16	0.31	2.60		0.47																2.70		100	105
4	72	Py+other	12.62		6.37	45.12		0.78	0.55		0.17		34.41						1												100	108
4	73	Qz	90.57	3.94	3.72	0.64					1.12								1												100	120
4	74	Ilm+other	23.02	55.88	7.94	8.95		1.58	0.67		1.05																		0.93		100	96
4	75	Py+other	5.41		4.40	30.44		0.98					58.78																		100	173
4	76	Sd+other	6.22		0.57	47.10	0.25	0.40	1.23				1.11	0.14																	57	76
4	77	Sd+other	6.28		1.19	36.38		0.39	1.58	0.88			1.25																9.05		57	65
4	78	Ank				11.18	0.30	13.29	31.21									ļ	I												56	59
4	79	Qz	99.24	ļ	0.40	0.36																									100	116
4	80	Sd+Qz	1.50	ļ	0.44	39.73	0.58	8.89	5.86									ļ				ļ									57	59
4	81	Ank				11.30	0.64	12.09	31.99											+											56	58
4	82	Ank				5.91		17.35	32.74						+				l												56	58
4	83	Cal		<u> </u>		0.93		2.26	52.02				0.78		+	+		<u> </u>	<u> </u>	+		<u> </u>								├	56	53
4	84	Py+Cal	0.00	<u> </u>	0.40	29.88	1.05	C 45	10.63				59.16		+			<u> </u>		+											100	146
4	85	Sd+Qz	0.82	0.04	0.40	41.09	1.65	0.45	0.01		1 22							<u> </u>	<u> </u>												57	61
4	86	Uni+other	22.18	2.31	13.99	30.95	0.30	3.13	2.24	0.27	1.32				+	+		<u> </u>		+											85	86
4	8/	QZ+other	6.04	0.22	12.98	1.10	0.56	2.02	2.59	0.27	1.00			·····	+	+		<u> </u>	+	+											100	108
4	88	(Alt IIm) Dtrather	0.94	0.44	3.97	33.07	0.50	1.02	4.01		0.30				+			<u> </u>	<u> </u>	+											5/	100
4	69	(Ait IIII) Rt+other	04 77	94.00	2.04	0.40					1 17	<u> </u>	0.42		+	+		+	<u> </u>	+		+									100	100
4	90	Q2+other	0.62	0.23	2.93	33.85			0.32		1.17		65.20		+					+											100	100
4	91	Fy E-Aptother (dieg)	4 10	·····	2 10	17 92	0.40	1 28	38 10	0.80	0.20	28.46	00.20	4.87	· · · · · ·					+	·			·			····		0.62		100	101
4	92	Oztother	62.55	1.63	23 32	6.12	0.40	3.90	0.45	1 27	0.29	20.40	0.97	4.07	+	1				+									0.02		100	93
4	93	Caltother	1 10	1.03	0.57	4.05	0.70	1.08	48.50	1.21	0.75				+	1		·····	l	+		1								····	56	97
4	95	Sd+other	3.88	0.10	1.81	37 93	0.56	6 10	6 14		0.37				· · · · · ·	1		<u> </u>	1	+											57	67
4	96	Brt (cont)	0.00	0.13	1.01	0.32	0.00	0.10	0.14		0.57		40.10		+	1		+	59.57	+											100	126
4	97	Oz+other	66.23	0.47	20.07	6.73		4 46	0.55	1.50			10.10		+	1			1 33.07	+											100	126
<u> </u>	51	042101101	30.20	0.47	20.07	0.75		- 	0.00	1.00				L		1		1	1	1	1	1	1	1			1			1	100	120

Site	Position	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	SO3	F	CI	ZnO	SrO	Y ₂ O ₃	ZrO ₂	BaO	La ₂ O ₃	Ce ₂ O ₃	Nd ₂ O ₃	Sm ₂ O ₃	Gd ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Yb ₂ O ₃	HfO ₂	WO ₃	UO3	Total	Actual
4	08	Tur	37.54	0.77	28.62	9.08		6.10	0.62	2 27																					<u> </u>	85	10121
4		l ui	65.78	0.77	17 78	0.30	·	0.10	0.02	2.21	16.04					· · · · · ·								·····			······	· ····		······	<u> </u>	100	110
4	100	E-An+other (diag)	4 32		2.87	1 17	·	0.36	43 54	0.50	0.25	37.63	0.82	8.52					<u>+</u>		+	+		÷					+		<u>├</u>	100	110
4	100	Oz+Sd+Pv+other	45.61	0.42	0.94	45.25		0.50	1 44	1 32	0.20	01.00	3.47	0.02	0.82				<u>+</u>	<u> </u>		+							+			100	54
4	107	E-Ap+other (diag)	43.01	0.42	0.34	43.23		0.75	48.62	1.52		45.03	3.47	6.13	0.02																	100	123
4	102	Chl+Kfe	36.92	0.53	29.34	12.03	0.24	3.06	0.44	2 44		40.00		0.10							+			·							<u>├</u>	85	100
4	103	Rt+other	1 58	0.00	23.34	1 16	0.24	3.00	0.44	2.44										ŀ									+		I	100	100
4	105	Aliminium-Phosphate	1.00	50.50	35.96	1.10			2.88			35.27	3.62				7.40			0.92	4 69	5.81	1 75									100	95
4	106	Sd+other	0.70	0.81	7.06	36.02		0.95	0.32		0.32	00.21	0.02				1.40			0.52	4.05	0.01	1.70							0.83		57	72
4	107	Sd+other	4 17	0.75	4.88	44.69	0.13	0.66	0.02		0.02	0.59																		0.63		57	75
4	108	Cal+Sd+other	1.26	0.70	0.57	10.82	0.48	9.71	33.17			0.00																		0.00		56	49
4	100	Sd+other	12.46		4.53	35.51	0.40	1 11	0.75		0.51				0.56					l	1	1		1				1		1 58		57	12
4	110	(Alt IIm) Rt+other	3.87	88.04	3.42	2.88		1.26	0.53		0.01				0.00				<u> </u>	l	· · · · · · · ·	+							+	1.00	<u> </u>	100	32
4	111	(Alt IIm) Rt+other	6.03	80.82	4 97	3.45		2.04	0.49					2 19					1										-			100	82
4	112	Ab+other	69.33	1.85	17.23	0.33		2.04	0.40	10.85				2.15																		100	115
4	113	Ank	0.55	1.00		10.89	0.38	12.00	32 19	10.00									1													56	59
4	114	Pla	65.29		19.46	2.83	0.00	0.68	5.89	0.49	5 36																					100	104
4	115	Sd+other	1.37		0.95	47 79	5.77	0.76	0.36	0.10	0.00									l				-								57	58
4	116	Chl+Esp	37.80	0.28	28.85	9.59	0.11	5.68	0.48	2.33																			-			85	97
4	117	E-An+other (diad)	2 48	0.20	1.55	16.33		0.00	38.03	0.70	0.19	32 77	1.02	6.93																		100	97
4	118	Pla	63 77		22.45	0.23			3.97	9.57	0.10	02.11	1.02	0.00															-		· · · · · · · · · · · · · · · · · · ·	100	115
4	119	Chl+Kfs+Cal+Pv	41 79	0.83	19.52	5.83		2 14	11.38	0.40	2.06		1.04																-			85	87
4	120	Pv+other	7 27	0.00	5.80	31.54		1.66	0.52	0.10	2.00		53.21						1	1									+			100	151
4	121	Pv+Sd+other	4 4 1	0.22	2.85	19.80		0.40	35.16	0.55	0.33	31.00	1 00	4.32					1	1		-		-								100	99
4	122	Ill+Chl	44 51	0.36	21.72	15.85		2.33	00.10	0.48	4 76	01.00																				90	97
4	123	Tur	38.55	0.00	32.61	7.84		4.34		1 47	0.19								<u> </u>					· · · · · · · · · · · · · · · · · · ·					1		<u>├</u>	85	92
4	124	Pv+Cal+other	1.28		0.59	20.87	<u> </u>	0.56	29.24		0.10		47.49	1					†	1		1		<u>.</u>					1	·	<u>├</u>	100	101
4	125	Ilm+other	18.89	60.32	10.73	7.24		1.76			1.06			+					<u>+</u>	<u> </u>		·····									<u>├</u>	100	101
4	126	Oz+other	87.24	3.02	3.78	5.07		0.40			0.48																					100	104
4	127	Sd+other	1.76		0.82	38.48	0.66	8.98	5.99		0.30								· · · · ·												I	57	58
4	128	Cal+Pv+other	1.50		0.77	12.58	0.24	3.15	35.85	0.48	0.13		1.30									1							1			56	57
4	129	Ank				6.38	0.19	16.12	33.31																							56	54
4	130	Sd				41.33	1.08	7.56	7.03																							57	54
4	131	Sd+other	2.98	0.22	1.89	37.04	0.30	10.25	4.34																							57	61
4	132	Ilm+Qz+other	24.56	72.09	2.59	0.39					0.37																				I	100	90
4	133	Py+Cal	2.37	0.32	1.53	27.78	0.17	0.63	18.71				48.49																			100	112
4	134	Sd+other	2.68		1.84	39.06	0.31	8.54	4.56																							57	61
4	135	Chl+Kfs+other	37.44	1.21	21.88	14.09		6.26	0.81	0.32	2.99																					85	89
4	136	Ank	0.41		0.31	3.29	0.22	17.65	34.13											1												56	53
4	137	Py+Cal	0.60		0.23	28.05			1.65				69.49																			100	191
4	138	Cal+Qz	32.70	0.32	5.32	1.82		0.69	13.52		1.12		0.50																			56	80
4	139	Ank				10.93	0.35	12.25	32.48																							56	56
4	140	Cal				5.20	0.26	0.34	50.20																							56	47
4	141	Sd+Qz	1.93			49.94	0.30		1.30	0.58			1.00						1											1.97		57	57
4	142	Sd+other	4.11	0.19	2.76	37.35	0.32	7.09	4.85		0.32]		· · · · · ·																		57	62
4	143	III+ChI	41.81	1.02	23.55	16.54		4.06	0.50	0.32	2.17]																				90	92
4	144	Py+other	4.51		4.01	30.10		0.96					60.43																			100	167
4	145	Ab	68.60	3.24	16.65	0.19				11.32																						100	108
4	146	Ilm+other	28.94	51.83	10.69	4.41	L	2.35		1.01	0.76			l					l	L										L		100	89
4	147	Cal	0.30			4.88	0.15	1.01	42.71	L			6.94						ļ	L											L	56	60
4	148	Qz+Cal+other	43.64		1.80	3.05	0.22	1.28	49.74		0.28								ļ	ļ											L	100	70
4	149	Sd+Py+other	9.17		1.38	34.40		ļ	1.94	0.96	0.19		1.25	3.31	0.20				ļ	ļ										4.06	\vdash	57	69
4	150	Chl+other	27.79	0.43	16.81	34.21	L	4.34	0.41	L	1.00			l			L		l	L		<u> </u>							1	L		85	91
4	151	Py+Cal				24.84		0.41	15.41				59.36	ļ					ļ	ļ		ļ	L			ļ			ļ		┟───┘	100	149
4	152	Py				28.35			0.17				71.47	ļ					ļ	ļ						L			ļ		<u> </u>	100	204
4	153	Cal				0.77		1.42	53.33				0.48																		<u> </u>	56	53
4	154	Brt (cont)				0.60			0.53				38.28							60.60		+	· · · · · · ·								<u> </u>	100	102
4	155	Cal				2.55	0.63	0.86	50.30				1.66																		<u> </u>	56	54
4	156	Cal+Py	0.29	0.00	10 -0	9.97	0.31	0.23	28.35	0.00	4.00		16.85	ļ			ļ		ļ	l								ļ	+		ļ	56	67
4	157	ChI+CaI+other	30.68	0.36	16.56	25.51		3.20	6.41	0.33	1.96		50.57						ļ					+					+	1.50	<u> </u>	85	86
4	158	Py+other	4.79		2.76	39.84		1 10	0.50	0.75	0.00		ou.57								· · · · · ·	+		+					+	1.56	<u>+</u>	100	123
4	159	QZ+OTNER	79.45	0.50	11.75	4.05	0.11	1.49	0.24	0.75	2.26	0.40																			<u> </u>	100	101
4	160	ChI+CaI+other	21.37	0.53	13.74	35.68	0.44	4.45	5.75	1	0.60	2.46		1	1				1	1	1	1					1	1	1	1	1 1	85	69

Site	Position	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	SO3	F	CI	ZnO	SrO	Y ₂ O ₃	ZrO ₂	BaO	La ₂ O ₃	Ce ₂ O ₃	Nd ₂ O ₃	Sm ₂ O ₃	Gd ₂ O ₃	Dy ₂ O ₃	Er ₂ O ₃	Yb ₂ O ₃	HfO ₂	WO ₃	UO3	Total	Actual
4	161	Sd+Cal+other	2.02		0.66	37.60	0.52	3.99	10.68			0.81								+										0.74		57	55
4	162	Pv		·		28.23							71.79																			100	191
4	163	Cal+Kfs+Chl	37.63	<u>.</u>	14.51	1.72		1.76	41.25	1	2.43		0.70							1		1										56	73
4	164	Kfs+Chl	61.99	0.45	23.24	6.65	· · · · ·	2.37	0.56	0.67	4.08									1	1	1							1			100	87
4	165	Py	0.36			30.00			0.17	1			69.22							1									1			100	179
4	166	F-Ap				0.15	0.31		47.24			44.50		7.75						1										0.06		100	104
4	167	Ank				9.53	0.34	13.46	32.68																							56	52
4	168	Py+other	3.49		3.00	28.75		0.80					63.95																			100	172
4	169	Kfs+Chl+other	61.31	1.37	24.15	5.22	ļ	2.04	0.64	0.43	4.82						ļ															100	90
4	170	Brt (cont)						10 -0					38.21							61.81												100	98
4	1/1	Ank	1.00	05.04	0.00	9.39	0.30	12.78	33.53		0.40										+	+										56	51
4	172	(Alt IIM) Rt+other	1.82	95.91	0.89	0.81		45.07	0.38		0.19									l												100	83
4	173	Chluothor	17.65	1.02	14.02	5.40		15.07	34.43		0.64	0.90									+											00	51
4	174	Dy	0.43	1.95	0.21	40.01		1.11	3 20		0.04	0.80	68 57																			100	197
4	176	Tur	41.55	0.55	26.87	6.48	0.21	6 74	0.37	2.23			00.07								+											85	99
4	177	TiO2 mineral	0.83	97 18	0.51	1 14	0.21	0.14	0.34	2.20																						100	98
4	178	Qz	99.81	0.18																1												100	113
4	179	(Alt IIm) Rt+Qz	1.09	92.86	0.62	5.43																										100	88
4	180	llm+other	7.96	72.28	5.52	13.37		0.46			0.42									1				1								100	98
4	181	Sd+Qz+other	6.86		1.11	40.72			1.77	0.74			1.14							1										4.44		57	56
4	182	Py+other	4.45		3.67	28.64		0.96	1.13				61.15										-									100	148
4	183	Chl+Kfs+Cal	36.47	0.61	15.89	25.98	0.34	2.13	2.42		1.15																					85	80
4	184	Qz	98.51		0.47	0.99														ļ												100	104
4	185	Py+other	4.00		2.78	28.19		0.68	0.27		0.10		64.00							ļ												100	170
5	1		45.68	0.74	32.21	3.00		0.89	1.58	0.34	4.91	1.36								ļ												90	113
5	2	Sd+Chl+Kfs	16.87	0.71	5.85	28.80		1.66	0.27	0.40	2.15	0.68								ļ										0.40		57	98
5	3		45.55	0.61	24.17	12.23		2.84	0.72	0.48	2.93		00.00																	0.48		90	107
5	4	Py+other	67.32	0.38	2.49	6.23		1.53	0.14	0.24	2.87		1 07																			100	183
5	- D - G	Q2+Py+otner	07.52	0.30	19.44	28.01		1.55		0.24	2.07		71 90							$+ \cdots$									+			100	224
5	7	Fy Pv				28.29			0.17				71.55							1	+	+										100	224
5	8	Cal	-			2.13	0.24	1.03	52.18				0.43							1	+			1					-			56	56
5	9	Qz+other	96.67	2.14	0.68	0.26					0.24																					100	122
5	10	Qz+other	96.48		1.70	1.11		0.32	0.18		0.20																					100	121
5	11	Py+other	7.10		5.39	33.91		1.48	0.20				51.94																			100	158
5	12	Ank				9.60	0.50	13.17	32.74											1												56	60
5	13	Py	0.28			28.50							71.22							I	1								1			100	214
5	14	Sd+Chl+Kfs	14.79	0.36	7.80	30.33		0.90	0.24		1.64	0.47								I									1	0.47		57	88
5	15	Py				27.60			1.86				70.54																			100	194
5	16	Chl+Py	27.34		21.94	23.81	0.36	13.93	0.15		1.07		11.39							I												100	104
5	17	Py+other	3.66		2.34	36.16		0.66	0.32				56.86																			100	165
5	18	Py Call Du				30.62		0.00	20.01				69.37							I	+	+							+			100	206
5	19	Dutother	0.52	+	7.80	21.76		2.20	0.12				10.01							+	+	+		+					+			00	111
5	20		9.50		1.00	0.96		2.29	0.18		0.35		1 65								+											100	120
5	22	Pv	0.21	+	1.21	28.98					0.55		70.82							1	+			1					+			100	207
5	23	Cal	0.55		+	1.30		1.21	52.45				0.49							1	+	+		+					1			56	55
5	24	Brt (cont)	1 0.00	1	1				52.10				38.21							61.80	+	1		1					1			100	106
5	25	Py		1		26.84	· · · · ·	0.28	8.05	· · · · ·			64.85							1		1		1					1			100	158
5	26	Cal				3.24	0.18	0.60	46.97				5.01							<u> </u>												56	60
5	27	Kfs+Chl	47.34	0.32	15.49	27.34		2.26	0.57	0.35	6.32									1												100	92
5	28	Sd+other	9.27	0.51	5.90	38.93		0.83	0.26		0.70	0.60																				57	81
5	29	llm+other	28.04	66.16	3.53	1.30		0.41			0.57									ļ				1								100	105
5	30	Qz	99.64	0.18		0.17														ļ						L						100	114
5	31	Py	0.30	0.15	0.05	30.17			0.24				69.29								+											100	196
5	32	Sd+Qz+other	23.05	0.17	3.25	24.53		0.51	1.28	0.51	0.66		0.98		0.28					l	+								+	1.77		57	61
5	33	Tur	41.26	0.31	26.81	8.74		5.40	0.47	2.03	0.50	0.50									+	+										85	96
5	34	Sd+other	10.46	0.71	5.88	37.12		1.20	0.27		0.56	0.59																				57	62
5	36	Anktother	1.29	1.07	0.15	12.69	0.25	10.20	30.20		0.35	0.54								<u> </u>	+	·····		+								56	58
5	37	Ank	1.20	1	0.70	8.60	0.23	13.92	33.33											1	+			+					+			56	55
5	38	Ank				10.33	0.31	12.94	32.43											1	1			1								56	55
		<i>i</i> wax	1	1	1	10.00	0.01	1.2.04	520	1	1					1			1	1	1	1	1	1	1		1	1	1				

Site	Position	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	SO3	F	CI	ZnO	SrO	Y ₂ O ₃	ZrO ₂	BaO	La ₂ O ₃	Ce ₂ O ₃	Nd ₂ O ₃	Sm ₂ O ₃	Gd_2O_3	Dy ₂ O ₃	Er ₂ O ₃	Yb ₂ O ₃	HfO ₂	WO ₃	UO3	Total	Actual Total
5	39	Zrn	31.57																67.07										1.36			100	112
5	40	F-Ap+other (diag)	13.90		8.69	4.28		0.81	34.52	0.66	0.83	29.56	0.87	5.86																		100	97
5	41	Qz+other	89.53		1.28	1.12			5.02		0.52	2.50	· · · · · ·	1								1							1			100	110
5	42	Ank				10.83	0.35	12.46	32.36				1							1												56	54
5	43	Ank				9.80	0.31	13.12	32.16				0.62							1									1			56	55
5	44	Qz+other	81.95		1.87	0.35			6.38		0.69								8.78	1												100	91
5	45	Zrn	31.66																67.15										1.20			100	126
5	46	Chl	25.09	0.19	21.51	28.30	0.79	9.13																								85	101
5	47	Ank				9.20	0.59	14.90	31.33																							56	62
5	48	Qz	94.72	4.07	0.60	0.62																										100	120
5	49	TiO2 mineral	0.77	96.75	1.70	0.55			0.22																							100	106
5	50	Py+other	5.37		4.16	31.99		0.98	0.14				57.36							ļ												100	170
5	51	Py+other	14.29		12.13	29.85		1.61			0.16		41.95																			100	147
5	52	Brt (cont)				1.00							38.21				0.99			60.80												100	107
5	53	Ank				4.20		19.43	32.38											ļ												56	55
5	54	Py	0.73		0.57	28.64			0.04				70.07									+										100	201
5	55	Py Dat (court)	0.26			28.47			0.34				10.94				04.74			04.70												100	201
5	56	Brt (cont)							0.27				43.30		-		31.74			24.70												100	93
5	57	BIL (COIL)				27.02							40.93				14.75			44.33												100	102
5	50	ry TiO2 minera!	+	100.00		21.92		+					12.09	·····		<u> </u>				l		+		+					·····			100	199
5	60	Brt (cont)		100.00		0.27							38.12							61.62				+								100	100
5	61	Brt (cont)				0.27							37.03							61.02				-								100	08
5	62	Kfe+Chl	30.20	1 1 8	12 38	18 01		2.04		0.70	3.81	0.60	57.55							01.01				+								100	80
5	63	Pv	0.26	1.10	12.00	28.97		2.04	0.35	0.70	0.01	0.00	70.44																			100	195
5	64	Ank	0.20			9.53	0.57	12.87	33.03				10.44			·						1		+								56	56
5	65	Pv	0.96	0.13		33.56	0.07	12.07	0.64	0.35		· · · · ·	64.35		·	·				†		1		+						·····		100	162
5	66	Cal+Pv+other	7.66		5.52	5.16		1.44	34.27		0.14		1.80			1				†												56	64
5	67	Pv+other	1.45		0.53	28.03		1	0.14				69.84																			100	191
5	68	Pv+other	2.65		2.25	31.45		0.58	0.14				62.90									1										100	160
5	69	Ank				14.01	0.36	10.53	31.09													1		1								56	55
5	70	Sd+other	9.46	0.67	5.71	38.78		1.05	0.19		0.40	0.73																				57	73
5	71	Brt (cont)											38.26							61.75												100	100
5	72	Clt (cont)				0.36			1.79				50.59				44.46			2.80												100	88
5	73	FI+Sd				13.74								71.90	14.35					1												100	1
5	74	Ank				7.72	0.22	16.16	31.91																							56	63
5	75	Sd+Qz+Py+Cal	3.44		0.40	49.44			1.08	0.42			2.23																			57	78
5	76	Qz+Sd	88.52			10.72			0.24																					0.53		100	125
5	77	Cal+Py+other	11.64		7.80	7.22	0.21	1.47	25.56	l	0.49		1.62																			56	82
5	78	Cal+Py	0.24			13.40	0.24	0.39	19.12				22.62							I												56	99
5	79	TiO2 mineral		99.67		0.33																										100	96
5	80	Qz	99.99																													100	110
5	81	llm+Qz+other	6.01	67.21		26.37			0.42																							100	84
5	82	Ank	0.44			5.91	0.20	17.19	32.25											l												56	53
5	83	<u>Zrn</u>	31.83	0.50	24.01	0.18		0.00		0.54	0.64								67.01			+		+					0.97			100	123
5	84	III+UNI	49.65	0.56	24.01	4.28		2.38		0.51	8.64		2.00							I												90	104
5	65	IIIII+QZ+Py+other	35.47	51.74	5.33	1.80	0.25	0.36	2.25	0.88	1.20	0.72	3.22			l · · · · · ·			·			+		+					<u> </u>	0.07		57	108
5	00	Su+ourier Buy Col	13.14		0.10	20.19	0.35	3.04	3.23	0.44	0.17	0.73	51.60			<u> </u>				<u> </u>										0.97		100	12
5	0/	Py+Gai	0.96			37.15	0.10	0.35	9.65				00.10			·																-100	120
5	80	Ank	+			11.24	0.19	11 79	32.49					+					·	l		+		+	·				+			- 20	53
5	90	Ank	+			8 25	0.50	15.56	31.68											<u> </u>				+								56	52
5	90	Caleother	1.67		0.96	1.64	0.22	1 00	49.59		0.15		0.74			<u> </u>				1				+								56	63
5	92	Sd+other	4 47	1 12	5.04	44 04	0.22	0.74	0.38		0.22	0.76	0.74			1				<u> </u>	+	+		+								57	81
5	93	Kfs	65.16		18.18	0.42			0.00	0.90	14.89	0.44				·			<u> </u>			+		+	<u> </u>							100	123
5	94	Pv+other	8.17		5.86	36.68		1.49	0.22			0	47.57									+		+								100	146
5	95	Chl+other	25.98	0.58	14.86	35.93		4.48	2.02		1.14		1	1		1	l			1	1	1		1						· · · · ·		85	88
5	96	Ank				11.22	0.62	12.40	31.76					1		1				1	1	1		+					1			56	61
5	97	Ank				8.43	0.28	16.18	31.11											1												56	59
5	98	Ank+other	3.26		0.88	37.91	0.59	7.46	5.63		0.27									1												56	66
5	99	III+other	42.98	0.90	21.92	12.34		3.76	4.01	0.48	3.52				0.12					1												90	101
5	100	Sd+other	2.18	1.12	3.76	47.66		0.95	0.24			0.89																				57	76
5	101	Sd+other	6.12		4.42	36.86	0.46	5.20	3.11		0.31	0.52																				57	57

Site Position	Mineral	SiO	TiO	Al ₂ O ₂	FeO	MnO	MaQ	CaO	Na ₂ O	K₂O	P ₂ O ₆	so,	F	CI	ZnO	SrO	Y202	ZrO ₂	BaO	La ₂ O ₂	Ce ₂ O ₂	Nd ₂ O ₂	Sm ₂ O ₂	Gd ₂ O ₂	Dv ₂ O ₂	Er ₂ O ₂	Yb ₂ O ₂	HfO ₂	wo ₂	UO3 Total	Actual
			- 2	2 - 3					- 2 -	2 .	2-5						2-3	- 2		2-3	2.3	2-3	- 2-3	2-3	72-3	2-3	-2-3	- 2			Total
5 102	Sd+other	19.68	0.74	7.28	24.76		1.21	0.32		2.55					ļ		ļ	1	ļ		ļ					ļ			0.44	57	77
5 103	Ill+Chl	50.21	0.63	26.56	4.19		1.58		0.59	6.22					ļ				ļ											90	87
5 104	Qz	99.13		ļ	0.45	·		0.42											ļ											100	108
5 105	Py+Cal	0.47			31.26			1.86				66.40			ļ				ļ							ļ				100	165
5 106	Cal+Py+other	9.58	0.43	2.27	2.11	1.69	1.46	33.19	0.39	0.46		4.42			·	·		ļ	ļ											56	65
5 107	Sd+Kfs+Chl+other	20.23	0.67	7.76	23.71		1.25	0.29	0.33	2.41	0.36				ļ			1							ļ					57	83
5 108	Sd+other	8.44	0.82	6.48	38.01		1.51	0.27		0.17	0.48																		0.58	57	75
5 109	Ank				12.88	0.23	11.83	31.06											ļ											56	52
5 110	(Alt IIm) Rt+Qz	55.11	43.35	0.32	0.73	0.15		0.21		0.12									ļ											100	105
5 111	TiO2 mineral	0.94	98.02	0.40	0.50			0.15				· · · · · ·						1	ļ						1					100	87
5 112	llm+other	3.44	0.17	2.21	33.49		0.65	1.22				58.83																		100	137
5 113	llm+other	6.03		3.23	49.56			1.33	0.61			38.53						ļ	ļ										0.71	100	105
5 114	Ank				8.76	0.53	15.19	31.52																						56	58
5 115	Chl+other	36.24		21.17	21.41		3.89	0.83	0.32	1.14																				85	94
5 116	Ank+Fsp	8.54		2.45	3.92		14.06	25.65	1.39																					56	63
5 117	Ill+Chl	50.90	0.57	25.37	5.56		2.42		0.90	4.28								1	I											90	109
5 118	Cal+other			0.29	5.50	0.36	0.32	49.53																						56	63
5 119	Py+other	8.96		6.14	33.23		0.35	0.20				51.11																		100	168
5 120	(Alt IIm) Rt+other	4.09	85.72	4.02	5.03		0.93	0.22										1	l						1					100	118
5 121	Chl	26.35	0.21	22.03	21.54	0.38	14.49																							85	108
5 122	Chl+Kfs	32.44	0.98	14.77	30.39		2.38	0.51	0.43	2.53	0.54																			85	87
5 123	Chl+Kfs	25.53	1.56	14.10	38.87		2.18	0.63		1.33	0.78																			85	71
5 124	Cal+other	1.72		0.53	0.40		0.91	51.07					1.37																	56	53
5 125	Qz	99.79			0.21	[100	112
5 126	Kfs+Chl	55.73	0.27	32.50	7.63		1.63	0.59	0.31	1.35																				100	96
5 127	Cal+Py+other	3.99		3.19	2.36	0.25	0.69	44.19		0.13		1.22			1				1						1					56	65
5 128	Py+Cal	0.45			26.91			15.29				57.33																		100	152
5 129	F-Ap+other (diag)	18.29	0.22	8.99	9.03	[1.91	28.42	0.71	0.89	26.19	1.10	4.27				1		1		1									100	116
5 130	Py+other	7.08	0.33	5.20	31.04	[1.59	1.06				53.69					1		1		1				1					100	146
5 131	Chl+Cal	30.68	1.13	7.31	32.21	r	1.18	11.03		0.80	0.66	1				1	1	1	1	T	1	1			1					85	81

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	Cr_2O_3	ZrO ₂	BaO	WO_3	B_2O_3	Total	Actual Total
6	1	Sd+Pv+other	5.51		0.55	44.72	0.35		0.82	0.62			1.29					3.14		57	79
6	2	Qz	99.22			0.78														100	126
6	3	Sd+Pv+Qz+other	12.56		2.13	36.27	0.18		0.66	0.87	0.19		0.89					3.25		57	61
6	4	Sd+Py+other	9.25		3.47	38.36	0.20	0.35	0.74	0.71	0.28		1.01					2.66		57	87
6	5	Sd+Py+other	5.76		0.83	42.40	0.22		1.04	0.79			1.35					4.63		57	80
6	6	Py+Brt+other	6.95		0.77	30.79			0.62	0.94			20.75				37.39	1.79		100	104
6	7	Sd+other	5.93		0.78	46.21	0.21		0.97	0.69			2.22							57	70
6	8	Brt (cont)	0.98			7.13							36.18				55.70			100	112
6	9	Sd+other	5.29		0.71	41.70	0.23		1.19	0.93			1.09					5.84		57	79
7	1	Sd+other	1.83			52.53	0.78		0.46						0.22			1.19		57	75
7	2	Sd+other	1.45			54.87	0.52								0.15					57	89
7	3	Sd+other	1.77			51.35	0.93		0.42						0.16			2.38		57	76
7	4	Sd+other	1.68		0.35	53.84	0.55		0.18						0.39					57	89
7	5	Sd+other	5.32		0.74	44.19	0.55		1.16				0.86		1.34			2.57		57	71
7	6	Sd+other	3.63			50.84	0.72	0.60	0.42				0.40		0.18					57	75
8	1	Sd+other	6.96	0.66	6.49	40.64		0.88	0.18		0.41	0.64			0.13					57	83
8	2	Chl+Kfs	21.51	0.64	16.07	42.45		2.08			1.66	0.60								85	91
8	3	Kfs+Chl	34.65	0.50	27.10	31.61		0.65	0.25	4.14	1.08									100	103
8	4	Qz+other	94.30		0.43	5.26														100	106
8	5	Chl+other	18.77	0.89	15.06	46.04		1.44			2.22	0.56								85	91
8	6	Sd+other	3.03	2.53	3.37	46.97		0.46	0.22		0.16									57	81
8	7	Sd+other	6.72	0.70	6.62	40.80		0.89	0.19		0.36	0.71								57	82
9	1	Sd+other	13.43	0.47	11.49	30.46		0.39	0.14		0.17	0.44								57	93
9	2	Sd+other	5.92	0.62	5.98	41.88		1.20	0.19		0.33	0.67								57	82
9	3	Chl+other	21.26	0.88	15.18	43.20		1.73			2.21	0.56								85	90
9	4	Qz+Sd+other	85.70	0.25	1.06	12.99														100	109
9	5	Sd+other	5.73	0.64	5.51	42.60		1.38	0.20		0.25	0.67								57	82
9	6	Sd+other	5.55	1.15	5.16	43.15		0.66	0.36		0.30	0.68								57	72
9	7	Sd+other	7.40	0.95	4.74	37.48	0.17	0.72	0.26		0.15					5.14				57	84
10	1	Sd+other	7.11		1.46	36.39		0.51	1.57	0.76			1.08		1.05			7.07		57	81
10	2	Qz	99.28			0.71														100	119
10	3	Brt (cont)	0.86			2.93							21.55				37.30		37.40	100	172
10	4	Sd+other	7.79		1.41	41.35	0.60	0.42	0.78		0.33		0.63		0.32			3.37		57	77
10	5	Sd+other	1.49			52.06	0.45	0.68	0.63				0.50					1.19		57	83
10	6	Sd+other	6.27	1.04	5.70	40.61		2.21	0.28			0.71								57	83
10	7	Sd+other	4.78	1.07	4.92	43.51		1.46	0.22			0.78								57	80
10	8	Sd+other	16.39	0.15	4.46	29.70	0.38	0.70	0.89	0.56	0.35		0.55		0.32			2.54		57	84
10	9	Ms	45.58		28.41	7.59		0.91		1.14	8.00				0.42			0.98		93	98
10	10	Ms	34.63	0.40	22.76	22.80		0.63	0.92	0.89	5.91		0.72		0.45			2.87		93	95
11	1	Sd+other	7.52	0.91	5.91	40.26		1.09	0.34		0.31	0.64								57	77
11	2	Sd+other	7.91	0.87	6.15	39.32		1.17	0.38		0.37	0.60								57	80
11	3	Sd+other	7.71	1.20	6.15	38.72		0.91	0.63		0.49	0.81			0.15					57	70

Table 5-6B: SEM analyses from sample I-100 11400 ft (3474.72 m)

11	4	llm+other	12.56	31.76	8.69	43.25	0.27	1.38	0.74		0.58	0.76					85	76
11	5	Sd+Qz+other	65.57	0.85	5.91	25.90		0.99	0.43		0.35						57	101
11	6	Sd+other	2.59		1.00	38.66	10.80	0.90	3.06								57	80
11	7	Sd+other	1.83		0.98	25.06	22.22	1.20	5.72								57	70
11	8	Sd+other				10.79	64.95	3.80	13.77					6.67			100	69
12	1	Sd+other	3.56		0.36	48.81		0.46	1.18				2.63				57	81
12	2	Qz	98.47			1.53											100	126
12	3	Sd+other	5.75	2.88	1.79	40.95	0.27	0.49	0.70	0.64	0.24		1.08			2.22	57	63
12	4	Sd+other	5.71		0.46	47.92	0.21		1.12				1.57				57	81
12	5	Qz+other	77.95		1.83	16.84	0.18	0.98	2.01		0.20						100	101
12	6	Sd+other	8.57		3.85	33.07	0.43	4.57	3.74		0.22	0.91	0.38			1.24	57	67
12	7	Qz+other	78.34		0.94	17.03	0.22	0.66	2.14							0.64	100	105

Table 5-6B: SEM analyses from sample I-100 11400 ft (3474.72 m)

Appendix 5-7 Back-scattered images and EDS geochemical mineral analyses of sample Mohican I-100 12640 (ft) (3852.67 m)



Figure 4-7.1: Sample I-100 12640 (ft) (3852.67 m) site 1 (SEM). (Table 5-7A)



Figure 5-7.2: Sample I-100 12640 (ft) (3852.67 m) site 2 (SEM). (Table 5-7A)



- 1 Alm-Sps
- 2 llm
- 3 Alm-Sps
- 4 Ilm
- 5 Ilm+Chl
- 6 Ilm+other
- 7 Sd+Py+other
- 8 Ilm+Qz
- 9 Ilm+Kfs
- 10 Ilm+Qz+other
- 11 Bt
- 12 Chl+Kfs
- 13 Bt
- 14 Alm-Sps
- 15 (Alt IIm) Rt+Qz
- 17 (Alt Ilm) Rt+Fsp
- 19 Dol

Figure 5-7.3: Sample I-100 12640 (ft) (3852.67 m) site 3 (SEM). (Table 5-7A)



Figure 5-7.4: Sample I-100 12640 (ft) (3852.67 m) site 4 (SEM). (Table 5-7A)

- 1 Ilm+other
- 2 Ilm+Qz
- 3 Ilm+Qz
- 4 (Alt IIm) Rt+Qz
- 5 IIm+ChI+Kfs
- 6 Ilm+Fsp
- 7 llm
- 8 Tur
- 9 Kfs
- 10 Rt
- 11 Bt
- 12 Chl+Kfs
- 13 Bt
- 14 Sd+Chl+other
- 15 Bt
- 16 Sd+Chl+other
- 17 Sd+Chl+other
- 18 Sd+Chl+other
- 19 Sd+Chl+other
- 20 Alm-Sps
- 21 Ilm+other
- 22 Sd
- 23 Sd+Chl+other



Figure 5-7.5: Sample I-100 12640 (ft) (3852.67 m) site 5 (SEM). (Table 5-7A)



- 1 llm
- 2 Tur

27 Zrn

- 3 Bt
- 4 Sd+Chl+other
- 5 Sd+Chl+other
- 6 Chl+Kfs+other
- 7 Chl+Kfs+other
- 8 Chl+Kfs+other
- 9 Chl+Kfs+other

11 Bt

Figure 5-7.6: Sample I-100 12640 (ft) (3852.67 m) site 6 (SEM). (Table 5-7A)



Figure 5-7.7: Sample I-100 12640 (ft) (3852.67 m) site 7 (SEM). (Table 5-7A)



Figure 5-7.8: Sample I-100 12640 (ft) (3852.67 m) site 8 (SEM). (Table 5-7A)



Figure 5-7.9: Sample I-100 12640 (ft) (3852.67 m) site 9 (SEM).



Figure 5-7.10: Sample I-100 12640 (ft) (3852.67 m) site 10 (SEM).



Figure 5-7.11: Sample I-100 12640 (ft) (3852.67 m) site 11 (SEM). (Table 5-7A)



Figure 5-7.12: Sample I-100 12640 (ft) (3852.67 m) site 12 (SEM). (Table 5-7A)



- 1 Qz+other
- 2 Cal
- 3 Sd+Cal+other
- 4 Cal+Py+Qz
- 5 Sd+Chl+other
- 6 Qz+Sd
- 7 Sd+Chl+other
- 8 Ms+Sd+other
- 9 Sd+Chl+other
- 10 Qz+Sd+other

Figure 5-7.13: Sample I-100 12640 (ft) (3852.67 m) site 13 (SEM). (Table 5-7B)



Figure 5-7.14: Sample I-100 12640 (ft) (3852.67 m) site 14 (SEM). (Table 5-7B) see location in Fig.5-7.3



Figure 5-7.15: Sample I-100 12640 (ft) (3852.67 m) site 15 (SEM). (Table 5-7B) see location in Fig.5-7.3



Figure 5-7.16: Sample I-100 12640 (ft) (3852.67 m) site 16 (SEM). (Table 5-7B) see location in Fig.5-7.4



Figure 5-7.17: Sample I-100 12640 (ft) (3852.67 m) site 17 (SEM). (Table 5-7B) see location in Fig.5-7.7

Table 5-7A: SEM analyses from sample I-100 12640 ft (3852.67 m)

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	V_2O_5	Cr_2O_3	NiO	ZnO	SrO	ZrO_2	La ₂ O ₃	Ce ₂ O ₃	HfO ₂	WO_3	Total	Actual Total
1	1	Ilm+Fsp	20.90	38.72	20.09	16.24	0.48			1.15	2.45														100	122
1	2	llm+Qz	1.78	67.86	0.76	28.55	1.05																		100	90
1	3	IIm+Kfs	11.68	76.56	5.18	3.62		0.75	0.63		1.59														100	89
1	4	llm+Qz	1.07	63.25		33.59	2.08																		100	89
1	5	llm+Qz	3.66	64.35		29.72	2.26																		100	104
1	6	llm+Fsp	15.47	48.09	12.21	20.84	0.44	0.65		1.07	1.24														100	131
1	7	llm+Qz	26.23	50.04	0.98	22.47	0.26																		100	123
1	8	llm	0.39	63.45		34.05	2.10																		100	101
1	9	(Alt Ilm) Rt+Qz	10.59	86.67	1.38	0.72		0.40			0.24														100	106
1	10	llm+Qz	1.13	68.06	0.72	29.63	0.46																		100	100
1	11	Alm-Sps	39.96		21.33	25.56	9.70	1.23	2.21																100	106
1	12	(Alt IIm) Rt+other	3.51	88.07	2.89	2.93			0.66	0.38		0.92				0.64									100	97
1	13	F-Ap							46.45	1.02		39.73	3.25	8.97										0.59	100	117
1	14	Sd+Chl+other	6.30	0.64	4.94	42.68		0.96	0.30		0.34	0.69				0.13									57	87
1	15	Tur	36.98	1.05	36.00	11.62	0.14	4.53	0.48	2.67															85	107
1	16	Tur	36.73	1.73	26.66	10.04	0.15	5.91	1.85	1.92															85	99
1	17	Alm-Sps	40.20		21.14	29.24	6.08	1.81	1.53																100	113
2	1	llm		64.39		30.35	4.98											0.29							100	90
2	2	llm+Kfs	16.77	45.72	13.74	18.82	1.41			0.61	2.95														100	91
2	3	llm+other	8.75	61.00	2.87	25.51	1.55				0.33														100	90
2	4	llm+other	5.97	62.35	2.57	26.85	1.48		0.31		0.49														100	92
2	5	llm		67.61		31.83	0.35		0.22																100	98
2	6	llm+other	2.85	64.95	1.23	29.47	0.99				0.22							0.30							100	95
2	7	TiO2 mineral+Qz	35.53	62.15	1.44	0.39			0.25		0.22														100	130
2	8	llm+other	7.40	54.70	7.14	28.11	1.29			0.44	0.89														100	108
2	9	Sd+Qz+Py+Cal	8.04		0.55	45.92			1.24				1.07												57	86
2	10	Sd+Kfs	24.64	0.83	8.81	57.88		1.87	0.64		3.23	0.76			0.32									1.03	100	99
2	11	Alm-Sps	39.68	0.17	21.01	20.15	14.72	0.70	3.55																100	125
2	12	llm	0.83	66.59		32.10	0.49																		100	101
2	13	Bt	40.62	2.30	20.13	16.05	0.24	9.04			7.50														96	108
2	14	Chl	29.37	0.99	19.07	28.91	0.16	5.83	0.19		0.47														85	110
2	15	Bt	42.80	1.47	19.12	15.50	0.17	8.23			8.71														96	97
2	16	Bt	40.58	1.61	19.59	19.56		6.87			7.79														96	95
2	17	Bt	38.61	1.80	19.54	19.73	0.18	8.58		0.30	7.26														96	103
2	24	Bt	39.95	1.61	20.04	18.34		7.74			8.32														96	110
3	1	Alm-Sps	44.43		20.24	23.59	6.36	1.38	3.99																100	113
3	2	llm		69.52		30.48																			100	95
3	3	Alm-Sps	42.87	0.15	20.80	23.62	7.58	1.41	3.57																100	119
3	4	llm	0.79	67.49	0.72	30.99																			100	97
3	5	llm+Chl	6.55	61.17	1.66	27.80	1.64	1.16																	100	107
3	6	llm+other	11.83	55.21	4.25	27.00	0.80		0.31		0.59														100	101
3	7	Sd+Pv+other	7.15		1.11	45.17	0.23	0.60	1.24		0.19		1.14				0.15								57	69
3	8	llm+Qz	2.48	64.44		32.39	0.70																		100	100
3	9	llm+Kfs	20.77	45.92	5.76	24,56	0.85	1.01			1.11														100	129
3	10	llm+Qz+other	32.60	43.15	3.14	18.40	0.84	0.99		0.50	0.39														100	131
3	11	Bt	39.90	1.39	20.82	18.11		8.13			7.64														96	112
3	12	Chl+Kfs	28.82	1.43	14.03	27.68	0.14	7.17		0.30	5.42														85	106
3	13	Bt	38.13	1.17	19.66	22.33		7.83	0.23	0.35	6.30														96	119

Table 5-7A: SEM analyses from sample I-100 12640 ft (3852.67 m)

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO ₃	F	V_2O_5	Cr_2O_3	NiO	ZnO	SrO	ZrO_2	La ₂ O ₃	Ce ₂ O ₃	HfO ₂	WO_3	Total	Actual Total
3	14	Alm-Sps	40.94		20.97	24.35	8.46	1.59	3.68																100	129
3	15	(Alt Ilm) Rt+Qz	18.40	77.08	2.46	0.72			0.38	0.44	0.53														100	104
3	17	(Alt IIm) Rt+Fsp	13.18	78.97	4.25	1.11		0.81	0.31	1.00	0.37														100	92
3	19	Dol				1.04	0.36	24.16	30.44																56	52
4	1	Ilm+other	23.30	47.57	4.02	22.98	0.46	1.11			0.55														100	133
4	2	llm+Qz	1.90	64.27	0.47	31.76	1.60																		100	108
4	3	llm+Qz	4.45	66.52	0.62	26.89	1.30				0.23														100	88
4	4	(Alt Ilm) Rt+Qz	8.21	81.28	3.80	4.84		0.41	0.67		0.77														100	91
4	5	Ilm+ChI+Kfs	27.64	31.84	20.50	13.96	0.15	4.08		1.83															100	98
4	6	Ilm+Fsp	45.80	28.66	7.80	12.16	0.36	0.46	0.22	4.52															100	128
4	7	llm	0.75	66.31		32.59	0.37																		100	107
4	8	Tur	37.33	0.89	31.99	7.83		4.47	0.38	2.10															85	113
4	9	Kfs	65.95		17.88	0.12				0.36	15.68														100	120
4	10	Rt		99.22												0.79									100	110
4	11	Bt	38.04	4.46	13.30	24.13	0.24	6.55		0.55	8.36														96	99
4	12	Chl+Kfs	28.76	1.32	15.71	25.74		8.59	0.29	0.43	4.14														85	115
4	13	Bt	39.01	1.80	20.78	18.06	0.14	9.44			6.74														96	100
4	14	Sd+Chl+other	6.18	1.38	5.48	41.10		1.55	0.40			0.69			0.21										57	60
4	15	Bt	37.13	4.22	13.48	25.59	0.37	5.98		0.45	8.48														96	101
4	16	Sd+Chl+other	25.86	0.97	18.46	49.01		4.64	0.36		0.42				0.27										100	95
4	17	Sd+Chl+other	8.64	0.64	6.63	37.44		1.31	0.38		0.50	0.71				0.14								0.63	57	80
4	18	Sd+Chl+other	6.68	1.03	5.49	41.50		0.91	0.32		0.15	0.64			0.26										57	85
4	19	Sd+Chl+other	12.44	0.36	9.90	31.28		2.15	0.19		0.26	0.44													57	81
4	20	Alm-Sps	40.22		21.33	28.24	6.88	1.71	1.62																100	113
4	21	Ilm+other	4.13	63.20	1.44	29.00	1.92				0.30														100	81
4	22	Sd	0.62			98.76	0.61																		100	80
4	23	Sd+Chl+other	6.95	1.11	5.77	41.21		1.01	0.31		0.19				0.25	0.21									57	80
5	1	llm	0.94	69.01		29.34	0.72																		100	96
5	2	llm	0.53	63.10		31.76	3.90		0.49		0.20														100	107
5	3	llm+Qz	1.48	70.74	0.83	25.73	1.21																		100	102
5	4	llm+Qz	1.05	65.19		33.36	0.41																		100	90
5	6	llm+Qz	5.39	68.81	0.40	25.40																			100	87
5	7	Ilm+other	1.73	79.33	1.00	17.43			0.49																100	93
5	8	Chl+Ms	33.52	1.34	19.45	19.75	0.20	6.49	0.30	0.63	3.32														85	97
5	10	Tur+Kfs+other	51.04	0.45	30.16	5.04		6.35	0.66	1.46	2.79			1.91											100	91
5	11	Tur	38.48	0.51	31.49	1.79	0.11	9.60	0.83	2.18															85	106
5	12	Qz	99.99																						100	121
5	13	Sd+Py+Cal+other	8.36		1.68	42.05	0.18		1.39		0.26		0.94											1.95	57	91
5	14	Sd+Chl+Kfs	30.78	1.28	12.49	44.63		2.30	0.90	1.19	3.63	0.69	1.50												100	98
5	15	Sd+Qz+Py	7.89		0.56	44.74	0.15	0.43	1.54				1.01											0.66	57	90
5	16	Sd+Fsp+Cal+other	35.72		8.24	43.56			2.06	4.40	0.29		1.02											4.70	100	103
5	17	Bt	41.52	1.39	20.82	15.99		8.07		0.38	7.80														96	99
5	18	Chl	27.66	0.36	22.02	26.96	0.48	7.23	0.29																85	92
5	19	Chl+Kfs	26.16	1.08	12.53	37.22		3.85	0.48	0.39	2.31	0.82													85	91
5	20	Bt	36.63	5.49	13.48	24.95	0.20	6.03		0.42	8.33														96	105
5	23	Zrn	31.66																	67.16			1.18		100	124
5	27	Zrn	31.66			0.39														66.57			1.38		100	138
6	1	llm		62.35		33.17	2.74											1.76							100	102

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Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	V_2O_5	Cr_2O_3	NiO	ZnO	SrO	ZrO_2	La_2O_3	Ce_2O_3	HfO ₂	WO_3	Total	Actual Total
6	2	Tur	38.45	0.49	32.44	4.96	0.13	6.19	0.50	1.82															85	99
6	3	Bt	41.57	4.03	18.47	15.23	0.18	7.45			8.93														96	118
6	4	Sd+Chl+other	5.20	0.82	4.94	43.31		0.84	0.30		0.19	0.66			0.17									0.57	57	92
6	5	Sd+Chl+other	5.12	1.04	5.96	42.10		0.95	0.56		0.22	0.71			0.19	0.14									57	73
6	6	Chl+Kfs+other	32.08	1.32	16.51	21.17		7.61		0.31	5.87														85	109
6	7	Chl+Kfs+other	29.99	1.28	15.71	27.10		5.95		0.45	4.54														85	86
6	8	Chl+Kfs+other	38.53	2.06	14.12	19.47		7.07			3.75														85	106
6	9	Chl+Kfs+other	30.09	0.89	14.39	31.86	0.16	5.06	0.33	0.62	1.42														85	98
6	11	Bt	40.54	1.94	19.41	17.64		8.53		0.30	7.64														96	122
7	1	Alm-Sps	39.83		21.28	30.04	6.66	1.64	0.55																100	117
7	2	Tur	37.67	0.55	33.36	6.87		4.39	0.19	1.97															85	110
7	3	Sd+Chl	5.16	0.61	4.51	44.55		0.80	0.26		0.30	0.64			0.18										57	83
7	4	Bt	41.89	1.46	23.74	14.40		6.34		0.37	7.77														96	106
7	5	Chl+Kfs	28.19	1.46	14.55	28.67		7.64			4.49														85	111
7	6	Bt	48.18	1.25	17.38	15.74	0.14	6.91			6.39														96	120
7	9	Zm	31.90			0.45														66.80			0.99		100	127
8	1	Zrn	32.13																	66.67			0.88		100	132
8	2	Zrn	31.66																	67.23			1.12		100	111
8	3	Tur	37.77	0.51	32.64	6.64		5.09	0.47	1.88															85	108
8	4	Tur	37.66	0.98	31.78	4.00		7.28	0.38	2.35									0.70						85	107
8	5	And+Cal	34.51		52.53	0.37			10.42	2.16															100	117
8	6	Ab+Chl	57.61	0.37	26.94	3.50		3.18	0.31	7.60	0.47														100	113
11	1	Tur	37.51	0.49	33.17	8.70		3.19	0.18	1.75															85	112
11	2	Tur	37.73	0.94	29.92	5.62		7.56	1.57	1.67															85	107
11	3	Phosph-sulphate-Al			37.13	3.74			1.44	1.64	0.75	23.33	17.03						6.60		2.58	5.58			100	96
12	1	Tur	37.84	0.64	31.49	6.09		6.37	0.75	1.82															85	110
12	2	Zrn	31.68			0.18														67.42			0.73		100	126
12	3	Zrn	32.42						1.18											65.75			1.13		100	178
12	4	Zrn	32.11																	67.24			1.03		100	148
12	5	Tur	37.22	0.54	32.93	8.12		3.86	0.41	1.92															85	111
12	6	Tur	36.36	0.20	32.75	13.25	0.20		0.15	2.08															85	104
12	7	Zrn	31.62																	67.53			0.85		100	127
12	8	Zrn	31.64																	67.27			1.08		100	122
12	9	Zrn	31.47			0.33														67.45			0.75		100	113

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	V_2O_5	Cr_2O_3	ZnO	WO_3	Total	Actual Total
13	1	07+other	84 18	0.25	3.85	8 85					2 87								100	100
13	2	Cal	04.10	0.20	0.00	0.50		0.76	52 68	0.37	2.07		1 61						56	58
13	3	Sd+Cal+other	15,10	1.00	9,90	47.10		2.11	23.07	0.07	0.82	0.92	1.01						100	79
13	4	Cal+Pv+Qz	1.18		0.00	4.43		2.63	47.45		0.02	0.01	0.82						56	59
13	5	Sd+Chl+other	6.98	0.75	5.90	39.94		1.19	0.47		0.34	1.19			0.21				57	77
13	6	Qz+Sd	92.78		0.70	6.54									•				100	106
13	7	Sd+Chl+other	10.96	0.90	7.58	34.58		1.54	0.35		0.57	0.52							57	83
13	8	Ms+Sd+other	32.43	0.98	22.64	37.42		1.49	0.48	0.80	3.75								100	99
13	9	Sd+Chl+other	9.51	0.82	7.11	36.99		1.21	0.26		0.43	0.48			0.18				57	83
13	10	Qz+Sd+other	67.11	0.77	2.29	28.79		0.43	0.28		0.33								100	113
14	1	Sd+Chl+other	10.96	0.71	5.67	36.34		0.93	0.27		1.25	0.71				0.15			57	85
14	2	Qz+Sd	87.66	0.22	0.85	11.04					0.23								100	99
14	3	Chl+Kfs	34.08	0.77	19.56	39.07		1.38		0.53	4.61								100	102
14	4	Sd+Chl+Kfs	13.99	0.57	7.55	31.21		1.19	0.19		1.85	0.46							57	94
14	5	Sd+Chl+other	6.72	0.79	5.40	41.51		0.84	0.19		0.56	0.77			0.22				57	84
14	6	Sd+Chl+other	11.74	1.11	6.54	33.92		0.79	0.46		1.05	0.43				0.31		0.64	57	74
14	7	Qz+Sd	87.28	0.23	0.68	10.06					0.28		0.97				0.50		100	101
14	8	Sd+other	5.32	0.81	5.20	43.23		0.93	0.19		0.31	1.02							57	83
15	1	Sd+other	6.84	0.86	5.74	40.85		1.02	0.43		0.27	0.67			0.32				57	81
15	2	Cal+Sd+Chl	16.49	0.65	12.47	28.93		4.21	36.24		0.31		0.70						100	80
15	3	Cal+Py				1.13		3.12	51.09				0.66						56	57
15	4	Sd+Chl+other	9.96	1.22	7.05	35.98		1.15	0.63		0.56				0.31	0.16			57	71
15	5	Kfs+Chl+other	44.32	0.80	22.71	21.65		2.75	1.26		3.32			3.17					100	97
15	6	Kfs+Chl+other	40.52	0.70	22.09	24.28		2.89	1.20		2.70			5.63					100	97
15	7	Cal			0.45	6.23		2.99	45.83				0.50						56	60
16	1	Qz+Sd	97.78			2.21													100	120
16	2	Sd+Chl+other	7.12	1.01	6.05	40.13		1.09	0.34		0.19	0.63			0.21	0.22			57	80
16	3	Qz+Sd+other	74.64	1.20	3.19	19.79		0.35	0.27		0.57								100	111
16	4	Chl	26.73	0.19	19.75	33.41		4.93											85	98
16	5	Ms+other	34.91		29.31	29.98	0.46		0.32	1.20	3.43		0.37						100	117
16	6	Chl	24.74		22.81	27.57	0.31	9.57											85	111
16	7	Sd+other	6.83		2.78	45.69	0.31		0.30		0.56		0.54						57	82
16	8	Sd+Py+Qz	3.23		0.44	49.81		0.89	0.60				2.03						57	78
16	9	Chl+other	32.39	0.52	18.40	41.57	0.22	1.33			5.07		0.52						100	103
16	10	Qz+llm	55.45	39.37	0.32	4.68			0.18										100	133
16	11	Ilm+other	3.68	41.88	1.21	52.30	0.71				0.22								100	98
16	12	llm+other	3.66	91.71	1.30	2.75			0.38		0.22								100	99

Table 5-7B: SEM analyses from sample I-100 12640 ft (3852.67 m)

17	1	Sd+Chl+other	10.83	1.32	7.14	34.23		1.17	0.50	0.65	0.50				0.68	57	69
17	2	Sd+Cal+Chl+other	7.55	0.92	5.20	30.51	0.15	1.26	10.83	0.38			0.19			57	74
17	3	Cal				4.65		0.88	50.47							56	57
17	4	Sd+Chl+other	11.23	0.87	7.07	34.73		1.20	0.59	0.83	0.48				0.00	57	84
17	5	Sd+Chl+other	8.76	1.20	6.04	37.67		0.95	0.58	0.26	0.55		0.23		0.77	57	65
17	6	Sd+Chl+other	7.48	1.07	5.74	39.77		0.95	0.58	0.37	0.71		0.21	0.13		57	79

Table 5-7B: SEM analyses from sample I-100 12640 ft (3852.67 m)

Appendix 5-8 Back-scattered images and EDS geochemical mineral analyses of sample Mohican I-100 13800 (ft) (4206.24 m)



Figure 5-8.1: Sample I-100 13800 (ft) (4206.24 m) site 1 (SEM). (Table 5-8)



Figure 5-8.2: Sample I-100 13800 (ft) (4206.24 m) site 2 (SEM). (Table 5-8)



Figure 5-8.3: Sample I-100 13800 (ft) (4206.24 m) site 3 (SEM). (Table 5-8)



Figure 5-8.4: Sample I-100 13800 (ft) (4206.24 m) site 4 (SEM). (Table 5-8)



Figure 5-8.5: Sample I-100 13800 (ft) (4206.24 m) site 5 (SEM). (Table 5-8)



Figure 5-8.6: Sample I-100 13800 (ft) (4206.24 m) site 6 (SEM). (Table 5-8)
Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CuO	SrO	Y_2O_3	ZrO2	BaO	La ₂ O ₃	Ce_2O_3	Pr_2O_3	Nd_2O_3	HfO_2	WO_3	Total	Actual Total
1	1	Py+other	1.93		1.27	29.55		0.45	1.23				61.65	3.06											0.49	100	165
1	2	Anh				0.37			38.31				61.33													100	106
1	3	Sd+other	9.15	0.86	7.14	35.32		0.82	0.38	0.33	0.60	0.43													0.85	57	81
1	4	Sd+other	8.78	0.73	7.06	36.20		1.10	0.36	0.32	0.43	0.44													0.47	57	79
1	5	Anh							38.27				61.73													100	112
1	6	Dol	0.46			0.52		21.84	31.19																	54	54
1	7	Anh							38.00				62.00													100	112
1	8	F-Ap (diag)+other	5.73		4.48	1.88		0.70	41.89	0.65	0.41	35.95	1.45	6.88												100	112
1	9	Cal+other	7.03	3.48	3.97	4.93		1.14	34.98		0.47															56	64
1	10	Sd+other	7.03		2.53	34.15	0.27	5.56	5.98		0.50															57	63
1	11	Anh							38.18				61.83													100	113
1	12	Anh							38.23				61.78													100	112
1	13	Anh							37.71				61.75			0.54										100	114
1	14	Brt (cont)											38.38			1.69			59.94							100	106
1	15	Anh							38.25				61.75													100	109
1	16	Py+other	6.76		4.88	32.25		1.24	0.32				54.56													100	153
1	17	Dol+other	2.31		1.33	0.28		20.67	28.83		0.18		0.42													54	53
1	18	Dol				0.17		22.72	31.10																	54	52
1	19	Dol+other	2.19		0.98	0.50		20.53	29.64		0.16															54	52
1	20	Chl	25.40		22.07	25.94	0.48	10.88	0.23																	85	91
1	21	Anh							38.24				61.78													100	107
1	22	Qz	99.99																							100	111
1	23	Anh				0.15			38.07				61.78													100	107
1	24	Anh				0.36			37.44				61.40			0.82										100	109
1	25	Anh	1.41		0.51	0.22		0.81	38.53		0.31		58.21													100	93
1	26	Anh	3.10		1.63	0.31		1.13	37.33		0.41		56.08													100	83
1	27	Qz	99.81								0.19															100	111
1	28	Anh							38.24				61.75													100	108
1	29	Anh							38.18				61.83													100	106
1	30	Py+Cal	0.45			27.57			3.09				68.92													100	172
1	31	Cal+other	1.43		0.76	0.53	0.26	1.86	50.49				0.67													56	53
1	32	Qz	99.84						0.17																	100	108
1	33	Cal+other	4.61		2.36	2.74	0.22	1.11	44.27		0.37		0.31													56	56
1	34	III+Chl	50.94	0.79	25.27	5.75		1.94	0.63	0.42	4.25															90	88
1	35	Dol+Qz	4.71		0.32	0.60		19.06	29.22		0.09															54	53
1	36	Sd+other	7.27	0.80	5.10	39.41		0.83	0.49		0.42	0.53													1.00	57	63
1	37	Anh							38.32				61.68													100	105
1	38	Sd+Py+Qz	1.74			50.30	1.12	0.71	0.65				0.60												0.57	57	71
1	39	Cal+Py				0.50		2.13	50.37	0.34			2.65													56	52
1	40	Cal+Chl+other	28.49	1.18	16.40	1.78		15.69	29.68		3.76		0.47	2.55												100	68
1	41	Anh							38.14				61.85													100	105
1	42	Py+Cal	0.15			28.23			5.72				65.90													100	160
1	43	Cal+other	1.40		1.19	1.75		0.68	50.43				0.57													56	52
1	44	Anh							38.16				61.85													100	104
1	45	Dol	1.47		0.48	0.48		21.94	29.64																	54	52
1	46	Anh							38.16				61.85													100	103
1	47	Py+other	6.40		4.61	29.45		1.24	0.14		0.16		58.01													100	160
1	48	Qz+other	89.27	0.18	5.23	3.34		0.66	0.15		1.14															100	105
1	49	Anh							38.23				61.78													100	110
1	50	Anh							38.18				61.83													100	111
1	51	Anh							38.24				61.75													100	107
1	52	Anh				0.18			38.04				61.78													100	106

1 53 Anh 37.89 61.63 0.48 1 54 Anh 38.20 61.80 4					
1 54 Anh 38.20 61.80 61.80				10	0 100
				10	0 100
1 55 Doi+other 6.04 1.97 0.61 0.12 18.32 25.42 0.44 1.07				54	55
1 56 Dol+other 2.27 1.00 0.63 21.02 28.84 0.24				54	53
1 57 Anh 38.17 61.83				10	0 98
1 58 Py+other 25.18 7.41 4.56 62.85				10	0 162
1 59 Dol 0.56 22.59 30.86				54	48
1 60 Brt+Py+other 16.66 8.13 1.92 0.79 27.34 45.18				10	0 103
1 61 Fsp 63.23 22.90 1.70 0.50 0.35 8.56 2.75				10	0 106
1 62 Py+Cal 0.24 26.41 4.06 69.29				10	0 188
1 63 Sd+other 4.29 0.70 5.01 42.88 0.14 1.19 0.28 0.74 0.74				0.59 57	69
1 64 Qz+other 97.74 0.77 1.31 0.18				10	0 105
1 65 Cal+other 1.28 0.64 0.63 2.88 49.30 0.10 1.16				56	50
1 66 Py+other 5.80 4.06 32.42 1.09 0.28 56.38				10	0 140
1 67 Anh 37.83 61.48 0.69				10	0 99
1 68 Qz 99.88 0.12				10	0 101
1 69 Anh 38.00 62.00				10	0 98
1 70 Cal 5.21 0.44 4.84 45.52				56	5 50
1 71 Anh 0.92 0.43 37.54 0.19 60.90				10	0 93
1 72 Dol 0.43 0.54 22.61 30.43				54	46
1 73 Qz 99.86 0.13				10	0 99
1 74 Anh 38.16 61.85				10	0 97
1 75 Anh 38.03 61.98				10	0 98
1 76 Anh 38.34 61.68				10	0 97
1 77 Anh 38.07 61.93				10	0 96
1 78 Cal 0.95 0.64 1.91 0.72 51.78				56	ن 49
1 79 Anh 38.03 61.98				10	0 104
1 80 Dol+other 0.59 0.22 21.77 30.39 1.04				54	50
1 81 Py+other 10.63 0.20 5.67 25.70 1.13 0.62 0.47 0.36 55.21				10	0 136
1 82 Sd+Qz 27.33 0.42 2.70 24.58 0.46 0.23 0.29				57	′ <u>96</u>
1 83 Cal+Sd 1.38 1.37 16.64 0.23 0.71 35.68				56	57
1 84 llm+other 20.47 53.54 14.55 7.91 1.96 0.66 0.39 0.51				10	0 92
1 85 llm+other 5.11 84.52 4.02 4.16 0.85 0.76 0.60				10	0 94
1 86 Anh 38.25 61.75				10	0 111
1 87 Anh 0.43 0.49 37.65 61.43				10	0 93
1 88 Py+Cal 0.64 0.38 26.41 0.30 7.77 664.50				10	0 140
1 89 Anh 38.30 61.70				10	0 95
1 90 Anh 3.25 1.95 0.89 1.81 36.31 0.36 55.43				10	0 81
1 91 Anh 4.13 2.25 0.35 1.82 35.53 0.53 55.38				10	0 79
2 1 Dol+other 5.25 2.44 0.67 0.27 18.13 26.62 0.63				54	58
2 2 Py+other 0.34 0.19 28.14 70.67 0.65				10	0 197
2 3 III+Py 53.20 19.10 2.99 0.25 8.29 2.30 3.89				90) 120
2 4 Chl+other 19.36 1.34 13.49 46.50 1.82 0.57 1.20 0.72				85	81 ز
2 5 Qz 99.73 0.27 0				10	0 116
2 6 Ab 68.75 18.74 0.23 0.17 11.96 0.14				10	0 115
2 7 Sd+other 14.57 0.46 7.96 24.91 1.58 4.87 1.11 0.53				57	76
2 8 Dol+other 0.85 0.33 0.58 20.96 31.28				54	53
2 9 Qz 99.99				10	0 116
2 10 Anh 38.23 61.78				10	0 114
2 11 Py+Cal 0.26 27.98 7.72 64.05				10	0 169
2 12 Dol 0.26 22.86 30.89				54	55
2 13 Anh 38.02 61.55 0.44				10	0 111

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CuO	SrO	Y_2O_3	ZrO2	BaO	La ₂ O ₃	Ce_2O_3	Pr_2O_3	Nd_2O_3	HfO ₂	WO_3	Total	Actual Total
2	14	Cal	0.43			2.30	0.17	0.60	52.50																	56	54
2	15	Qz	98.94			1.07																				100	119
2	16	Sd+Chl	14.08	0.52	9.22	29.00		0.86	0.23		1.25	0.39													0.46	57	84
2	17	Dol				0.56		22.42	31.02																	54	53
2	18	Anh				0.17			37.65				61.53			0.67										100	112
2	19	Qz+other	82.85	0.23	9.28	4.21		0.88			2.54															100	114
2	20	Kfs+Chl	43.25	0.35	20.60	28.50		4.16	0.53	0.36	2.25															100	94
2	21	Anh							38.28				61.73													100	109
2	22	Pv+other	6.14		4.86	31.30		1.54	0.22				55.93													100	160
2	23	Chl	27.68		22.81	22,90	0.24	11.03			0.34															85	93
2	24	Fsp	63.41	0.20	26.85	1.07		0.45		1.11	6.93															100	105
2	25		47.88	0.36	19.00	5.18		4.82	6.89		5.88															90	93
2	26	Dol				2.18	1.67	20.90	29.25																	54	53
2	27	Dol	0.98			0.80	0.15	22.56	29.35		0.15															54	53
2	28	Anh	0.00						38.32				61.68													100	106
2	29	Dol	0.60		0.32	0.60		21.93	30.55																	54	54
2	30	Anh	0.00		0.02	0.00		200	38.21				61.80													100	110
2	31	Anh							37 47				62.53													100	120
2	32	Dol	0.91			0.53		21.96	30.51		0.09		02.00													54	52
2	33	Anh	0.01			0.00		21.00	38.25		0.00		61 75													100	101
2	34	Dol	0.63		0.35	0.56		21.95	30.53				01.75													54	52
2	35	Anh	0.00		0.55	0.50		21.55	37.83				61.35			0.83										100	107
2	36	Sd+othor	4.06	0.86	5.22	12 11		0.74	0.51		0.22	0.63	01.55			0.05									0.77	57	66
2	27	Doluothor	4.90	0.00	0.00	42.11	0.15	20.62	20.51		0.22	0.05													0.77	57	52
2	20	Anh	2.34		0.90	0.09	0.15	20.03	20.31		0.50		61.00													100	104
2	20	Dolu Dv				0.69		21.10	20.13				2.00													F4	F2
2	39	Duitry				0.00		21.10	29.43				2.00													100	104
2	40	Dol				0.40		22.05	21.06				01.95													F4	<u> </u>
2	41	DUI	0.44			0.49		22.05	31.06				0.39													54	170
2	42	Py Octo Du	0.41			30.70	0.47	0.05	0.55				68.34													100	173
2	43	Cal+Py				0.00	0.17	0.95	37.51				10.70													56	67
2	44	Py				27.29			0.14				72.59													100	192
2	45	Ann							38.24				61.75													100	103
2	46	Ann	4.40		0.54	0.00		10.01	38.14		0.40		61.85													100	107
2	47	Dol+Py	1.12		0.54	2.80		18.61	24.64		0.12		6.16													54	63
2	48	Dol				0.39		22.02	30.23					1.37												54	54
2	49	Dol+Qz	0.57			0.34		22.30	30.80																	54	52
2	50	Dol				0.53	1	22.58	29.44				0.39	1.06												54	53
2	51	Anh					1		38.18				61.83													100	104
2	52	Anh	6.55	4.5.1		45.55	1		38.14			0.00	61.85													100	103
2	53	Sd+other	3.98	1.01	4.03	45.29	I	0.64	0.43			0.62					I									57	66
2	54	Anh							38.17				61.83													100	101
2	55	Anh							38.20				61.80													100	101
2	56	Dol+other	6.86	0.39	4.04	0.85	0.12	16.41	23.41		0.90			1.03												54	58
2	57	Py				28.17							71.84													100	193
2	58	Qz	99.88			0.13																				100	107
2	59	Anh							38.17				61.83													100	101
2	60	Qz+Anh	85.35						4.87				9.79													100	109
2	61	Py+other	0.30			29.20			0.60				69.89													100	179
2	62	Anh							38.30				61.70													100	101
2	63	Dol+other	8.48		3.57	1.11		14.63	24.10		0.95			1.15												54	57
2	64	Sd+other	7.38	1.10	6.02	38.72		1.10	0.49		0.34	0.59														57	62
2	65	Qz+other	84.80	0.30	1.19	11.24			2.46																	100	94

Site F	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO ₃	F	CuO	SrO	Y_2O_3	ZrO2	BaO	La ₂ O ₃	Ce ₂ O ₃	Pr_2O_3	Nd_2O_3	HfO ₂	WO ₃ To	tal ^A	∖ctual Total
2	66	Dol+other	2.64		1.16	0.49		21.04	28.32		0.36														54	4	49
2	67	Py				28.34							71.67												10	00	179
2	68	Cal+Py				3.40	0.41	1.16	50.09				0.94												50	6	43
2	69	Anh	0.26			0.21			37.90				61.65												10	00	96
2	70	Py+Cal	0.51			29.32		0.27	3.81				66.10												10	00	151
2	71	Sd+other	4.19	0.88	4.95	43.14		0.75	0.39		0.16	0.50													0.70 5	7	56
2	72	Dol+other	1.64		0.78	0.58		21.52	29.32		0.14														54	4	48
2	73	Anh							38.00				62.00												10	00	97
2	74	Qz	98.90		0.76	0.19					0.17														10	00	96
2	75	Cal				1.71	0.20	1.27	52.16				0.67												56	6	44
2	76	Dol				0.37		23.02	30.61																54	4	47
2	77	Kfs+Cahl	37.93	1.42	21.09	32.02		3.85	0.45	0.57	2.69														10	00	74
2	78	Qz	99.07		0.34	0.42					0.17														10	0	100
2	79	Sd+other	18.73	1.14	7.67	24.74		0.91	0.54		0.66	0.53	0.32												0.57 5	7	61
2	80	Dol+other	2.71		0.87	0.63		20.42	28.94		0.45														54	4	52
2	81	Dol+other	6.86		4.70	0.60		16.52	24.60		0.73														54	4	61
2	82	Anh							38.34				61.68												10	0	107
2	83	Kfs	65.27	1.27	17.57						15.89														10	0	108
2	84	Qz+other	94.02		3.33	1.26		0.35	0.17		0.89														10	0	108
2	85	Anh							38.32				61.68												10	0	107
2	86	Anh							38.18				61.83												10	0	105
2	87	Fsp	56.22	0.50	24.41	8.61		1.66		1.36	5.52	1.35	0.37												10	0	96
2	88	Qz+Dol+other	51.30	0.28	14.08	7.65		12.88	11.82		1.99														10	0	83
2	89	Pv				27.60							72.41												10	0	196
2	90	Pv	0.11			28.03							71.87												10	0	195
2	91	Chl+Pv	27.87		21.98	30.88		6.17	1.41		0.20		11.49												10	0	98
2	92	Brt (cont)											38.63			1.48			59.91						10	0	100
2	93	Anh							38.02				61.98												10	0	105
2	94	Pv+Cal	2.61		0.32	29.14			1.64				64.80												1.36 10	0	117
2	95	Anh							37.82				61.65			0.53									10	0	103
2	96	Cal+Qz	22.87		0.62	1.55		0.59	29.91		0.20		0.26												56	6	72
2	97	Cal+other	1.18		0.63	2.32		0.86	49.20		0		1.82												56	6	52
2	98	Pv				28.24			0.20				71.57												10	0	190
2	99	Pv				28.26							71.74												10	0	191
2	100	Anh							38.03				61.98												10	0	104
2	101	Pv	0.13			27.70	0.10		0.14				71.94												10	0	194
2	102	Qz+Cal+other	59.34	0.30	14.21	3.09		3.40	13.98	0.40	5.28														10	0	76
2	103	Chl+other	34.31		18.04	26.19		3.68	1.10	0.43	1.25														8	5	80
2	104	Dol+other	2.18		0.83	0.32		21.10	29.28		0.28														54	4	52
2	105	Dol	0.59			0.37		22.24	30.79																54	4	49
2	106	Py				27.83							72.17												10	0	186
2	107	Dol+other	7.23		0.97	0.68		18.39	26.48		0.26														54	4	54
2	108	Sd+other	9.32	0.26	5.65	38.78		0.96	0.21		0.26	0.57													5	7	68
2	109	Qz+other	86.70		2.76	9.71		0.63			0.20														10	0	92
2	110	Anh							37.62				61.65			0.73									10	0	100
2	111	Dol+other	1.12		0.51	0.37		21.85	30.04		0.11														54	4	49
2	112	Clt (cont)											51.59			43.62			4.79						10	0	85
2	113	Anh							38.16				61.85												10	0	91
2	114	Anh							38.11				61.90												10	0	100
2	115	Anh				0.36			37.86				61.78												10	0	98
2	116	Sd+other	8.43	1.06	6.66	36.01	0.15	1.34	0.50		0.36	0.67													0.59 5	7	57
2	117	Qz+Dol+other	52.45		1.95	0.78		20.38	23.34		1.08														10	0	66

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	CuO	SrO	Y ₂ O ₃ ZrO2	BaO	La ₂ O ₃	Ce ₂ O ₃	Pr_2O_3	Nd_2O_3	HfO ₂	WO_3	Total	Actual Total
2	118	Anh							38.18				61.83												100	97
2	119	Sd+other	6.85	1.02	5.39	39.28	0.15	1.39	0.30		0.11	0.74												0.53	57	65
2	120	III+Chl	43.20	1.58	21.53	16.66		2.88	0.68	0.32	3.16														90	76
2	121	Chl	29.96		24.32	15.41	0.16	14.99	0.17																85	82
2	122	Ank				9.20	0.18	15.28	31.34																56	48
2	123	Anh							38.04				61.95												100	95
2	124	Anh							38.31				61.70												100	92
2	125	Dol+other	3.07		1.49	0.61		20.23	28.32		0.29														54	47
2	126	Qz+other	53.95		15.59	3.58	0.21	1.71	11.32	0.38	11.67		1.05					0.57							100	86
2	127	Qz+Sd+other	46.78	0.87	5.10	44.59		0.88	0.55		0.40													0.83	100	67
2	128	Sd+other	7.15	0.60	5.67	39.65		0.88	0.46		0.34	0.49												0.75	57	57
2	129	Dol+other	2.21		1.10	0.83		20.94	28.64		0.29														54	46
2	130	Anh							39.72				60.28												100	86
2	131	Sd+other	5.85		3.95	34.19	0.72	5.98	3.80		0.45	0.45	0.62												57	59
2	132	Kfs+Chl	39.64	0.28	23.45	27.39	0.44	3.58	1.54	1.54	2.12														100	77
2	133	Qz+other	96.52		2.06	0.69		0.32			0.41														100	112
2	134	Py	0.34			28.32			0.25				71.09												100	191
2	135	Anh				0.15			38.00				61.85												100	96
2	136	Anh+Py	0.34			23.85		0.73	27.47				47.62												100	97
2	137	Anh							38.16				61.85												100	93
2	138	Dol	0.74		0.33	0.51		20.90	31.52																54	52
2	139	Kfs	63.96	0.17	16.91	1.29			1.40		15.03	1.26													100	105
2	140	Kfs+Chl+other	38.03	9.69	11.38	30.13	0.22	1.36			8 61		0.57												100	71
2	141	Dol+other	2.53	0.00	0.47	0.64	0.22	21.85	27 40		0.34		0.07											0.78	54	51
2	142	Anh	2.00		0	0.01		21.00	37 67		0.01		61 73			0.60								0.10	100	104
2	143	Dol				0.57		22.33	30.72				0.39			0.00									54	51
2	144	Anh				0.07		22.00	38 11				61.90												100	105
2	145	Dol+other	10.29	0.29	5.22	0.88	0.10	13.83	22 37		1.01		01.00												54	61
2	1/16	Anh	10.20	0.20	0.22	0.00	0.10	10.00	38 34		1.01		61.68												100	113
2	140	Ozeother	74.02		3.63	0.91		1.61	18.68		0.61		0.55												100	84
2	1/18	Pytother	7 7/		5.00	28.60		0.00	0.38		0.01		56 31												100	1/17
2	1/0	Anh	1.14		5.71	20.00		0.33	38.21		0.25		61.80												100	111
3	1	Dol				0.21		22 77	31.02				01.00												54	63
3	2	Chl	27.85	0.17	20.01	28.22		6.25	0.60		0.37		0.53												85	107
2	2	ChirBy	27.03	0.17	20.91	20.22		6.14	1.05		0.37		0.55												100	107
2	3	Cili+Fy Anh	27.02		21.11	34.37		0.14	27.60		0.23		9.09			0.59									100	107
2	4	Anh							20 17				61.02			0.56									100	120
2	5	Allii	6E 49		17.00				30.17	0.26	15 60		01.05					0.57							100	129
3	7	r\is Dol+othor	00.40		5.02	0.76		15.51	22.70	0.30	10.00							0.57							54	7/
2	8		0.03		0.47	24.10		10.01 0 0E	Q 17		0.10		57.26				<u> </u>	-							100	160
3	0		0.03		0.47	24.19		0.00	0.17		0.10		0.30					1							54	67
3	9		4.57		0.46	0.44		19.71	20.39		0.10		0.33												54	07
3	10	Ann+Sa	0.51		0.40	15.41		1.14	49.84				32.69												100	97
3	11	Ann+other	1.28		0.98	30.19	0.1.1	0.32	1.02		4.00		66.22												100	216
3	12	Doi+other	6.74		3.02	1.21	0.14	17.62	24.18		1.09		00.00												54	69
3	13	Py	0.45		0.25	29.22		0.40	0.10				69.99						-						100	223
3	14	Py+other	9.54		6.73	27.98		0.43	0.34				55.01						-						100	1/6
3	15	Ann							38.18				61.83						-						100	130
3	16	Anh		L		L			38.21				61.80		L				l	L					100	128
3	17	Anh	-				1		38.09				61.93						-						100	126
3	18	Anh	00.01	0.05	04.4-	0.05	1	0.00	38.21		0.00		61.78						-						100	124
3	19	Kfs+Chl	69.01	0.23	21.47	3.99		2.22	0.45		2.66														100	100
3	20	Py+other	4.09	1	3.31	27.41	1	1	0.21	1		1	65.00		1	1	1	1	1		1				100	210

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CuO	SrO	Y_2O_3	ZrO2	BaO	La ₂ O ₃	Ce_2O_3	Pr_2O_3	Nd_2O_3	HfO_2	WO ₃ Total	Actual Total
3	21	Py+Cal				28.71			1.32				69.97												100	210
3	22	Qz+other	87.28		4.38	1.17		0.25	0.88	0.44	1.46		4.12												100	120
3	23	Cal+Py		0.24	0.43	7.87		2.17	42.72				0.53	2.04											56	57
3	24	Sd+other	5.66	0.91	5.67	37.34		0.97	4.68		0.34	0.44													57	80
3	25	Py	0.21			29.00			0.76				70.04												100	218
3	26	Anh+Sd				9.08		1.16	74.51				15.26												100	74
3	27	Qz+other	76.75		9.13	9.60		3.80			0.72														100	112
3	28	Qz	97.72		0.87	0.82		0.23			0.35														100	124
3	29	Cal+other	1.82		0.73	1.98	0.26	1.09	49.91		0.22														56	59
3	30	Py	0.71		0.47	29.29			0.38				69.17												100	211
3	31	Qz+other	77.48	0.20	15.51	2.16		0.66		0.54	3.43														100	124
3	32	Chl	25.64		23.72	26.02	0.18	9.23	0.21																85	105
3	33	Anh							37.96				62.05												100	121
3	34	III+Chl	44.21		25.35	2.98		2.06		0.38	7.86	1.79								0.59	2.96		1.83		90	119
3	35	Mnz	12.09		9.71	6.30		1.36	0.53		1.31	27.08		-0.71						5.91	22.28		12.95		100	86
3	36	Qz	99.99																						100	123
3	37	Anh							38.27				61.75												100	117
3	38	Anh							38.23				61.78												100	116
3	39	Anh	1.56		0.38	0.21		0.28	38.53	0.47			57.78												100	93
3	40	Anh							38.27				61.75												100	122
3	41	Dol+other	0.70		0.35	0.46		22.22	30.26																54	59
3	42	Dol+other	7.78	0.36	3.14	0.95		16.55	24.14		1.09														54	64
3	43	Anh							38.16				61.85												100	114
3	44	Dol+other	0.81		0.33	0.44		22.15	30.15		0.11														54	57
3	45	Ilm+other	4.58	24.49	3.46	64.98	1.17		0.95		0.37														100	82
3	46	Sd+other	12.83	0.91	6.48	31.78		1.84	0.58		0.87	0.44													57	81
3	47	Chl	25.86		22.93	24.88	0.23	10.92	0.17																85	100
3	48	Chl	24.79		23.42	25.61	0.20	10.99																	85	94
3	49	Dol				0.46		22.62	30.92																54	55
3	50	Anh							38.21				61.78												100	113
3	51	Dol+other	2.34		1.05	0.65		19.97	29.82		0.16														54	60
3	52	Sd+other	1.27		0.81	39.85	0.31	7.96	5.81																57	70
3	53	Anh							38.14				61.85												100	127
3	54	Dol+other	6.18		2.54	0.95	0.33	17.43	25.70		0.75														54	67
3	55	Py+other	5.58		2.10	27.02		0.73	4.97		0.12		59.48												100	195
3	56	Dol+other	1.78		0.96	0.36		21.25	29.46		0.18														54	62
3	57	Dol				0.19		22.35	31.46																54	61
3	58	Anh							38.37				61.65												100	124
3	59	Anh				0.17			37.83				61.70			0.30									100	126
3	60	Py+Cal	1.56		0.83	25.05			10.68		0.13		61.75												100	160
3	61	Cal				2.62	0.19	1.09	51.52				0.59												56	60
3	62	Py	0.24			30.67	0.13		0.13				68.82												100	218
3	63	Anh							38.11				61.90												100	124
3	64	Anh							38.06				61.95												100	124
3	65	Anh							38.06				61.95												100	122
3	66	Chl+Cal	25.57	0.48	17.70	29.68	0.31	5.96	3.81		1.50														85	89
3	67	III+Chl	49.00	0.92	23.28	7.88		2.30	3.38	0.46	2.79														90	108
3	68	Anh							38.27				61.73												100	120
3	69	Anh							38.74				61.25												100	117
3	70	Anh							38.03				61.98												100	121
3	71	llm		16.21		83.79																			100	98
3	72	Anh							38.14				61.85												100	123

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	CuO	SrO	Y_2O_3	ZrO2	BaO	La ₂ O ₃	Ce_2O_3	Pr_2O_3	Nd_2O_3	HfO_2	WO ₃ Tota	al Actual Total
3	73	Anh				0.21			38.13				61.68												100) 122
3	74	Qz+other	98.17		1.11	0.49					0.22														100) 126
3	75	Py+other	5.18		4.57	31.09		1.24					57.91												100) 186
3	76	Py+other	0.41		0.28	28.56							70.74												100) 220
3	77	(Alt IIm) Rt+Qz	13.56	85.30	0.45	0.50			0.18																100) 117
3	78	Qz	98.21		0.94	0.67					0.17														100) 121
3	79	Py+Cal	3.27		0.49	0.72		22.70	44.70		0.31		27.79												100) 81
3	80	Anh							38.10				61.90												100) 117
3	81	Qz	99.99																						100) 121
3	82	Anh							37.76				61.63			0.60									100) 116
3	83	Py+Cpr				22.53							53.86		23.61										100) 194
3	84	Sd+other	8.62	0.63	6.18	36.79		1.27	0.71		0.59	0.50													0.52 57	84
3	85	Cal+Sd	0.77	0.26	1.34	12.87		1.62	38.25				0.88												56	66
3	86	Anh				0.17			38.02				61.83												100) 118
3	87	Ilm+other	1.11	24.62	0.72	72.49																			100	95
3	88	Anh							38.48				61.53												100) 112
3	89	Kfs+Chl	41.93	0.30	22.49	27.05		4.41	0.62	0.47	2.76														100	99
3	90	Sd+other	3.71		1.74	37.39	0.25	7.16	5.52		0.26														57	64
3	91	Anh							38.17				61.85												100) 116
3	92	Dol+other	0.93		0.39	0.63		22.28	28.34		0.11			1.31											54	57
3	93	Py+Cal	0.26			26.96			8.07				64.72												100) 166
3	94	Anh							38.49				61.50												100) 113
3	95	Dol+other	1.83		1.03	0.67		21.44	28.86		0.18														54	58
3	96	Qz+Sd+Cal	55.66	0.40	3.14	18.23		0.86	21.09		0.63														100	94
3	97	Sd+other	8.98	0.73	6.93	36.19		1.10	0.31		0.60	0.64													0.51 57	80
3	98	Anh+other	6.12		4.95	0.41		0.40	32.04	0.28	1.00		54.79												100) 116
3	99	Dol+other	0.61			0.55		22.80	30.03																54	53
3	100	Anh				0.14			38.35				61.50												100) 109
3	101	Dol				5.22		17.57	31.21																54	54
3	102	Anh							37.90				62.10												100) 106
3	103	Anh				0.48			37.90				61.63												100) 111
3	104	Anh				0.41			37.90				61.68												100) 110
3	105	Py				28.16			0.81				71.02												100	202
3	106	Py	0.15			27.61			0.10				72.14												100	212
3	107	Qz	99.13			0.36			0.18				0.32												100) 103
3	108	Pv+Qz	6.16		4.70	31.02		1.16	0.20				56.76												100) 162
3	109	Pv+other	1.90		1.53	28.88		0.33					67.35												100) 193
3	110	Kfs	64.35		18.20	3.90					13.55														100) 116
3	111	Chl	32.73		14.54	28.36		8.10	0.54	0.49	0.24						1								85	92
3	112	llm+other	0.60	31.14	1.15	66.59	0.22	1	0.28			1			1		1	1	1			1	l		100	93
3	113	Qz	99.99	1	1		1	1				1			1		1	1	1			1	l		100) 118
3	114	Qz+Pv	81.70			3.55			0.78				13.96												100	93
3	115	Dol+other	2.75	0.23	1.64	0.64		20.72	27.72		0.30														54	56
3	116	Pv	0.24			27.53			0.17				72.07												100	200
3	117	Qz+Sd+other	61.99		19.25	2.21		0.71	2.62	6.88	1.88		4.47												100	97
3	118	Chl	25.86		21.31	25.77	0.29	11.77																	85	91
3	119	Qz	93.83	3.95	0.38	1.65					0.19						1								100	106
3	120	Anh							38.30				61.70				1								100) 107
3	121	Dol	0.92			0.37		22.22	30.38		0.12						1								54	53
3	122	Anh							38.02				62.00				1								100) 109
3	123	III+Chl	49.11	0.42	21.45	7.70		2.56	0.82	0.68	4.29		1.32	1.66			1								90	89
3	124	Py+other	1.22		0.66	29.16			0.73				67.82				1								100) 185

3 125 Py-clar 4.00 3.01 0.00 90.0 <	Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	CuO	SrO	Y_2O_3	ZrO2	BaO	La ₂ O ₃	Ce_2O_3	Pr_2O_3	Nd_2O_3	HfO ₂	WO_3	Total	Actual Total
3 126 Anh	3	125	Py+other	4.96		3.61	30.19		1.06	0.99				58.83													100	166
3 171 KN-CM 223 165 173 175 KN-CM 176 <th< td=""><td>3</td><td>126</td><td>Anh</td><td></td><td></td><td></td><td></td><td></td><td></td><td>38.10</td><td></td><td></td><td></td><td>61.90</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>100</td><td>111</td></th<>	3	126	Anh							38.10				61.90													100	111
3 128 Arh m <td>3</td> <td>127</td> <td>Kfs+Chl</td> <td>29.29</td> <td>1.68</td> <td>15.25</td> <td>47.96</td> <td></td> <td>2.74</td> <td>0.87</td> <td></td> <td>1.93</td> <td></td> <td>100</td> <td>76</td>	3	127	Kfs+Chl	29.29	1.68	15.25	47.96		2.74	0.87		1.93															100	76
3 120 Sketener 6.00 5.27 41.11 0.47 0.26 0.42	3	128	Anh							37.96				62.05													100	114
3 100 PyrCal 0.17 25.0 1.100 63.0	3	129	Sd+other	6.08	0.60	5.47	41.11	0.14	0.77	0.44		0.25	0.48													0.67	57	75
3 131 Cal 0119 0.919 0.919 1.418 62.09 0.9	3	130	Py+Cal	0.17			25.51			10.90				63.20													100	158
3 132 Chehoder 2019 0.91 3.27 6.04 0.42 0.48 0.49	3	131	Cal				2.50		1.41	52.09																	56	52
3 133 Ozerober 98.6 0.68 6.41 0.27 3.60 - - - - - 100 110	3	132	Chl+other	20.19	0.91	13.27	46.04		2.23	0.42	0.48	0.62	0.84														85	82
3 134 Dol - - 0.15 107 33.54 - 0.65 - - - 6.46 55 3 135 PyrCalO2 0.57 0.43 23.77 7.78 65.46 - - - 100 <td>3</td> <td>133</td> <td>Qz+other</td> <td>90.85</td> <td></td> <td>0.68</td> <td>4.61</td> <td></td> <td>0.27</td> <td>3.60</td> <td></td> <td>100</td> <td>113</td>	3	133	Qz+other	90.85		0.68	4.61		0.27	3.60																	100	113
3 135 Py+Cold 0.51 29.72 4.04 65.0 1 1 100 <t< td=""><td>3</td><td>134</td><td>Dol</td><td></td><td></td><td></td><td>0.15</td><td></td><td>19.67</td><td>33.54</td><td></td><td></td><td></td><td>0.65</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>54</td><td>55</td></t<>	3	134	Dol				0.15		19.67	33.54				0.65													54	55
3 136 Py-Cal-Q2 9.37 0.43 23.97 7.76 58.44 68.85 0 0 100	3	135	Py+Cal	0.51			29.72			4.04				65.50													100	169
3 137 Anh Anh 312 38 4 61.3 62.5 <td>3</td> <td>136</td> <td>Py+Cal+Qz</td> <td>9.37</td> <td></td> <td>0.43</td> <td>23.97</td> <td></td> <td></td> <td>7.78</td> <td></td> <td></td> <td></td> <td>58.46</td> <td></td> <td>100</td> <td>170</td>	3	136	Py+Cal+Qz	9.37		0.43	23.97			7.78				58.46													100	170
3 136 Py-Cal 0.47 3.129 0.25 1.68 0.65 0.55 0.55 0.65 0.65 5.55 0.68 0.65 5.55 0.68 0.68 5.57 6.68 0.66 5.7 6.68 5.7 7.4 3 140 Dod 0.60 5.80 40.81 0.02 0.22 0.22 0.48 0.66 0.66 0.66 7.7 6.08 0.66 7.7 6.08 0.66 7.7 6.08 0.66 7.7 6.08 0.66 7.7 6.08 0.66 7.7 6.08 0.67 6.09 0.02 7.7 6.08 0.72 0.7 0.02 7.7	3	137	Anh							38.14				61.85													100	109
3 130 Cal 1.41 0.44 0.45 0.55 0.66 0.25 0.33 0.48 0.66 0.66 0.56 0.56 0.57 7.4 3 141 Sk-other 5.03 0.48 0.25 0.32 0.48 0.75 0.44 0.75 0.86 0.75 7.7 7.4 3 142 Auh 0.75 0.81 0.75 0.86 0.75 0.44 0.75 0.66 0.75 0.75 0.06 0.75 0.75 0.06 0.06 0.07 0.06 0.07 0.06 0.07 0.06 0.07 0.06 0.07 0.06 0.07 0.06 0.07 0.06 0.07 0.06 0.07 0.06 0.07 0.06 0.07 0.06 0.07 0.08 0.09	3	138	Py+Cal	0.47			31.29		0.25	1.65				66.35													100	171
3 140 Dol 0.66 2.252 30.30 0.78 <t< td=""><td>3</td><td>139</td><td>Cal</td><td></td><td></td><td></td><td>1.41</td><td>0.24</td><td>0.81</td><td>53.55</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>56</td><td>51</td></t<>	3	139	Cal				1.41	0.24	0.81	53.55																	56	51
3 141 Schoother 6.08 0.08 0.28 0.28 0.28 0.28 0.72 74 3 142 Schoother 5.03 1.16 4.00 1.16 4.00 1.05 0.55 0.16 0.68 0.68 0.66 0.66 77 74 3 144 Anh 0.15 0.55 0.15 0.61 0.72 0.02 0.00 100	3	140	Dol				0.56		22.52	30.93																	54	52
3 142 Sd+other 5.03 1.16 4.80 4.187 0.72 0.55 0.16 0.68 - - 0.66 57 62.0 3 143 Anh 0.35 37.50 61.45 0.72 0.66 0.72 0.66 100<	3	141	Sd+other	6.08	0.80	5.89	40.81		0.86	0.26		0.32	0.48													0.52	57	74
3 143 Anh v 0.15 38.11 v 61.75 v v v 100	3	142	Sd+other	5.03	1.16	4.80	41.87		0.72	0.55		0.16	0.68													0.86	57	62
3 144 Anh	3	143	Anh				0.15			38.11				61.75													100	109
3 145 Anh	3	144	Anh				0.35			37.50				61.45			0.72										100	110
3 146 Anh	3	145	Anh							38.14				61.88													100	107
3 147 Kfs-Ch 43.45 0.18 22.58 19.32 4.91 6.74 0.38 14.90 0 0 0.06 100 93.39 3 148 WO 56.65 18.12 0.38 12.02 0.68 13.39 0.99 0.99 0.09 0.09 0.09 0.09 0.00 0.00 100	3	146	Anh							38.23				61.78													100	107
3 148 Kfs 65.65 18.12 0.36 0.38 12.0 0.69 0.59 100	3	147	Kfs+Chl	43.45	0.18	22.58	19.32		4.91	6.74	0.39	1.76														0.66	100	93
	3	148	Kfs	65.65		18.12	0.36				0.38	14.90								0.59							100	103
3 150 Anh Anh Anh Anh Image: state of the state of th	3	149	WO				1.39			12.02	0.69				3.39											82.51	100	72
3 151 Anh 31.15 61.83 1 1 100 105 3 152 Anh 61.88 100 100 100 100 3 152 Anh 184 Anh 61.88 100 100 100 100 3 155 Dol-other 2.31 1.49 27.71 0.68 0.28 67.97 100 100 100 100 100 100 100 100 100 181 3 155 Dol-other 5.42 2.79 0.88 12.46 0.28 100	3	150	Anh							38.17				61.83													100	106
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	3	151	Anh							38.18				61.83													100	105
3 153 Py 1.88 1.49 27.71 0.68 0.28 67.97 0 0 180 100 180 3 155 Dol+other 2.31 1.34 0.21 21.10 28.76 0.28 0 0 0 165 53 53 156 Dol+other 5.42 2.79 0.98 17.96 26.37 0.49 0 0 0 164 53 53 3 157 Anh 0 38.17 61.85 0 0 0 100 104 3 158 Qz 99.99 0 0 61.85 0 0 0 100 104 3 160 Sd+other 7.30 2.50 2.36 0.21 0.91 41.89 0.36 0.48 0 0 0 100 100 100 130 3 161 Dol+other 9.05 1.89 0.31 17.06 24.89<	3	152	Anh							38.14				61.88													100	105
3 154 Anh Mathematical 38.07 61.93 Mathematical 100 105 100 105 3 155 Dol+other 2.31 1.34 0.21 21.10 28.76 0.28 Mathematical Mathematical 53 53 156 Dol+other 5.42 2.79 0.98 17.96 62.87 0.49 Mathematical Mathmatical Mathmatical Mathematical	3	153	Py	1.88		1.49	27.71		0.68	0.28				67.97													100	181
3 155 Dol+other 2.31 1.34 0.21 21.10 28.76 0.28 0 0 0 54 53 3 156 Dol+other 5.42 2.79 0.98 17.96 26.37 0.49 0 0 0 54 55 3 157 Anh 0 38.17 61.85 0 0 0 0 100 100 100 3 158 Qz 99.99 0 0.86 31.44 0.45 9.57 57.71 0 0 0 100 100 164 3 160 Sd+other 7.30 2.50 2.36 0.21 0.99 0.66 0.30 0.49 0 0 0 57 73 3 161 Dol+other 9.05 1.89 0.81 0.30 0.39 0 0 0.52 57 74 3 162 Anh 0.21 0.54 39.52 0.99 0.66 0.30 0.39 0 0 0.52 57	3	154	Anh							38.07				61.93													100	105
3 156 Dolvother 5.42 2.79 0.88 17.96 28.37 0.49 61.85 0 0 54 55 3 157 Anh 0 38.17 0.49 61.85 0 0 100 104 3 158 Qz 99.99 0 0.45 57 57.71 0 0 0 100 107 3 160 Sd-vother 7.30 2.50 2.21 0.91 41.89 0.36 0.49 0 0 0 57 73 3 161 Dol+other 9.05 1.89 0.83 17.06 24.69 0.48 0 0 0 54 73 3 162 Anh 0 3.817 61.83 0 0 0.57 7 74 3 164 Dol 7 3.952 0.99 0.66 0.30 0.39 0 0 0.52 57	3	155	Dol+other	2.31		1.34	0.21		21.10	28.76		0.28															54	53
3 157 Anh	3	156	Dol+other	5.42		2.79	0.98		17.96	26.37		0.49															54	55
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	3	157	Anh							38.17				61.85													100	104
3 159 Py+Cal 0.86 31.44 0.45 9.57 57.71 100 164 3 160 Sd+other 7.30 2.50 2.36 0.21 0.91 41.89 0.36 0.49 57 73 3 161 Dol+other 9.05 1.70 2.469 0.48 57 73 3 162 Anh 8.17 61.83 100 130 3 164 Dol 1.70 2.49 9.66 0.30 0.39 100 130 3 164 Dol 1.70 2.49 19.68 30.12 100 132 3 165 Anh 0.21 38.25 61.53 100 132 3 167 Anh 0.22	3	158	Qz	99.99																							100	107
3 160 Sd+other 7.30 2.50 2.36 0.21 0.91 41.89 0.36 0.49 57 73 3 161 D0I+other 9.05 1.89 0.83 17.06 24.69 0.48 54 73 3 162 Anh 38.17 61.83 100 130 3 163 Sd+other 7.27 0.86 5.47 39.52 0.99 0.66 0.30 0.39 0.52 57 74 3 164 Dol 1.70 2.49 19.68 30.12 54 62 3 166 Anh 0.21 38.25 61.53 100 132 3 166 Anh 0.21 38.35 61.65 100 128 3 168 Py+other 31.	3	159	Py+Cal	0.86			31.44		0.45	9.57				57.71													100	164
3 161 Dol+other 9.05 1.89 0.83 17.06 24.69 0.48 61.83 61.85 61.65 61.65 61.00 100 132 3 166 Anh 0.42 11.45 22.77 1.84 1.18 0.30 1.60 29.42 0.57 0.21 0.57 100 133 3 169 Cal+Py 0.44 2.57 0.27 <th< td=""><td>3</td><td>160</td><td>Sd+other</td><td>7.30</td><td></td><td>2.50</td><td>2.36</td><td>0.21</td><td>0.91</td><td>41.89</td><td></td><td>0.36</td><td></td><td>0.49</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>57</td><td>73</td></th<>	3	160	Sd+other	7.30		2.50	2.36	0.21	0.91	41.89		0.36		0.49													57	73
3 162 Anh 3 38.17 61.83 100 130 3 163 Sd+other 7.27 0.86 5.47 39.52 0.99 0.66 0.30 0.39 0.52 57 74 3 164 Dol 1.70 2.49 19.68 30.12 54 62 3 165 Anh 0.21 38.25 61.53 54 62 3 166 Anh 24 38.25 61.53 100 132 3 166 Anh 39.35 61.65 100 132 3 167 Anh 38.35 61.65 100 133 3 168 Py+other 31.04 0.42 1.23 50.91 0.57 100 133 4 1 Anh	3	161	Dol+other	9.05		1.89	0.83		17.06	24.69		0.48															54	73
3 163 Sd+other 7.27 0.86 5.47 39.52 0.99 0.66 0.30 0.39 0.52 57 74 3 164 Dol 1.70 2.49 19.68 30.12 54 62 3 165 Anh 0.21 38.25 61.53 100 128 3 166 Anh 38.35 61.65 100 128 3 168 Py+other 31.04 0.42 11.45 22.77 1.84 1.18 0.30 1.60 29.42 100 133 3 169 Cal+Py 0.44 2.57 0.27 1.23 50.91 0.57 100 128 4 1 Anh 0.22 37.93 61.85 <td>3</td> <td>162</td> <td>Anh</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>38.17</td> <td></td> <td></td> <td></td> <td>61.83</td> <td></td> <td>100</td> <td>130</td>	3	162	Anh							38.17				61.83													100	130
3 164 Dol 1.70 2.49 19.68 30.12 1 <th1< th=""></th1<>	3	163	Sd+other	7.27	0.86	5.47	39.52		0.99	0.66		0.30		0.39												0.52	57	74
3 165 Anh 0.21 1 38.25 61.53 1 1 100 132 3 166 Anh 1 38.13 61.83 1 100 128 3 167 Anh 1 38.13 61.85 1 1 100 128 3 167 Anh 1 38.35 61.65 1 1 100 128 3 168 Py+other 31.04 0.42 11.45 22.77 1.84 1.18 0.30 1.60 29.42 1 1 100 128 3 169 Cal+Py 0.44 2.57 0.27 1.23 50.91 0.57 1 1 100 120 4 1 Anh 0.22 37.93 61.85 1 1 100 120 4 2 Qz 99.99 1 1 38.35 61.85 1 100 120 4 3 Brt(cont) 1 1 38.35 61.88 1 1	3	164	Dol				1.70	2.49	19.68	30.12																	54	62
3 166 Anh 38.13 61.88 100 128 3 167 Anh 38.35 61.65 100 128 3 167 Anh 38.35 61.65 100 128 3 168 Py+other 31.04 0.42 11.45 22.77 1.84 1.18 0.30 1.60 29.42 100 133 3 169 Cal+Py 0.44 2.57 0.27 1.23 50.91 0.57 100 120 4 1 Anh 0.22 37.93 61.85 100 100 120 4 2 Qz 99.99 100 120 100 120 4 3 Brt (cont) 100 120 100 120 4 4 Dol 0.53 0.75 22.42 30.30 100 100 120 4 5 Anh 100 38.13 61.88 100 100 120 4 5 Anh 100 38.13 61.88 <td>3</td> <td>165</td> <td>Anh</td> <td>0.21</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>38.25</td> <td></td> <td></td> <td></td> <td>61.53</td> <td></td> <td>100</td> <td>132</td>	3	165	Anh	0.21						38.25				61.53													100	132
3 167 Anh 61.65 </td <td>3</td> <td>166</td> <td>Anh</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>38.13</td> <td></td> <td></td> <td></td> <td>61.88</td> <td></td> <td>100</td> <td>128</td>	3	166	Anh							38.13				61.88													100	128
3 168 Py+other 31.04 0.42 11.45 22.77 1.84 1.18 0.30 1.60 29.42 100 133 3 169 Cal+Py 0.44 2.57 0.27 1.23 50.91 0.57 56 63 4 1 Anh 0.22 37.93 61.85 56 63 4 2 Qz 99.99 100 126 4 3 Brt (cont) 100 126 4 4 Dol 0.53 0.75 22.42 30.30 54 59 4 5 Anh 38.13 61.88 100 120 4 6 Anh 37.75 61.73 0.53 <t< td=""><td>3</td><td>167</td><td>Anh</td><td></td><td></td><td></td><td></td><td></td><td></td><td>38.35</td><td></td><td></td><td></td><td>61.65</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>100</td><td>129</td></t<>	3	167	Anh							38.35				61.65													100	129
3 169 Cal+Py 0.44 2.57 0.27 1.23 50.91 0.57 1	3	168	Py+other	31.04	0.42	11.45	22.77		1.84	1.18	0.30	1.60		29.42													100	133
4 1 Anh 0.22 37.93 61.85 0 0 100 120 4 2 Qz 99.99 0 0 0 0 100 126 4 3 Brt (cont) 0 0 38.35 61.67 0 100 126 4 4 Dol 0.53 0.75 22.42 30.30 0 0 0 54 59 4 5 Anh 0 38.13 61.88 0 0 54 59 4 6 Anh 37.75 61.73 0.53 0.53 0.54 54 62 4 7 Dol 0.90 0.48 22.05 30.99 0 0 0.53 0.53 0.53 0.53 0.53 0.54 62	3	169	Cal+Py	0.44			2.57	0.27	1.23	50.91				0.57													56	63
4 2 Qz 99.99 100 126 4 3 Brt (cont) 38.35 61.67 100 126 4 4 Dol 0.53 0.75 22.42 30.30 61.67 54 59 4 5 Anh 38.13 61.88 100 120 4 6 Anh 37.75 61.73 0.53 50 100 125 4 7 Dol 0.90 0.48 0.48 22.05 30.09 53 54 62	4	1	Anh				0.22			37.93				61.85													100	120
4 3 Brt (cont) 0 0 0 38.35 0 61.67 0 100 119 4 4 Dol 0.53 0.75 22.42 30.30 0 0 0 0 54 59 4 5 Anh 0 38.13 61.88 0 0 0 100 120 4 6 Anh 0 37.75 61.73 0.53 0 0 100 125 4 7 Dol 0.90 0.48 0.48 22.05 30.09 0 0 0 053 0 0 54 62	4	2	Qz	99.99																							100	126
4 4 Dol 0.53 0.75 22.42 30.30 61.88 61.83	4	3	Brt (cont)											38.35						61.67							100	119
4 5 Anh 38.13 61.88 100 120 4 6 Anh 37.75 61.73 0.53 100 120 4 7 Dol 0.90 0.48 0.48 22.05 30.9 54 62	4	4	Dol	0.53		1	0.75	1	22.42	30.30			1			1	1	1			l	l					54	59
4 6 Anh 37.75 61.73 0.53 100 125 4 7 Dol 0.90 0.48 0.48 22.05 30.09 0 0.53 0 0 54 62	4	5	Anh			1		1	1	38.13			1	61.88		1	1	1			l	l					100	120
4 7 Dol 0.90 0.48 0.48 22.05 30.09 54 62	4	6	Anh			1	1	1	1	37.75			1	61.73		1	0.53	1			l	l					100	125
	4	7	Dol	0.90		0.48	0.48		22.05	30.09			1			1		1									54	62

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CuO	SrO	Y_2O_3	ZrO2	BaO	La_2O_3	Ce_2O_3	Pr_2O_3	Nd_2O_3	HfO ₂	WO_3	Total	Actual Total
4	8	Anh				0.15			37.65				61.63			0.57										100	125
4	9	Anh							38.00				62.00													100	127
4	10	Dol+other	1.99		0.95	0.53		20.83	29.54		0.18															54	65
4	11	Py	0.34		0.17	28.41			0.13				70.97													100	233
4	12	Qz	89.29		6.50	1.11		0.43	0.77	1.07	0.83															100	129
4	13	Cal				2.20	0.31	1.10	52.39																	56	60
4	14	Anh				0.15			37.97				61.88													100	125
4	15	Dol+Anh				0.68	0.14	22.19	29.40				1.60													54	62
4	16	Anh				0.15			38 16				61 70													100	120
4	17	Sd+Kfs+Chl	17 07	0.60	9.50	24 42		1.98	0.45	0.35	0.82	0.39	00												0 44	57	88
4	18	Anh		0.00	0.00				38 13	0.00	0.02	0.00	61.88												0	100	118
4	19	Anh							38.09				61.00													100	118
1	20	Dol+Py				0.49		20.71	30.63				2 17													54	54
1	21	Anh	0.36			0.45		20.71	38.02				61.45													100	117
	27	Anh	0.50			0.15			38.27				61 75													100	120
	22	Kfe+Chl+Dy	30.02	0.48	17 10	1/ 38		1.84	1.04		1 07		17 70	3 37												100	120
4	23	KIS+CIII+Fy	00.62	0.40	17.19	0.20		1.04	1.04		4.97		17.70	3.37												100	40
4	24	02	99.02			0.39																				100	120
4	25	Q2	99.99			0.45			27.00				61.00													100	120
4	20	Ann				0.15	0.40	0.40	37.90				01.00													100	<u> </u>
4	21	Cal+Py	5.00	0.00	5.40	4.30	0.40	2.49	47.50		0.00	0.07	1.15												0.00	00	5/
4	28	Sd+other	5.22	0.66	5.16	41.97		0.86	0.53		0.23	0.67													0.68	5/	12
4	29	Anh							38.10				61.90													100	116
4	30	Sd+Cal+other	1.20	0.32	1.24	14.72		2.22	35.88				0.42													57	64
4	31	Sd+other	6.29	0.64	5.76	40.21		1.22	0.58		0.33	0.76														57	81
4	32	Py+other	3.98		3.72	27.13							65.17													100	209
4	33	Kln	44.01		32.37	6.83		1.38	0.29		0.31		0.82													86	112
4	34	Anh							38.11				61.88													100	124
4	35	Anh							38.13				61.88													100	127
4	36	Chl	27.97	0.34	20.20	29.93		5.87			0.67															85	106
4	37	Chl+Py	20.73	0.23	16.10	31.97		4.69	0.34	0.31	0.25		25.37													100	132
4	38	Qz	99.99																							100	127
4	39	Dol+Qz	1.54		0.42	0.75		21.22	29.89		0.19															54	60
4	40	Py	0.36			26.99		0.73	1.05				70.87													100	224
4	41	Py+other	1.69		0.32	26.30			1.11				70.29													100	202
4	42	Kfs+Chl	62.27	1.90	19.27	9.01		3.37	0.53	0.42	3.20															100	92
4	43	Mnz+other	6.55		5.82				0.24		0.72	32.70		-0.55						10.22	30.82	3.02	10.47			100	120
4	44	Qz	82.40	0.20	0.76	3.56			2.04				11.04													100	132
4	45	Anh							38.32				61.68													100	134
4	46	Dol				0.42		21.79	30.32				0.31	1.15												54	67
4	47	Py+Cal	0.83		0.38	22.85		0.70	29.78				45.50													100	139
4	48	Qz	99.84			0.17																				100	142
4	49	Dol+other	2.62		1.36	0.82		20.64	28.16		0.41															54	66
4	50	Kfs+Chl+other	31 45	1 78	9.56	48.31		3.25	0.39		4 65															100	113
4	51	Kfs+Chl+other	26.01	2.07	8.03	56.30		3 15	0.35		3 49															100	110
4	52	Sd+other	7.52	0.94	5.86	39.18		0.88	0.44		0.34														0.85	57	80
4	53	Pv+Cal	0.58	0.04	0.00	27.85		0.00	6.07		0.04		65.00												0.00	100	210
4	54	Pv+other	13.90		6.01	26.77		1 29	2 10		0.24	1	49 14													100	200
-	55		0.43	10 22	0.01	17 77		0.43	0.32		0.24	-	40.14													100	114
4	56	Kfe+Cbl	62.40	13.32	18 07	5.02		3.76	0.52	0.28	7.62	+	<u> </u>													100	117
4	57	Anh	02.49	0.37	10.97	0.90		3.10	28 24	0.20	1.02	-	61 79													100	135
4	58	Auto Dy	0.15			28.01			0.11			-	71 74													100	247
4	50	ry Dol	0.15			20.01	0.20	12 10	21.14				11.14													54	241
4	59	DUI	1	1	1	9.19	0.30	13.10	31.41	1		1	1			1	1			1				1		-04	09

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P ₂ O ₅	SO3	F	CuO	SrO	Y ₂ O ₃	ZrO2	BaO	La ₂ O ₃	Ce ₂ O ₃	Pr_2O_3	Nd_2O_3	HfO ₂	WO ₃ Tot	al Actual Total
4	60	Anh							38.06				61.95												10	0 135
4	61	Anh							38.18				61.83												10	0 132
4	62	Anh	0.19						37.96				61.85												10	0 132
4	63	Mag+Qz	4.92			89.95	1.72		1.26				0.70												1.46 10	0 94
4	64	Sd+other	5.13		0.77	41.95	0.74		1.49	0.55			1.20						0.57						3.14 5	/ 83
4	65	Anh							38.34				61.65												10	0 130
4	66	Py+other	1.56		0.51	30.63	0.25	3.63	2.81		0.14		60.43												10	0 178
4	67	Qz	99.84			0.17																			10	0 137
4	68	Sd+other	12.14	0.85	7.87	31.30		1.13	0.59	0.35	0.96	0.50	0.31												5	/ 87
4	69	Sd+other	4.14	1.48	1.66	44.09	0.27		4.35																5	/ 93
4	70	Anh							37.99				62.00												10	0 134
4	71	Anh							38.25				61.75												10	0 132
4	72	Dol+other	0.60		0.28	0.17		21.35	30.62					0.99											54	65
4	73	Anh				0.21			38.16				61.65												10	0 128
4	74	Qz	99.71			0.13			0.14																10	0 132
4	75	Qz+other	83.92	0.17	8.14	4.44		1.34	0.24	0.24	1.51														10	0 133
4	76	Anh	0.49			0.14			38.17				61.20												10	0 130
4	77	Qz	99.56	0.27		0.17																			10	0 134
4	78	(Alt IIm) Rt+other	47.38	49.06	0.32	2.87			0.18		0.18														10	0 146
4	79	Ánh							37.58				61.55			0.88									10	0 129
4	80	Py+other	4.64		3.51	31.31		0.98	0.64				58.88												10	0 189
4	81	Chl	27.29	0.21	20.54	27.63	0.21	9.12																	8	i 105
4	82	Cal				3.11	0.16	1.46	51.27																56	61
4	83	Py				27.67			1.50				70.84												10	0 231
4	84	Anh							38.16				61.85												10	0 123
4	85	Pv+other	10.55		6.99	29.74		0.41	0.43				51.89												10	0 169
4	86	Sd+Qz	2.04		0.90	42.05	0.92	5.62	4.48																5	65
4	87	Chl+other	34.38	0.47	17.78	24.05	0.34	3.77	2.42	0.42	1.37														8	i 103
4	88	Rt+Qz	6.44	91.49	0.85	0.85			0.38																10	0 113
4	89	Dol	0.42			0.37		22.65	30.56																54	4 60
4	90	Clt (cont)	13.67		0.74	0.84			0.34		0.25		44.32			37.58			2.27						10	0 112
4	91	Anh				2.23		1.26	35.25		0		57.93												3.35 10	0 42
4	92	Anh							38.09				61.90												10	0 122
4	93	Zrn	31.75															67.23						1.01	10	0 127
4	94	Anh							38.35				61.65												10	0 119
4	95	Anh							38.16				61.85												10	0 120
4	96	Cal+Chl+Kfs+other	36.45	0.23	21.58	1.89		10.68	22.08		5.28			1.82			1								10	0 92
4	97	Rt	0.49	97.73		0.84	1		0.94								1								10	0 107
4	98	Qz	99.99														1								10	0 123
4	99	Anh					1		37.18				61.15					0.49							1.20 10	0 82
4	100	Chl	27.84		23.71	22.46	0.15	10.45	0.26		0.14						1								8	i 99
4	101	F-Ap (diag)+other	18.27		11.62	15.04		2.79	24.44	0.36	0.49	23.49	0.57	2.94											10	0 109
4	102	F-Ap (diag)+other	8.09		5.12	2.66		0.83	39.36	0.86	0.37	33.07	1.90	7.77											10	0 111
4	103	Anh	0.00		02	2.00		0.00	38 10	0.00	0.01	00.01	61.90												10	0 114
4	104	Qz+other	88.67		4.65	4.09		0.93	0.80	0.43	0.41														10	0 112
4	105	Pv+other	10.50		7.22	27.23		0.28	0.42	0.35	0.16		53.84												10	0 163
4	106	Dol+other	3.18		1.11	0.84		20.07	26.33		0.19			2.17											54	1 57
4	107	Anh	00			0.01	1		38.31		00		61.68				1								10	0 117
4	108	Anh					1		38.20				61.80				1								10	0 114
4	109	Anh					1		38.27				61.73				1								10	0 115
4	110	Sd+other	3.46		3.15	38.67	0.67	5.06	4.99				55				1								5	64
4	111	Cal			0.31	2.67	0.17	2.59	49.70				0.56												50	56

4 112 Mbr-Cal 33.84 33.85 33.84 34.85 31.	Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	CuO	SrO	Y_2O_3	ZrO2	BaO	La_2O_3	Ce ₂ O ₃	Pr_2O_3	Nd_2O_3	HfO ₂	WO ₃ Total	Actual Total
4 113 Ox-b0 78.66 0.66 2.71 2.83 0.67 0.68 0.72 0.68 0.75 0.66 0.75 0	4	112	Kfs+Cal	33.84	0.50	20.73	37.33		5.39	0.84		1.34														100	92
4 114 Obe-Ope 0.66 22.16 20.06 22.16 20.07 23.0	4	113	Qz+Dol	78.96			0.33		9.87	10.83																100	93
4 115 (MscChender 4.852 0.40 17.80 2.31 1.23 1.00	4	114	Dol+Qz	0.66			0.46		22.16	29.06					1.66											54	56
4 116 CcAl+Or 70.3 11.13 1.13 1.14 0.84 0.39 0.94 0.89 0.94 0.89 0.94 0.95	4	115	Kfs+Chl+other	48.52	0.40	17.59	24.74		3.13	2.94	0.47	2.23														100	100
4 117 Ox+Gendender 70.86 113 1.14 0.86 5.11 1.79 0 <	4	116	Cal+Py				0.20		1.94	49.48	0.37			2.35	1.66											56	57
4 118 F-Ap (diag)-other 14.30 7.88 4.30 1.00 33.85 0.44 0.80 2.88 1 <th1< th=""> 1 1 1</th1<>	4	117	Qz+Cal+other	70.36		11.13	1.14		0.86	6.39		3.19	5.11		1.79											100	123
4 19 And Tris T	4	118	F-Ap (diag)+other	14.03		7.88	4.30		1.09	33.85	0.94	0.69	28.87	1.40	6.98											100	108
4 120 Py-other 11.3 7.67 27.26 0.68 0.64 52.11 0.6 0.61 0.60 0.61	4	119	Anh							38.37				61.63												100	110
4 121 Ann 0 199 37.89 62.00 0 0 00 00 00 4 122 Detecher 3.15 1.54 0.55 20.62 20.92 0 0.55 0	4	120	Py+other	11.34		7.67	27.36		0.86	0.64				52.11												100	156
4 122 Nss-Ch 69.2 0.4 7.53 3.15 1.59 1.33 5.66	4	121	Anh							37.99				62.00												100	107
4 123 Dolt-other 3.15 1.54 0.63 20.28 0.38 0.48	4	122	Kfs+Chl	69.82	0.48	17.95	3.15		1.59		1.33	5.66														100	100
4 124 Dot-offer 9.2 2.81 0.36 1.60 2.88 1.60 9.4 0.61 0.61 0.30 2.81 0.66 0.61 0.60 160 164 4 125 Anh 0.66 0.22 2.98 1.61 37.6 0.61 57.61 0.00 0.00 112 4 120 Anh 0.61 0.22 7.8 30.7 0.61 57.61 0.00 0.00 100	4	123	Dol+other	3.15		1.54	0.63		20.62	27.71		0.35														54	58
4 12b Py 0.86 0.38 28.73 0.94 0.95 0.95 0.95 0.95 0.94 0.94 0.96	4	124	Dol+other	9.32		2.81	0.36		16.00	23.86		1.65														54	67
4 12b Anh 0.36 0.32 17.48 77.85 17.45 <td>4</td> <td>125</td> <td>Py</td> <td>0.86</td> <td></td> <td>0.38</td> <td>28.73</td> <td></td> <td></td> <td>0.94</td> <td></td> <td></td> <td></td> <td>69.12</td> <td></td> <td>100</td> <td>194</td>	4	125	Py	0.86		0.38	28.73			0.94				69.12												100	194
4 127 Anh 6.6 4.80 29.8 1.61 0.24 0.61 61.83 0 0 171 4 128 Anh 0.15 38.17 0 61.83 0 0 120 4 130 Cal-Py 2.84 1.84 5.11 0.22 1.71 66.86 0 0 120 100 120 4 130 Ph/Doleholm 2.86 0.55 36.73 0 051.86 0 0.55 0.55 0.57	4	126	Anh	0.36		0.32				37.86				61.45												100	113
4 128 Anh 0.15 38.02 0.61.83 0.10 100 112 4 129 Anh 1.0.15 0.2 1.7.1 4.2.7 0.61.83 0.10 1.0.1 120 4 130 Cal+Py 2.84 1.84 5.11 0.22 1.7.1 4.2.7 1.64 0.10 120 4 132 Anh 0.4 2.56 0.57.6 1.7.80 0.56.6 0.18 0.10 100 100 100 4 132 Anh 0.4 0.66 0.6 0.16 0.66 0.6 0.60 0.6100 0.60	4	127	Anh	6.16		4.80	29.98		1.61	0.24				57.21												100	171
4 129 Anh 0.15 38.77 C 61.88 C 0.05 66.83 4 131 Py+Cal 0.24 25.68 0.55 17.90 55.76 0.4 100 100 100 100 4 133 Py+Cal 0.24 25.68 0.55 17.80 61.88 0.66 0.66 63.66 4 133 Py+Deirother 9.66 5.76 2.07 21.61 38.50 1.14 18.53 2.88 0.060 100 100 100 4 134 Anh 0.66 0.66 0.60 0.60 0.60 100	4	128	Anh				0.15			38.02				61.83												100	112
4 130 Car+Py 284 1.14 1.41 1.41 1.41 1.41 1.41 1.41 1.41 1.41 1.41 1.41 1.41 1.41 1.41 1.41 1.41 1.41 1.41 1.43 1.41 1.43 1.41 1.43 1.41 1.43 2.85 0.57 2.16 1.00 111 17.8 0.30 0.48 0.31 0.48 0.31 0.48 0.31 0.48 0.31 0.48 0.31 0.48 0.31 0.48 0.41 100 100 100 100 100 100 100 100 100	4	129	Anh				0.15			38.17				61.68												100	120
4 131 Py+Call 0.24 25.88 0.55 17.90 55.76 100 100 100 100 100 4 133 Py+Dol+other 9.56 5.76 2.07 21.61 38.45 1.14 18.53 2.88 100 100 100 100 4 134 Anh 0.46 0.66 0.66 100	4	130	Cal+Py	2.84		1.84	5.11	0.22	1.71	42.87				1.41												56	63
4 132 Adn - - - - 61.28 - - - 100 104 4 133 Anh 0.4 0.66 0.26 37.33 0.77 60.65 - - - 100 100 4 135 Anh - - 38.20 61.80 - - 100 100 100 4 136 Anh - - 37.81 61.60 0.60 - - 100 110 4 137 Anh - - 38.30 - 61.70 - - 100 100 100 101 4 140 Anh - - 83.31 - 61.33 - - - 100 103 100 100 103 100 100 103 100 100 100 100 100 100 100 100 100 100 <t< td=""><td>4</td><td>131</td><td>Py+Cal</td><td>0.24</td><td></td><td></td><td>25.58</td><td></td><td>0.55</td><td>17.90</td><td></td><td></td><td></td><td>55.76</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>100</td><td>150</td></t<>	4	131	Py+Cal	0.24			25.58		0.55	17.90				55.76												100	150
4 133 PryLDichemer 9.56 5.76 2.07 2.161 38.45 1.14 18.33 2.88 1 100 110 <td>4</td> <td>132</td> <td>Anh</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>38.73</td> <td></td> <td></td> <td></td> <td>61.28</td> <td></td> <td>100</td> <td>104</td>	4	132	Anh							38.73				61.28												100	104
4 134 Anh 0.66 0.26 37.33 0.17 60.65 0.60 100	4	133	Py+Dol+other	9.56		5.76	2.07		21.61	38.45		1.14		18.53	2.88											100	62
4 135 Anh - - 38.20 61.80 - - 100 100 100 100 4 137 Anh - - 37.81 61.60 0.60 - 100 100 110 4 138 SchCalvoher 8.35 0.71 5.3 21.15 17.8 0.83 0.48 0.31 - - 100 110	4	134	Anh	0.94		0.66	0.26			37.33		0.17		60.65												100	110
4 136 Anh 37.81 b 61.60 0.60 0.60 110 110 4 137 Anh 37.81 b 61.70 0.60 0.60 110 110 4 138 Sd+Cal+other 8.35 0.71 5.35 21.15 1.15 17.88 0.63 0.48 0.31 0.60 0.60 100 110 4 140 Anh 0.22 99.75 0.24 29.00 0.12 0.6170 0.6170 0.6170 0.65 64 54 53 4 142 Anh 0.36 0.44 21.47 29.95 1.78 0.6170 0.64 154 54 54 4 143 Dol+Odz 2.10 1.25 0.42 21.48 28.48 0.25 61.70 0.61.90 0.66 1.60 100 <	4	135	Anh							38.20				61.80			0.00									100	109
4 137 Anh - - 33.30 - 61.70 - - 100 111 4 138 GZ 99.75 0.24 - - 61.70 - 61.70 - 100 100 108 4 140 Anh - - 61.83 - 61.83 - 61.70 - 61.83 - 61.83 - 61.70 - 61.70 - 61.70 - 61.70 - 61.70 - 61.70 - 61.70 - 61.70 - - 61.70 - - 61.70 - - 61.70 - - 61.70 - - 61.70 - - 61.70 - - 61.70 - - 61.70 - - 61.70 - - 61.70 - - 61.70 - - 61.70 - - 61.70 - - 61.70 - - 61.70 - - 61.70 - - 61.70	4	136	Anh							37.81				61.60			0.60									100	110
4 138 Code Unit of the state of the	4	137	Anh	0.05	0.74	5.05	04.45		4.45	38.30		0.00	0.40	61.70												100	111
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	4	138	Sd+Cal+other	8.35	0.71	5.35	21.15		1.15	17.88		0.63	0.48	0.31												5/	68
4 140 Anh - - 38.1 - 61.83 - - 100 108 4 142 Anh - - 38.3 - 61.70 - - 54 53 4 142 Anh - - 38.31 - 61.70 - - - 54 53 4 143 Dol+Q2 2.10 1.25 0.42 21.48 28.48 0.25 - - - - 55 54 54 54 54 54 54 54 54 54 54 54 54 55 10.37 26.81 0.57 17.43 24.15 0.98 1.72 - - - 54 61.00 - - 100 100 100 100 100 100 100 100 100 100 100 100 127 4148 Anh - - 61.70 - - - 61.70 - - - 100 127 100 <t< td=""><td>4</td><td>139</td><td>Qz</td><td>99.75</td><td></td><td></td><td>0.24</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>100</td><td>115</td></t<>	4	139	Qz	99.75			0.24																			100	115
4 141 Dol+Other 1.19 0.39 0.59 22.40 29.00 0.12 - - - - - - 34 33 33 - 61.70 - - 100 96 4 143 Dol 0.36 0.44 21.47 29.95 - 1.78 - - - - 54 55 4 144 Dol+Oz 2.10 1.25 0.42 21.48 28.48 0.25 - 1.78 - - - - 54 54 54 4 145 Anh - - 38.10 61.90 - - - 100	4	140	Anh	1.10		0.00	0.50		00.40	38.17		0.40		61.83												100	108
4 142 Ann - - - - - - - 100 96 4 143 Dol 0.36 0.44 21.47 29.95 1.78 - - - 54 55 4 144 Dol+Qz 2.10 1.25 0.42 21.48 28.48 0.25 - - - 54 54 54 4 146 Dol+other 6.22 2.94 0.57 17.43 24.15 0.98 1.72 - - - 54 61 4 148 Anh - - 38.14 61.70 - - - 100 127 4 149 Py-other 12.45 10.37 28.86 0.76 0.36 48.79 - - - <t< td=""><td>4</td><td>141</td><td>Dol+other</td><td>1.19</td><td></td><td>0.39</td><td>0.59</td><td></td><td>22.40</td><td>29.30</td><td></td><td>0.12</td><td></td><td>04 70</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>54</td><td>53</td></t<>	4	141	Dol+other	1.19		0.39	0.59		22.40	29.30		0.12		04 70												54	53
4 143 Dol 0.36 0.44 21.47 29.95 1.78 0 0 0 54 55 4 144 Dol+dz 2.10 1.25 0.42 21.48 28.48 0.25 0 0 0 0 0 100 109 4 145 Anh 0 0.42 21.48 28.48 0.25 0.78 0.78 0.78 0.70 100 100 109 4 146 Dol+other 6.22 2.94 0.57 17.43 24.15 0.98 1.72 0 0 0 0 0 0 0 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 111 4 151 Dol 0 0.29 22.72 61.75 0 0 0 0 100 135 100 135 100 135 100 135 100 135 100 135 100 135 <td>4</td> <td>142</td> <td>Ann</td> <td>0.00</td> <td></td> <td></td> <td>0.44</td> <td></td> <td>04.47</td> <td>38.31</td> <td></td> <td></td> <td></td> <td>61.70</td> <td></td> <td>100</td> <td>96</td>	4	142	Ann	0.00			0.44		04.47	38.31				61.70												100	96
4 144 DoHQZ 2.10 1.25 0.42 21.48 0.25 1 1 1 54 54 54 54 4 145 Anh 1 38.10 61.90 100 100 100 100 4 146 Dol+other 6.22 2.94 0.57 17.43 24.15 0.98 1.72 17.2 100 127 4 150 Qz 9.84 0.15	4	143	Dol	0.36		4.05	0.44		21.47	29.95		0.05		1.78												54	55
4 143 Anin - - - 38.10 0.190 - - - 100 109 4 146 Dolother 6.22 2.94 0.57 17.43 24.15 0.98 1.72 - - - 54 61 4 147 Anh - - 38.14 - 61.85 - - - 100 135 111 154 52.6 1.05 100 100	4	144	DOI+QZ	2.10		1.25	0.42		21.48	28.48		0.25		61.00												54	54
4 146 Dol+Other 6.22 2.94 0.57 1.43 24.15 0.98 1.12 0 0 0 54 61 4 147 Anh C 1 38.14 61.85 C 0 0 100 111 14 150 Qz 99.84 0.15 0.29 22.72 31.00 0 0 0 0 0 0 0 0 0 0 0 100 1100 135 4 152 Anh Q Q 22.72 31.00 Q 61.93 Q Q Q 0 0 0 0 0 0 0 0 0 0 0 0	4	145	Ann	0.00		0.04	0.57		47.40	38.10		0.00		61.90	4 70											100	109
4 147 Ann	4	146	Doi+otner	6.22		2.94	0.57		17.43	24.15		0.98		04.05	1.72											54	61
4 146 Ann - - - - 61.70 - - 100 136 4 153 Anh - - 38.07 - 61.93 - - - 100 136 100 136 100 136 100 136 100 136 100 137 14 156 F-Ap (diag)+other 10.97 1.63 0.71 39.91 1.15 0.48 52	4	147	Ann							38.14				61.85												100	108
4 149 Py+other 12.45 10.37 26.86 0.76 0.38 0.36 48.79 0 0 100 127 4 150 Qz 99.84 0.15 - - 61.75 0 0 0 100 111 4 151 Dol 0.29 22.72 31.00 - 61.75 0 0 0 0 100 136 4 152 Anh 0 0 22.72 31.00 - 61.75 0 0 0 0 100 136 4 153 Anh 0 0 38.07 61.93 0 0 0 0 100 135 4 155 Dol+other 4.45 1.80 0.76 1.54 52.65 1.05 0 0 0 0 100 135 4 155 Dol+other 4.45 1.80 0.71 39.91 1.15 0.48 35.43 2.00 7.77 0 0 0 0.00 100	4	148	Ann	40.45		40.07	00.00		0.70	38.30	0.00			61.70												100	107
4 150 0.22 99.84 0.13 0.13 0 0 0 0 0 0 0 100 100 100 14 4 151 Dol 0.29 22.72 31.00 0 61.75 0 0 0 100 136 4 153 Anh 0 0 38.07 0 61.93 0 0 0 100 135 4 154 Cal 0.76 1.54 52.65 1.05 0 0 0 56 59 4 155 Dol+other 4.45 1.80 0.95 0.99 18.73 26.17 0.70 0.23 0 0 0 0 100 137 4 155 Dol+other 16.28 4.88 23.57 0.38 0.27 0.66 0.81 52.76 0 0 0 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 <	4	149	Py+other	12.45		10.37	20.80		0.76	0.39	0.36			48.79												100	127
4 151 D01 0.29 22.72 31.00 0 0 0 34 49 4 152 Anh 0 38.07 61.75 0 0 100 136 4 153 Anh 0 0.76 154 52.65 1.05 0 0 0 0 156 4 155 Dol+other 4.45 1.80 0.95 0.99 18.73 26.17 0.70 0.23 0 0 0 0 56 59 4 155 Dol+other 4.45 1.80 0.95 0.99 18.73 26.17 0.70 0.23 0 7.77 0 0 0 0 100 137 4 155 Py+other 16.28 4.88 23.57 0.38 0.27 0.66 0.81 52.76 0 0 0 0 100 137 4 158 Mag 0.48 99.52	4	150		99.64			0.15		22.72	21.00																100	40
4 152 Ann - - - 61.73 - - 61.73 - - 61.73 - - 100 136 4 153 Anh - - 38.07 - 61.93 - - - 100 135 4 154 Cal - 0.76 1.54 52.65 - 1.05 - - - 56 59 4 155 Dol+other 4.45 1.80 0.95 0.99 18.73 26.17 0.70 0.23 - - - - - 54 72 4 156 F-Ap (diag)+other 10.97 1.63 0.71 39.91 1.15 0.48 35.43 2.00 7.77 - - - - 100 100 100 100 137 4 157 Py-tother 16.28 4.88 23.57 0.38 0.27 0.66 0.81 52.76 - - - - 0.40 0.00 100 100 <td>4</td> <td>151</td> <td>DOI</td> <td></td> <td></td> <td></td> <td>0.29</td> <td></td> <td>22.12</td> <td>31.00</td> <td></td> <td></td> <td></td> <td>C4 75</td> <td></td> <td>54</td> <td>49</td>	4	151	DOI				0.29		22.12	31.00				C4 75												54	49
4 153 Ann 6 38.07 61.93 61.93 6 6 60 56 59 4 154 Cal 0.76 1.54 52.65 1.05 61.93 6 6 56 59 4 155 Dol+other 4.45 1.80 0.95 0.99 18.73 26.17 0.70 0.23 6 6 6 6 56 59 4 156 F-Ap (diag)+other 10.97 1.63 0.71 39.91 1.15 0.48 35.43 2.00 7.77 6 6 6 100 137 4 157 Py-other 16.28 4.88 23.57 0.38 0.27 0.66 0.81 52.76 6 </td <td>4</td> <td>152</td> <td>Ann</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>30.27</td> <td></td> <td></td> <td></td> <td>01.75</td> <td></td> <td>100</td> <td>130</td>	4	152	Ann							30.27				01.75												100	130
4 154 Ucal 0.76 1.34 32.65 1.05 0.05 0.05 0.06 36 39 4 155 Dol+other 4.45 1.80 0.95 0.99 18.73 26.17 0.70 0.23 0.00 1.07 0.01 1.00	4	153	Ann				0.76		1 5 4	38.07				61.93												100	135
4 155 Dot+Onlinef 4.45 1.60 0.95 0.95 16.73 26.17 0.70 0.23 0 7.77 0 100 137 4 156 F-Ap (diag)+other 16.28 4.88 23.57 0.38 0.27 0.66 0.81 52.76 0 0 0.40 100 199 4 158 Mag 0.48 99.52 - - - 0 0 0 100 104 4 159 Anh+Dol 0.71 0.91 35.80 50.29 - 12.31 0 0 0 0 100 127 4 160 Anh+Dol 0.71 0.91 35.80 50.29 12.31 0 0 0 100 127 5 1 Anh 1.75 0.51 38.24 0.87 61.63 0 0 0 100 127 5 1 Anh 1.58 12.49 63.73 2.54 0.83 0.83 1.08 0 0 0 <t< td=""><td>4</td><td>104</td><td>Cal</td><td>4.45</td><td></td><td>1.00</td><td>0.76</td><td>0.00</td><td>1.04</td><td>52.05</td><td>0.70</td><td>0.00</td><td></td><td>1.05</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>50</td><td>29</td></t<>	4	104	Cal	4.45		1.00	0.76	0.00	1.04	52.05	0.70	0.00		1.05												50	29
4 156 P-Ap (diag)+0iner 10.97 1.68 0.71 1.83 0.46 35.43 2.00 7.77 1.66 0.81 100 137 4 157 Py+other 16.28 4.88 23.57 0.38 0.27 0.66 0.81 52.76 0 0 0.40 100 137 4 158 Mag 0.48 99.52 - - 0 0 100 104 100 104 4 159 Anh+Dol 0.71 0.91 35.80 50.29 12.31 0 0 0 100 127 4 160 Anh 1.75 0.51 37.11 0.57 60.08 0 0 0 100 127 5 1 Anh 0.15 38.24 61.63 0 0 0 100 141 5 2 Ilm+other 16.43 1.38 12.49 63.73 2.54 0.83 0.83 1.08 0 0 0 100 100 100 100 <td>4</td> <td>100</td> <td>Doi+other</td> <td>4.45</td> <td></td> <td>1.60</td> <td>0.95</td> <td>0.99</td> <td>10.73</td> <td>20.17</td> <td>0.70</td> <td>0.23</td> <td>25.42</td> <td>2.00</td> <td>7 77</td> <td></td> <td>54</td> <td>12</td>	4	100	Doi+other	4.45		1.60	0.95	0.99	10.73	20.17	0.70	0.23	25.42	2.00	7 77											54	12
4 157 Py-former 1626 4.86 23.37 0.38 0.27 0.66 0.81 52.76 0 0 100 190 190 4 158 Mag 0.48 99.52 - - - - - 0.00 100 100 100 104 4 159 Anh+Dol 0.71 0.91 35.80 50.29 12.31 - - 100 100 72 4 160 Anh 1.75 0.51 37.11 0.57 60.08 - - - 100 127 5 1 Anh 0.15 38.24 61.63 - - - 100 141 5 2 Ilm+other 16.43 1.58 12.49 63.73 2.54 0.83 0.83 1.08 - - - - 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100	4	100	F-Ap (diag)+other	10.97		1.03	0.71		0.20	39.91	1.15	0.40	35.43	2.00	1.11											100	100
4 150 Midg 0.46 99.52 100 127 5 1 Anh 0.15 38.24 61.63 0 0 0 100 141 5 2 Ilm+other 1643 1.58 12.49 63.73 2.54 0.83 0.83 1.08 0 0 0 100 <t< td=""><td>4</td><td>157</td><td>Py+otrier Mag</td><td>10.20</td><td>0.40</td><td>4.00</td><td>23.57</td><td></td><td>0.30</td><td>0.27</td><td>0.00</td><td>0.01</td><td></td><td>52.70</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.40 100</td><td>199</td></t<>	4	157	Py+otrier Mag	10.20	0.40	4.00	23.57		0.30	0.27	0.00	0.01		52.70												0.40 100	199
4 159 AIIII+DOI 0.71 0.91 35.80 50.29 12.51 0 1 100 72 4 160 Anh 1.75 0.51 37.11 0.57 60.08 0 0 100 127 5 1 Anh 0.15 38.24 61.63 0 0 100 141 5 2 Ilm+other 16.43 1.58 12.49 63.73 2.54 0.83 0.83 1.08 0 0 100 100 100 5 3 Sch(Caluather 0.90 0.41 1.31 1.48 0.16 0 0 100 100 100	4	100	iviag	0.74	0.46		99.52		25.00	50.00				10.01												100	70
4 100 Autri 1.75 0.51 37.11 0.57 00.00 0100 127 5 1 Anh 0.15 38.24 61.63 0 100 141 5 2 Ilm+other 16.43 1.58 12.49 63.73 2.54 0.83 0.83 1.08 0 100	4	159		0.71		0.51	0.91		35.60	27.14		0.57		12.31												100	127
5 1 Autin 0.15 30.24 01.05 100 141 5 2 Ilm+other 16.43 1.58 12.49 63.73 2.54 01.03 1.08 100 141 5 3 Sch(caluather) 0.90 0.41 1.14 8.016 2.18 2615 1.08 100 1	4	100	Ann	1.75		0.51	0.15			31.11		0.57		61.62												100	141
J Z IIIITVUIGI 10.05 1.00 12.49 05.73 2.34 0.03 0.03 1.00 100 100 100 100 100 100 70 5 3 Sdkr2alzohber 0.00 1.31 1.48 0.16 2.18 2615 5 5 79	5	2	Allin	16.42	1.52	12.40	63 72	-	2.54	0.82		0.82	1.02	01.03												100	141
	5	2	SdrCalrother	0.43	0.43	1 21	1/ 89	0.16	2.54	36 15	-	0.03	1.00					1		-						57	78

5 4 Anh	Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO Mg	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CuO	SrO	Y_2O_3	ZrO2	BaO	La_2O_3	Ce_2O_3	Pr_2O_3	Nd_2O_3	HfO_2	WO ₃ Tota	Actual Total
5 6 Dyrether 160 108 77.0 0.28 0.10 66.84 100 100 200	5	4	Anh				0.14		37.69				61.58			0.58									100	142
S 6 Detecher 0.74 0.83 0.24 0	5	5	Py+other	1.60		1.08	27.35		0.28		0.10		69.49												100	250
5 7 Dockorter 0.44 0.43 0.21 2.12 31.5 0.28	5	6	Dol+other	0.74			0.68	21.	9 30.34		0.24														54	68
5 8 Determine 2.83 0.15 0.28 0.27 28.0 0.07 0 16.4 0 <	5	7	Dol+other	0.44			0.29	22.	2 31.15																54	68
5 9 Decketter 0.89 0.91 1.15 26.2 0.07 1.6	5	8	Dol+other	2.83		1.55	0.36	20.	28.60		0.28														54	70
6 10 Anh -	5	9	Dol+other	0.85		0.38	0.29	21.	5 29.62		0.07			1.64											54	70
6 11 Ann - - - - - 6 6 6 -	5	10	Anh						38.24				61.78												100	138
5 12 Dadi - 0 2 - <td>5</td> <td>11</td> <td>Anh</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>38.37</td> <td></td> <td></td> <td></td> <td>61.63</td> <td></td> <td>100</td> <td>137</td>	5	11	Anh						38.37				61.63												100	137
5 3 Anh	5	12	Dol				0.34	22.	4 31.23																54	66
5 14 Dol 0.01 0.2 2 0.33 0 <t< td=""><td>5</td><td>13</td><td>Anh</td><td></td><td></td><td></td><td>1.17</td><td>0.5</td><td>36.84</td><td></td><td></td><td></td><td>61.50</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>100</td><td>134</td></t<>	5	13	Anh				1.17	0.5	36.84				61.50												100	134
6 Anh N	5	14	Dol	0.42			0.19	22.	7 30.93																54	65
6 Anh	5	15	Anh						38.07				61.93												100	132
5 17 F-Ap (siga)-other 4.24 1.80 2.4 1.80 2.4 1.80 4.40 4.168 7.14 7.14 7.14	5	16	Anh						38.23				61.78												100	130
6 18 F-Ap (abg)-other 4.8 3.80 5.42 1.26 40.73 27.4 61.8 7.3 4 6.68 6.78 6.68	5	17	F-Ap (diag)+other	2.42		1.80	2.64	0.6	5 44.20			41.68		6.53											0.09 100	132
6 19 Anh V V 7.74 2.47 3.36 V 6.8 0.69 0 0 0 100	5	18	F-Ap (diag)+other	4.54		3.80	5.42	1.2	6 40.73			37.14		7.13											100	128
6 20 Dol 0.17 22.47 31.36 0 0 0 0 0 0 54 63.20 5 22 Tur 40.51 0.44 30.80 7.01 4.17 0.42 1.04 1.04 2.273 0.16 0 0 0 0 1.13 5 23 Dol 1.56 0.59 0.49 2.24.2 2.70 0.16 0 0 0 0 1.00 127 5 24 Anh 0 2.80 0.77 11.41 26.14 0.61 1.33 0 0 0 0.4 4.47 0.62 1.33 0 0 0 0.64 61.85 0.7 0.61 0.62 1.33 0 0 0 0.64 0.7 0.62 2.52 0 0 0 0.64 0.7 0.62 2.52 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5	19	Anh						37.74				61.58			0.69									100	130
6 21 Anh 0.41 0.41 0.42 0.61 0.10 0.7 0.7 0.47 0.42 0.10 0.27 0.7 0.47 0.42 0.10 0.27 0.10 0.12 0.10 0.12 0.10 0.12 0.10 0.12 0.10 0.12 0.10 0.12 0.10 0.12 0.10 0.10 0.10 0.12 0.10	5	20	Dol				0.17	22.	7 31.36																54	63
6 22 Tur 40.51 0.44 30.86 7.01 4.77 0.42 1.61 5 5 5 5 23 Dol 1.66 5.54 62.00	5	21	Anh	0.41					38.28				61.30												100	127
6 23 Dol 1.56 0.69 0.49 21.42 29.79 0.16 0 0 0 0 100 127 6 25 Anh 0 0.8	5	22	Tur	40.51	0.44	30.86	7.01	4.1	7 0.42	1.61															85	113
6 24 Anh Anh<	5	23	Dol	1.56		0.59	0.49	21.	2 29.79		0.16														54	62
5 26 Anh m m 33.6 m 6135 m m m m 100 127 5 27 Dol-other 0.76 0.36 0.58 21.59 30.59 0.10 1.33 m m m m 5.44 61.45 61.25 m m m m 5.44 61.45 61.25 m m m m 5.44 61.45 61.25 m m m m 5.44 61.45 1.02 1.02 m m m 1.00 1.02 1.00 1.02 1.00 1.02 1.00 1.02 1.00 1.02 1.00 1.02 1.00 1.02 1.00 1.02 1.00 1.02 1.00 1.00 1.02 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	5	24	Anh						38.02				62.00												100	127
5 26 Dol+other 4.76 2.08 0.77 18.41 28.14 0.51 1.33 N N N N S 6 6 7 0.66 0.70 1.33 N N N S 5 6 7 0.62 0.70 1.00 100 <t< td=""><td>5</td><td>25</td><td>Anh</td><td></td><td></td><td></td><td></td><td></td><td>38.16</td><td></td><td></td><td></td><td>61.85</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>100</td><td>127</td></t<>	5	25	Anh						38.16				61.85												100	127
5 27 Dol-other 0.78 0.36 0.78 0.10 0.12 0.10 0.10 0.12 0.10 <th< td=""><td>5</td><td>26</td><td>Dol+other</td><td>4.76</td><td></td><td>2.08</td><td>0.77</td><td>18.</td><td>1 26.14</td><td></td><td>0.51</td><td></td><td></td><td>1.33</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>54</td><td>67</td></th<>	5	26	Dol+other	4.76		2.08	0.77	18.	1 26.14		0.51			1.33											54	67
	5	27	Dol+other	0.78		0.36	0.58	21.	9 30.59		0.10														54	61
5 29 Im+Q2 77.67 20.30 0.60 1.48 0.21 0 0 0 0 0 100 122 5 30 Cal+K6+storber 37.46 1.13 23.66 2.08 2.17 27.42 0.54 2.47 0.62 2.52 0 0 0 100 122 5 32 Im+other 1.44 66.81 7.65 7.90 2.59 0.58 0.58 0	5	28	(Alt IIm) Rt+Qz	1.58	89.81	0.91	7.09		0.62																100	106
5 30 Cal+Kis-Sd-other 37.46 1.13 23.66 2.08 2.17 27.42 0.54 2.47 0.62 2.56 0 0 0 98 5 31 Dol-other 14.46 66.81 7.65 7.90 2.59 0.18 2.05 0 0 0 64 64 5 32 Ilm-other 14.46 66.81 7.65 7.90 2.59 0.58 0 0 0 0 00 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 130 130 2.84 1.28 61.55 0 0 0 0 100 130 100 130 100 130 100 180 100 130 100 180 100 140 130 130 130 130 130 130 130 130 130 130 130 130 130 130 130 130 13	5	29	llm+Qz	77.67	20.03	0.60	1.48		0.21																100	122
5 31 Dol+other 152 0.52 0.36 20.81 28.54 0.18 2.05 0 0 0 54 64 64 5 32 IIm+other 14.46 66.81 7.65 7.90 2.59 0.58 0.58 0	5	30	Cal+Kfs+Sd+other	37.46	1.13	23.56	2.08	2.1	7 27.42	0.54	2.47		0.62	2.52											100	98
5 32 Ilm+other 14.46 66.81 7.65 7.90 2.59 0.58 0 0 0 100 130 5 35 Py+other 7.79 4.67 30.08 0.95 0.22 55.78 0 0 0 100 189 100 189 100 189 100 140	5	31	Dol+other	1.52		0.52	0.36	20.	1 28.54		0.18			2.05											54	64
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	5	32	llm+other	14.46	66.81	7.65	7.90	2.5	9		0.58														100	106
5 34 Anh 100 130 38.45 100 61.55 100 130 5 35 Py+other 1.88 0.43 31.60 2.99 63.10 100 130 5 36 Oz 99.26 0.24 0.50 100 130 5 37 Py+other 7.79 4.67 30.08 0.95 0.22 0.22 55.78 100 130 5 38 Anh 0.19 38.09 61.73 100 130 100 130 5 40 Tur 37.35 0.70 31.24 5.61 6.77 0.60 2.12 100 140 140 140 140 140 140 100 141 100 124 100 124 100 124 100 124 100 124 100 124 100 124 100 124 100 124 100 124 100 124	5	33	llm+other	56.65	23.19	13.08	2.84	1.2	3	1.01	1.95														100	130
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	5	34	Anh						38.45				61.55												100	130
5 36 Qz 99.26 0.0 0.24 0.50 0.21 0.00 0.01 0.01 0.01 100 130 5 37 Py+other 7.79 4.67 30.08 0.95 0.22 55.78 0.02 0.02 55.78 0.00 100 130 5 38 Anh 0.19 38.09 0.22 55.78 0.00 0.00 130 5 39 Anh 0.19 38.09 0.22 61.73 0.00 130 5 39 Anh 0.19 38.09 0.60 2.12 0.80 0.00 100 130 5 40 Tur 37.95 0.70 31.24 5.61 6.77 0.60 2.12 0.83 0.33 0.00 0.00 200 5 42 Oz+other 72.48 0.22 15.51 3.80 1.58 0.55 4.34 1.52 0.00 0.01 100 124 5 43 Anh 0.22 15.51 38.09 61.75 <	5	35	Pv+other	1.88		0.43	31.60		2.99				63.10												100	191
5 37 Py+other 7.79 4.67 30.08 0.95 0.22 0.22 55.78 100 188 5 38 Anh 0.19 38.09 61.73 100 139 5 39 Anh 38.24 61.73 100 141 5 40 Tur 37.95 0.70 31.24 5.61 6.77 0.60 2.12 8.33 8.65 121 5 41 Py+other 3.53 2.82 28.89 1.24 0.18 63.33 8.02 120 200 200 200 124 100 124 100 124 100 134 100 134 100 133 133 100 134 100 133 133 100 133 133 100 1	5	36	Qz	99.26			0.24		0.50																100	130
5 38 Anh 0.19 38.09 61.73 0 0 100 139 5 39 Anh 38.21 61.80 100 100 141 5 40 Tur 37.95 0.70 31.24 5.61 6.77 0.60 2.12 100 100 141 5 41 Py+other 3.53 2.82 28.99 1.24 0.18 63.33 1.52 100 100 120 5 42 Qz+other 72.48 0.22 15.51 3.80 1.58 0.55 4.34 1.52 100 100 134 5 43 Anh 100 38.24 61.78 100 134 100 134 5 44 Anh 100 38.24 61.73 100 134 100 134 5 46 Anh 100 38.28 61.73 100 134 100 134 5 46 Anh 100 138.26 61.73 100 132 100 <td>5</td> <td>37</td> <td>Pv+other</td> <td>7.79</td> <td></td> <td>4.67</td> <td>30.08</td> <td>0.9</td> <td>5 0.22</td> <td></td> <td>0.22</td> <td></td> <td>55.78</td> <td></td> <td>100</td> <td>188</td>	5	37	Pv+other	7.79		4.67	30.08	0.9	5 0.22		0.22		55.78												100	188
5 39 Anh 0 0.0 38.21 0 61.80 0 0 100 141 5 40 Tur 37.95 0.70 31.24 5.61 6.77 0.60 2.12 0 0 0 0 0 85 121 5 41 Py+other 3.53 2.82 28.89 1.24 0.18 63.33 0 0 0 0 0 0 0 200 200 5 42 O2+other 72.48 0.22 15.1 3.80 1.58 0.55 4.34 1.52 0 0 0 100 124 5 43 Anh 0 0 38.24 61.78 0 0 0 0 100 134 5 45 Anh 0 0 38.25 61.73 0 0 0 0 0 0 0 0 0 0 100 133 5 46 Anh 0 0 0.44 22.43 31.12	5	38	Anh				0.19		38.09				61.73												100	139
5 40 Tur 37.95 0.70 31.24 5.61 6.77 0.60 2.12 0.00 63.33 0 <th0< th=""> <th0< th=""> <th0< th=""> <!--</td--><td>5</td><td>39</td><td>Anh</td><td></td><td></td><td></td><td></td><td></td><td>38.21</td><td></td><td></td><td></td><td>61.80</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>100</td><td>141</td></th0<></th0<></th0<>	5	39	Anh						38.21				61.80												100	141
5 41 Py+other 3.53 2.82 28.89 1.24 0.18 63.33 0 0 0 100 200 5 42 Qz+other 72.48 0.22 15.51 3.80 1.58 0.55 4.34 1.52 0 0 0 0 100 124 5 43 Anh 0 38.24 61.78 0 0 0 0 0 100 134 5 44 Anh 0 38.25 61.75 0 0 0 0 100 134 5 45 Anh 0 38.28 61.73 0 0 0 100 133 5 46 Anh 0 0 38.28 61.73 0 0 0 0.01 131 5 48 Dol 0 0.44 22.43 31.12 0 0 0 0.78 0 0 0 100 132 5 49 Anh 0 0.44 22.43 31.	5	40	Tur	37.95	0.70	31.24	5.61	6.7	7 0.60	2.12															85	121
5 42 Oz+other 72.48 0.22 15.51 3.80 1.58 0.055 4.34 1.52 0 0 124 5 43 Anh 0 0 38.24 61.78 0 0 0 100 134 5 44 Anh 0 0 38.24 61.75 0 0 0 0 100 134 5 44 Anh 0 0 38.25 61.75 0 0 0 0 100 134 5 46 Anh 0 0 38.28 61.75 0 0 0 0 100 132 5 46 Anh 0 0 38.28 61.73 0 0 0 0 0 100 133 5 47 Anh 0 0 38.28 61.73 0 0 0 0 0 0 0 100 133 5 48 Dol 0 0.44 2.243 31.12 0	5	41	Pv+other	3.53		2.82	28.89	1.2	4 0.18				63.33												100	200
5 43 Anh Anh<	5	42	Qz+other	72.48	0.22	15.51	3.80	1.5	3	0.55	4.34		1.52												100	124
5 44 Anh anh<	5	43	Anh						38.24				61.78												100	134
5 45 Anh Anh<	5	44	Anh						38.25				61.75				1								100	134
5 46 Anh Image: constraint of the second seco	5	45	Anh						38.09				61.90												100	133
5 47 Anh 0 0 37.75 61.48 0.78 0 0 100 131 5 48 Dol 0.44 22.43 31.12 61.48 0.78 6<	5	46	Anh						38.28				61.73												100	132
5 48 Dol 0.44 22.43 31.12 0 0 0 0 0 0 0 5 63 5 49 Anh - 38.28 61.73 - - - 100 132 5 50 Dol 2.74 1.34 19.95 29.96 - - - - - 5 51 - 5 51 Zm 29.59 1.57 1.00 0.87 - 1.15 2.78 3.51 57.35 0.97 0.97 100 108 54 69 5 52 Dol+other 4.64 1.79 0.55 18.93 26.17 0.52 1.41 - - - 0 0 0.97 100 128 5 53 Anh - - 38.27 61.73 - - - 0 0 100 128 100 126 100 126 100 126 100 126 100 126 100 126 100 128	5	47	Anh						37.75				61.48			0.78									100	131
5 49 Anh Image: Constraint of the state of the	5	48	Dol				0.44	22.	3 31.12																54	63
5 50 Dol 2.74 1.34 19.95 29.96 A A C <thc< th=""> <thc< th=""> <thc< th=""></thc<></thc<></thc<>	5	49	Anh						38.28				61.73												100	132
5 51 Zm 29.59 1.57 1.00 0.87 1.15 2.78 3.51 57.35 0.97 100 108 5 52 Dol+other 4.64 1.79 0.55 18.93 26.17 0.52 1.41 0 0.97 100 108 5 53 Anh 0 0.33 13.36 24.00 61.73 0 0 100 126 5 54 Dol 0.33 13.36 24.00 16.31 0 0 54 91 5 55 Anh 0 38.21 61.80 0 0 132	5	50	Dol				2.74	1.34 19.	5 29.96																54	61
5 52 Dol+other 4.64 1.79 0.55 18.93 26.17 0.52 1.41 0.00 50.00 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 126 5 53 Anh 0.33 13.36 24.00 61.73 0.00 0.00 0.00 100 126 5 55 Anh 0.33 13.36 24.00 16.31 0 0 54 91 5 55 Anh 0 38.27 61.80 0 0 54 91	5	51	Zrn	29.59	1.57	1.00	0.87		1.15					2.78			3.51	57.35						0.97	100	108
5 53 Anh 0.03 13.6 24.0 61.73 0.00 100 126 5 54 Dol 0.33 13.36 24.0 16.31 0 100 126 5 55 Anh 0.33 13.36 24.0 16.31 0 100 126	5	52	Dol+other	4.64		1.79	0.55	18	3 26.17		0.52			1.41			0.01	500						0.07	54	69
5 54 Dol 0.33 13.36 24.00 16.31 54 56 40 56 91 5 55 Anh 38.21 61.80 100 132	5	53	Anh					.0.	38.27				61.73				1								100	126
5 55 Anh 38.21 61.80 100 132	5	54	Dol				0.33	13.	6 24.00				16.31												54	91
	5	55	Anh						38.21				61.80												100	132

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	CuO	SrO	Y_2O_3	ZrO2	BaO	La ₂ O ₃	Ce_2O_3	Pr_2O_3	Nd_2O_3	HfO_2	WO_3	Total	Actual Total
5	56	Dol+other	7.79	0.18	2.35	1.77	0.21	16.39	21.74		0.57			2.54											0.46	54	65
5	57	Sd+other	13.33	1.02	7.94	29.52		1.10	0.59	0.34	0.93		0.32												0.62	57	82
5	58	Anh				0.17			38.10				61.73													100	132
5	59	Dol				0.34		22.27	31.40																	54	60
5	60	Dol	0.55			0.51		22.51	30.43																	54	67
5	61	Qz	99.58			0.41																				100	138
5	62	Anh							38.04				61.45			0.52										100	134
5	63	Anh							38.23				61.78													100	136
5	64	Py+other	5.31		2.08	25.28	0.15			1.50	0.23		65.47													100	246
5	65	Ill+Chl	47.86	4.65	23.36	2.84		2.06		0.63	6.31		0.96	1.31												90	127
5	66	Qz	99.88			0.13																				100	139
5	67	Qz	95.69		2.46	0.78		0.36			0.72															100	140
5	68	Py+othet	1.52		0.74	26.50	0.35		0.14		0.29		70.47													100	241
5	69	Anh							38.31				61.70													100	135
5	70	Anh							38.20				61.80													100	130
5	71	Dol+other	3.04		0.52	0.70	0.15	20.08	29.26		0.25															54	68
5	72	Py+Cal	0.24			23.85		0.41	20.09				55.41													100	164
5	73	Anh+Py				17.07		0.61	42.03				40.28													100	125
5	74	Anh							38.21				61.78													100	136
5	75	Dol+other	9.61		3.73	1.18	0.14	14.87	19.63		1.05		0.36	2.88											0.55	54	76
5	76	Anh				0.17		0.90	38.70				60.23													100	127
5	77	Anh							38.28				61.73													100	129
5	78	Anh							38.37				61.65													100	128
5	79	Chl+Cal	22.55		15.96	36.12	0.57	6.99	2.81																	85	94
5	80	Qz	98.62		1.02	0.35																				100	123
5	81	Py+other	3.83		3.33	28.35		0.71	0.32				63.45													100	211
5	82	Kfs+Chl+Py	44.99	0.53	22.47	10.39		2.09	2.60	0.46	2.71		13.03												0.72	100	103
5	83	Qz	99.99																							100	128
5	84	Dol	0.42			0.63		22.57	30.40																	54	60
5	85	Anh							38.31				61.70													100	125
5	86	Anh							38.11				61.88													100	126
5	87	Anh							38.11				61.88													100	122
5	88	Anh	0.51			0.40		5.07	41.11				52.91													100	108
5	89	Anh							38.37				61.63													100	104
5	90	Dol+other	6.49		0.77	0.50		19.21	26.76		0.28															54	70
5	91	Anh	1.05		0.43	0.14		1.39	37.55				58.91			0.54										100	128
5	92	Dol+Py+other				0.16		22.07	30.06				0.63	1.07												54	65
5	93	Anh							38.06				61.95													100	127
5	94	Anh							37.85				61.60			0.56										100	128
5	95	Ру	0.79			34.37			0.24				64.60													100	195
5	96	Qz	99.71			0.30																				100	130
5	97	Anh							38.07				61.93													100	123
5	98	Py+Cal	0.36			28.11			1.69				69.84													100	218
5	99	Anh							37.82				61.73			0.46										100	123
5	100	Anh							38.27				61.73													100	125
5	101	Dol+other	11.19		4.77	1.38		14.42	18.94		1.04		0.41	1.85												54	73
5	102	Anh							38.28				61.73													100	122
5	103	Anh							38.34				61.68													100	121
5	104	Py+other	3.70		2.44	34.08			0.21				59.58													100	172
5	105	Py+other	0.92		0.53	28.78							69.79													100	214
5	106	Kfs+Chl	59.38	0.35	21.37	6.45		2.95	0.99	0.35	5.83			2.32												100	119
5	107	Anh				0.15			38.10				61.75													100	120

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CuO	SrO	Y_2O_3	ZrO2	BaO	La_2O_3	Ce ₂ O ₃	Pr_2O_3	Nd_2O_3	HfO_2	WO ₃	Total	Actual Total
5	108	Anh							38.00				62.00													100	121
5	109	Qz+Cal+other	41.61		6.84	3.38		1.11	41.86	0.55	1.70			2.94												100	84
5	110	Pv+other	22.65		3.87	24.21		0.98	1 12	0.27			46.89													100	181
5	111	Anh	22.00		0.01	2		0.00	38 42	0.21			61.58													100	126
5	112	Pv+other				27.23			1 25				71 52													100	234
5	112					2.55		0.78	51.64				1.04													56	60
5	114	Anh				0.40		0.70	39.27				61.33													100	101
5	114	Anh				0.40			38.30				61 43													100	111
5	115	AIIII	0.04			0.17			30.39				01.43													100	
5	116	Py	0.24			28.69			0.97				70.12													100	218
5	117	Ann	0.00			0.14		4.00	38.09				61.78													100	121
5	118	Ann	0.36					1.03	37.97				60.63													100	117
5	119	Ру	0.34			31.38			0.15				67.55													100	193
5	120	Py	0.45			31.30			2.73				65.02													100	183
5	121	Anh							38.31				61.70													100	120
5	122	Anh				0.17			38.00				61.85													100	122
5	123	Anh				0.18			38.24				61.60													100	116
5	124	Dol						19.13	34.56				0.31													54	57
5	125	Cal				1.68	0.21	0.77	52.94				0.40													56	55
5	126	Py	1.26			31.57			5.50				58.28	3.40												100	158
5	127	Anh							38.23				61.78													100	115
5	128	Qz	99.88						0.11																	100	123
5	129	Anh							38 32				61.68													100	118
5	130		2 10		1 36	16.81		1.06	1/ 01				33.76													100	97
5	131	Anh	2.10		1.50	10.01		1.00	38.23				61 78													100	118
5	122	Anh							20.23				61.00													100	117
5	132	Alli							30.10				61.90													100	110
5	133	Ann	0.00			00.40			30.14				01.00													100	110
5	134	Py	0.36			29.16			4.45				65.62													100	180
5	135	Ann							38.21				61.80													100	119
5	136	Anh							38.24				61.75													100	117
5	137	Py+Cal	0.24			27.31			6.34				66.12													100	186
5	138	Anh				0.18			38.04				61.78													100	118
5	139	Kfs+other	57.48	1.47	21.99	8.99		3.66		0.44	5.94															100	105
5	140	Kfs	66.08		17.72	0.15					16.02															100	117
5	141	Sd+other	8.04	0.74	5.83	38.90		0.99	0.49		0.26														0.76	57	67
5	142	Dol+other	0.91		0.63	0.75		22.04	29.56		0.10															54	56
5	143	Cal+other	2.03		1.50	3.20	0.49	0.81	47.89		0.09															56	60
5	144	Sd+other	2.27		1.25	42.57	0.59	5.17	3.86		0.29															57	61
5	145	Dol+other				1.91	3.95	20.43	27.70																	54	62
5	146	Anh							38.24				61.78													100	117
5	147	Anh							38.24				61 75													100	117
5	148	Dol				0.58		22 32	29.62				00	1 47												54	68
5	140	Anb				0.00		22.02	28.02				61.80	1.47												100	136
5	149	Kfor Chi	EE 09	0.69	21.20	9 0E		4 20	0.71	0.40	7 00		01.00												0.52	100	100
5	150	Anh	55.08	0.00	21.30	0.90		4.59	20.02	0.49	1.00		60.75	1 22											0.02	100	122
5	151	Ann	00.00			0.10			30.03				00.75	1.22												100	130
5	152	QZ	99.88		0.50	0.12		4.50	50.00	0.00			0.04													100	145
5	153	Cal	0.54		0.50	0.42		1.53	50.39	0.39			2.24													56	/1
5	154	Anh	-						38.42				61.58													100	139
5	155	Anh							38.30				61.70													100	136
5	156	Anh							38.18				61.83													100	141
5	157	Dol				3.97	0.15	17.91	31.11				0.86													54	71
5	158	Dol				0.41		22.01	30.25					1.34												54	67
5	159	Dol+other	3.68	-	2.73	1.75		19.22	26.41	-	0.20			-		1		-						-		54	74

Table 5-8: SEM analysis from sample I-100	0 13800 ft (4206.24 m)
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Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	CuO	SrO	Y ₂ O ₃ ZrO	2 BaO	La ₂ O ₃	Ce_2O_3	Pr_2O_3	Nd ₂ O ₃	HfO ₂	WO_3	Total	Actual Total
5	160	Kfs+Chl	40.71	0.30	22.60	29.61		3.93	0.80		2.06														100	98
5	161	Kfs	65.84		17.91					0.38	15.86														100	137
5	162	Anh							38.17				61.83												100	134
5	163	Anh							38.25				61.75												100	125
5	164	Anh				0.19			38.10				61.70												100	122
5	165	Anh				0.15			38.55				61.30												100	123
5	166	Anh							35.74				58.53	4.89		0.84									100	97
5	167	Anh							38 17				61.83												100	137
5	168	Anh							38.28				61 73												100	136
5	160	Anh				0.21			38.23				61 58												100	136
5	170	Anh				0.21			38 17				61.83												100	132
5	170	Anh							38.30				61 70												100	120
5	172	Anh							38.30				61.00												100	129
5	172	Anh	-						20.24				61.65					_							100	112
5	173	Ann	0.00		0.00			0.00	30.34				01.00												100	115
5	174	Alli	0.32		0.20	0.40		0.00	37.99		0.00		00.00	0.74											100	74
5	175	Ann+other	1.58		1.19	0.46		16.70	41.30		0.23		35.78	2.74											100	74
5	176	Qz	99.99						00.04				04.00												100	120
5	1//	Ann							38.04				61.98												100	130
5	178	Py+other	2.01		0.32	29.14			0.21				68.34												100	246
5	179	Cal+Qz	22.04		3.25	0.82		0.48	26.81	0.22	0.23		0.49	1.66											56	111
5	180	Cal+other	1.01		0.39	1.14	0.17	2.82	50.09				0.38												56	68
5	181	Anh							38.34				61.65												100	138
5	182	Bt	46.35	1.18	14.31	25.56					8.60														96	149
5	183	Sd+other	8.79	3.89	3.89	37.92			0.20		1.32														57	119
5	184	Anh				0.15			38.23				61.63												100	127
5	185	Anh							38.52				61.48												100	99
6	1	Py	0.19			26.86			5.48				67.47												100	221
6	2	Dol				0.58		22.54	29.91					0.99											54	69
6	3	Anh							38.23				61.78												100	139
6	4	Py+other	3.64		2.27	35.25		0.71	1.02				57.11												100	199
6	5	Anh							38.48				61.53												100	141
6	6	Qz	99.88			0.13																			100	145
6	7	Py+other	3.55		2.42	34.26		0.90	1.36				57.51												100	196
6	8	llm+other	14.67	68.29	6.07	8.50		2.27			0.19														100	122
6	9	Anh							38.20				61.80												100	141
6	10	Dol+other	2.05		0.97	1.39	0.60	20.72	28.00		0.26														54	71
6	11	Anh							38.28				61.73												100	135
6	12	07	99 99																						100	147
6	13	Anh	00.00						38 37				61.63												100	139
6	14	Anh							38.30				61 70												100	136
6	15	Pv+Cal	0.51			32 14		0.32	10.87				56.16												100	160
6	16	Anh	0.01			02.14		0.02	38.28				61 73												100	134
6	17	Alli	0.22			20.22	0.12		0.20				71 14												100	250
6	10	Fy	0.52		0.42	20.23	0.12		27.12		0.12		F0.65	1.26											100	121
6	10	Anh	0.90		0.42	0.35			20 20		0.13		59.05	1.30											100	141
0	19	Anh							20.30				61.70				<u> </u>								100	141
0	20	AIII	17.50	1.00	10.01	44.40		2.25	30.31		1.10		01.70				<u> </u>	+	+						100	141
0	21	Cal+Kis+other	17.52	1.33	12.21	41.10		2.35	23.41		1.12		0.60				<u> </u>		+						100	93
6	22	Py+otner	6.18		4.93	30.81		1.21	0.24				56.63				├ ──								100	205
6	23	Qz+other	90.10		0.64	4.16	0.4-	40.0-	0.14		0.05		4.94				├ ──	-							100	149
6	24	Dol+other	5.51		2.25	0.94	0.17	18.07	26.39		0.68						├ ──	-							54	73
6	25	Dol	0.42		I	0.22		22.07	31.30	L		I					├ ──		+	L	I				54	68
6	26	Py			1	27.83	1		0.17				71.99				1		1						100	260

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	CuO	SrO	Y ₂ O ₃ ZrO2	BaO	La_2O_3	Ce_2O_3	Pr_2O_3	Nd ₂ O ₃ HfO ₂	WO ₃	Total Actual Total
6	27	Cal+other	1.15		0.60	2.59		1.11	50.01				0.54											56 69
6	28	Dol				0.29		21.98	30.55					1.19										54 66
6	29	Anh							38.35				61.65											100 134
6	30	Dol				0.75		23.05	30.21															54 64
6	31	Anh	1.22		0.64			0.43	37.76		0.18		59.75											100 108
6	32	Dol	0.90			0.67	0.17	20.06	27.56				4.61											54 69
6	33	Anh							38.18				61.83											100 135
6	34	Anh							38.31				61.70											100 140
6	35	Kfs+Chl	46.31		9.30	0.72		13.80	18.40		10.25			1.22										100 108
6	36	Ilm+other	0.62	58.25	0.38	40.04	0.35		0.35															100 116
6	37	Chl+Pv	30.10		23.24	27.35	0.58	14.08	0.34				4.32											100 110
6	38	Chl	28.44		22.42	17.94	0.42	14.65	0.82				0.30											85 128
6	39	Dol+other	1.03		0.52	0.63		21.51	30.18		0.13													54 67
6	40	Anh							38.04				61.95											100 137
6	41	Anh							38.14				61.88											100 135
6	42	Dol+other	10.05		3 80	0.60		14 29	16 41		1.55			2 31									5.00	54 53
6	43	Anh	10.00		0.00	0.00			39.43				58.31	2.01									0.00	100 47
6	44	Anh				0.18			38.09				61 73											100 130
6	45	Anh				0.10			38.07				61.93											100 132
6	46	Anh							38.24				61 75											100 130
6	40	Dol	1 71		0.78	0.72		20.57	28.81		0.15		01.75	1 25										54 65
6	40	Anh	1.71		0.70	0.72		20.57	20.01		0.13		61.69	1.20										100 120
6	40	Anh							20.32				61 72											100 130
6	49 50	Anh							20.27				61 72											100 130
6	50	Anh							20.20				61.69											100 131
0	50	Alli	0.40			0.40		22.20	30.34				01.00											100 129 E4 62
0	52	DOI	0.49			0.49		22.30	30.07				61.60											34 03
0	53	Ann	24.94		04.74	20.20		2.62	30.41	0.20	0.21		01.00											100 127
0	54	Chi+Cai	34.04		24.74	20.39	0.05	2.62	1.79	0.30	0.31		0.07											60 90
6	55	Cal+Py	0.04			3.04	0.65	0.69	49.36				2.27											56 63
6	56	Py	0.21	0.70	40.00	28.80		1.01	0.24	0.04	0.07		70.74	1.00										100 235
6	57	Qz+other	78.36	0.72	12.02	2.39		1.21	0.32	0.31	3.07			1.62										100 133
6	58	Anh							38.37				61.63											100 126
6	59	Sd+other	0.79		0.45	40.95	0.59	7.08	6.15															57 69
6	60	Qz+other	92.37		2.17	4.81		0.36			0.28													100 134
6	61	Chl+other	32.88	0.23	16.67	27.45		3.81	2.18	0.39	1.42													85 107
6	62	Anh+Cal	0.60			29.77			7.18				62.45											100 185
6	63	Anh							38.37				61.65											100 112
6	64	Anh				0.36			38.17				61.48											100 124
6	65	Anh							38.44				61.58											100 129
6	66	Anh							38.03				61.98											100 128
6	67	Dol				0.72	0.17	22.18	29.79					1.14										54 63
6	68	Anh							38.23				61.78											100 128
6	69	Qz	99.99																					100 131
6	70	Anh	0.34						38.23				61.43											100 125
6	71	Anh							38.06				61.43			0.51								100 123
6	72	Anh							38.17				61.83											100 129
6	73	Py+other	45.31	0.82	25.32	10.81		1.97	0.46	0.30	3.69		9.91	1.43										100 128
6	74	Py+other	8.47		6.48	28.37		0.36	0.41				55.91											100 191
6	75	Anh	0.39		0.25	0.15		0.50	37.93				60.78											100 125
6	76	Dol				1.22		21.59	31.17															54 61
6	77	Anh							38.23				61.78											100 137
6	78	Anh							38.24				61.75											100 136

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CuO	SrO	Y_2O_3	ZrO2	BaO	La_2O_3	Ce ₂ O ₃	Pr_2O_3	Nd_2O_3	HfO_2	WO_3	Total	Actual Total
6	79	Anh							38.28				61.73													100	135
6	80	Anh							38.18				61.80													100	136
6	81	Dol+Anh	1.40		1.00	0.23		18.18	26.16		0.13		5.78	1.11												54	72
6	82	Anh							37.96				61.55			0.50										100	133
6	83	Sd+Dol+other	4.07		3.46	22.84	0.37	4.74	20.34		0.18															57	77
6	84	Sd+Cal+other	9.14		6.34	21.55	0.30	3.86	14.47		0.34															57	79
6	85	Anh				0.18			38.09				61.73													100	130
6	86	Qz+other	72.95	0.27	1.97	17.78	0.17	0.55	6.03		0.29															100	118
6	87	Sd+other	5.15	0.74	4.73	43.00	0.15	0.87	0.44		0.22	0.53														57	84
6	88	Dol+other	6.32		4.24	0.60		16.31	25.80		0.73															54	70
6	89	Py				27.72							72.29													100	240
6	90	Anh				0.23			38.02				61.75													100	129
6	91	IIm+Chl+Py	24.47	41.83	12.47	11.44		7.26			0.31		2.20													100	123
6	92	Sd+other	9.78	0.67	6.62	35.86		1.09	0.45		0.55														0.84	57	81
6	93	Qz+Cal+other	67.75		2.59	0.68		12.30	15.74		0.93															100	102
6	94	Qz+other	94.79		3.42	0.22					1.57															100	132
6	95	Sd+other	3.93	1.05	4.32	44.04		0.83	0.46		0.20	0.77														57	74
6	96	Pv+Chl+other	32.62		19.22	25.47		4.73	0.36		1.17		16.41													100	127
6	97	Pv+Cal+other	0.92			33.27		0.33	4.17				60.83													100	176
6	98	Anh							38.14				61.85													100	127
6	99	Anh							38.14				61.85													100	126
6	100	Dol+other	1 79		0.72	0.36		20.97	30.02		0.13															54	62
6	101	Anh			02	0.00		20.01	38 13		0.10		61 88													100	125
6	102	Anh				0.17			38.04				61 78													100	124
6	103	Chl+other	17 71	1 00	13 17	47.30		3.09	0.60		0.69	0.56	00												0.87	85	84
6	104	Oz+other	74 42	0.53	1.85	22 45		0.33	0.24		0.00	0.00													0.07	100	125
6	105	Dol+other	1.26	0.00	0.45	4 95		21 70	25.65		0.10															54	52
6	106	Anh			0.10			20	38.03				61.98													100	124
6	107	Anh							38 35				61.65													100	121
6	107	Dol	0.48			0.51		22.30	30.72				01.05													54	59
6	100	Anh	0.40			0.32		22.00	37 44				61 48			0.77										100	123
6	110	Anh				0.02			38 18				61.83			0.11										100	121
6	111	Anh							38 27				61 73													100	121
6	112	Anh							38.18				61.83													100	123
6	112	Anh							38 21				61 78													100	120
6	114	Anh							38 31				61.70													100	124
6	115	Dal				0.32		22.45	30.03				031													54	50
6	116	Anb				0.52		22.40	38.13				61.88													100	121
6	117	Anh							38.18				61.83													100	127
6	118	Sd+Oz	1 10			50.72	0.75		0.50				01.00												2.84	57	78
6	110	Sd+Q2	1.13			50.72	0.75		0.30																2.04	57	77
6	120	Anh	1.21			30.03	0.70		28 18				61.83												2.71	100	125
6	120		7.53		0.04	25.02		0.33	10.15				55 73													100	161
6	122		1.00		0.85	2 34		0.33	50.02				0.81													56	61
6	122	Dol	1.27		0.00	0.23		22.02	30.85				0.01													54	50
6	120	Py	1			27.75		22.32	0.12				72 12													100	230
6	124	Γy Δnh	1			21.13			38.22				61 78													100	120
6	120	Anh	1						39.25				61 6F													100	110
6	120	Ann	0.40						37.86				61.00													100	119
6	127	Ann	0.49						38.19				61.00													100	110
6	120		12 36		9.46	0.73		11 76	18.85		1.8/		01.03													85	9/
6	120	Anh	42.50		3.40	0.13		11.70	38.06		1.04		61.05													100	110
U	130	71111	1	1	1	1	1		30.00	1		1	01.90			1	1			1	1	1	1	1		100	115

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	CuO	SrO	Y_2O_3	ZrO2	BaO	La_2O_3	Ce_2O_3	Pr_2O_3	Nd_2O_3	HfO_2	WO ₃ To	tal 1	Actual Total
6	131	Anh							38.10				61.90												10	00	116
6	132	Anh							38.25				61.75												10	00	115
6	133	Anh							38.14				61.85												1(00	113
6	134	Anh							37.61				61.83			0.58									10	00	115
6	135	Anh							38.02				61.98												10	00	116
6	136	Anh							38.42				61.58												10	00	112
6	137	Dol+other	1.03		0.40	0.68	0.15	21.69	30.05																5	4	56
6	138	Dol+other	4.60		1.99	1.03	0.15	19.08	26.59		0.57														5	4	61
6	139	Chl	25.68		22.46	25.08	0.21	11.31	0.29																8	5	98
6	140	Dol+other	1.39		0.56	0.88		21.59	29.41		0.17														5	4	57
6	141	Anh				0.24			38.30				61.45												10	00	109
6	142	Kfs+Chl+other	40.84		24.36	23.57	0.23	3.80	2.64	0.50	1.93			2.13											10	00	109
6	143	Sd+other	2.89	0.18	2.00	44.31	1.33	3.56	1.72																5	7	66
6	144	Qz+other	91.24	0.40	4.91	1.43		0.28	0.29	0.26	1.20														10	00	117
6	145	Py+Cal				28.08			4.04				67.90												10	00	195
6	146	Dol+other	1.18		0.75	0.73		22.07	29.27																5	4	57
6	147	Anh							38.18				61.83												10	00	115
6	148	Brt+other	19.21		6.69	0.33					3.95		27.59			1.40			40.84						10	00	122
6	149	Kfs	65.99		17.97	0.18					15.84														10	00	114
6	150	Dol+other	7.28		3.38	1.33	0.49	16.99	23.53		1.00														5	4	77
6	151	Anh+other	2.37		0.53	0.49		13.50	43.46				39.65												10	00	98
6	152	Anh+Dol+other	0.68		0.28	0.24		10.88	38.31				49.62												10	00	126
6	153	Sd+other	3.86		2.07	37.97	0.36	6.28	5.26		0.19														5	7	77
6	154	Qz	99.64			0.36																			10	00	141
6	155	III+ChI	45.73	0.20	28.57	5.21		2.51	0.53	1.54	5.71														9	0	134
6	156	Py+Cal	0.26			30.59			4.91				64.25												10	00	182
6	157	Anh							38.31				61.70												10	00	130
6	158	Anh	0.68		0.45	0.53		0.90	38.51				58.93												10	00	109
6	159	Dol+other				0.98	0.29	18.53	28.70				5.50												5	4	64
6	160	Anh							38.32				61.68												10	00	129
6	161	Anh	1.16		0.91	0.18		0.99	38.94		0.14		57.66												10	00	98
6	162	Anh+other	2.22		0.62	0.40		9.75	39.43		0.24		44.27	3.04											10	00	72
6	163	Anh	0.47			0.27		1.24	38.73				59.31												10	00	116
6	164	Dol+Anh				3.42	0.60	17.90	24.21				7.87												5	4	78
6	165	Anh	1.93		1.02	0.27		2.49	37.27		0.30		56.73												1(00	115
6	166	Py+other	6.74		5.01	33.29		1.21	0.18				53.59												1(00	177
6	167	Anh							38.20				61.80												1()0	119

Appendix 6 Back-scattered images and EDS geochemical mineral analyses of sample Shelburne G-29 3635 (m)



6 F-Ap
7 Cal+Kfs
11 Qz
17 Chl+Fsp
20 F-Ap
21 Sd

Figure 6.1: Sample G-29 3635 (m) site 1 (SEM). (Table 6A)



6 Tur 8 Zrn 9 Ms 15 F-Ap (diag) 19 Ab+Mg-Cal 21 Ab 22 mix

Figure 6.2: Sample G-29 3635 (m) site 2 (SEM). (Table 6A)





Figure 6.3: Sample G-29 3635 (m) site 3 (SEM). (Table 6A)



- 1 Ilm+other 2 Ms 10 Cal+Chl
- 15 Qz

Figure 6.4: Sample G-29 3635 (m) site 4 (SEM). (Table 6A)



Figure 6.5: Sample G-29 3635 (m) site 5 (SEM). (Table 6A)



Figure 6.6: Sample G-29 3635 (m) site 6 (SEM). (Table 6A)



Figure 6.7: Sample G-29 3635 (m) site 7 (SEM). (Table 6A)



- 1 Chl 2 Ilm+other
- 3 (Alt IIm) Rt

Figure 6.8: Sample G-29 3635 (m) site 8 (SEM). (Table 6A)



Figure 6.9: Sample G-29 3635 (m) site 9 (SEM). (Table 6A)



3 (Alt IIm) Rt 15 Ab 21 IIm+Chl

Figure 6.10: Sample G-29 3635 (m) site 10 (SEM). (Table 6A)



2 Tur 16 TiO2 mineral

Figure 6.11: Sample G-29 3635 (m) site 11 (SEM). (Table 6A)



- 1 IIm+Chl 6 IIm+Kfs 8 Chl 10 Chl
- 12 F-Ap (diag)

Figure 6.12: Sample G-29 3635 (m) site 12 (SEM). (Table 6A)



1 IIm+Qz 14 Spl 15 Spl 17 (Alt IIm) Rt

Figure 6.13: Sample G-29 3635 (m) site 13 (SEM). (Table 6A)



2 TiO2 mineral4 (Alt Ilm) Rt10 (Alt Ilm) Rt11 Qz

Figure 6.14: Sample G-29 3635 (m) site 14 (SEM). (Table 6A)



1 TiO2 mineral 2 TiO2 mineral

Figure 6.15: Sample G-29 3635 (m) site 15 (SEM). (Table 6A)



TiO2 mineral
 Spl

Figure 6.16: Sample G-29 3635 (m) site 16 (SEM). (Table 6.A)



- 1 TiO2 mineral
- 2 F-Ap (diag)+Sd+Chl
- 5 (Alt IIm) Rt+Qz

Figure 6.17: Sample G-29 3635 (m) site 17 (SEM). (Table 6A)



5 Tur

1

6 (Alt IIm) Rt 7 (Alt IIm) Rt

llm+Qz

- 8 TiO2 mineral
- 9 (Alt IIm) Rt
- 10 Qz
- 12 Spl
- 16 Ilm+Kfs

Figure 6.18: Sample G-29 3635 (m) site 18 (SEM). (Table 6A)



- 1 (Alt IIm) Rt 2 Zrn
- 3 Tur

Figure 6.20: Sample G-29 3635 (m) site 20 (SEM). (Table 6A)

Figure 6.19: Sample G-29 3635 (m) site 19 (SEM). (Table 6A)



- 1 (Alt Ilm) Rt
- 2 Ilm
- 4 Chl
- 5 Chl
- 12 Ilm+Qz



Figure 6.21: Sample G-29 3635 (m) site 21 (SEM). (Table 6A)



1 (Alt IIm) Rt 2 IIm 7 IIm+Qz 15 Chl

Figure 6.22: Sample G-29 3635 (m) site 22 (SEM). (Table 6A)



1 Tur

2 Ms

3 F-Ap (diag)

4 Tur

Figure 6.24: Sample G-29 3635 (m) site 24 (SEM). (Table 6A)

Figure 6.23: Sample G-29 3635 (m) site 23 (SEM). (Table 6A)



- 1 (Alt IIm) Rt
- 8 Tur
- 9 (Alt IIm) Rt
- 13 F-Ap (diag)



1 (Alt IIm) Rt 2 F-Ap

llm+Kfs

Figure 6.25: Sample G-29 3635 (m) site 25 (SEM). (Table 6A)



Figure 6.26: Sample G-29 3635 (m) site 26 (SEM). (Table 6A)



Figure 6.27: Sample G-29 3635 (m) site 27 (SEM). (Table 6A)



- 1 IIm+Kfs 5 (Alt IIm) Rt+Qz
- 6 Ilm+Kfs

Figure 6.28: Sample G-29 3635 (m) site 28 (SEM). (Table 6A)



Figure 6.29: Sample G-29 3635 (m) site 29 (SEM). (Table 6A)



1 Rt 2 IIm+Kfs

- 3 (Alt IIm) Rt
- 4 (Alt IIm) Rt
- 6 (Alt IIm) Rt

Figure 6.30: Sample G-29 3635 (m) site 30 (SEM). (Table 6A)



Figure 6.31: Sample G-29 3635 (m) site 31 (SEM). (Table 6B) see location in Fig.6.1



Figure 6.32: Sample G-29 3635 (m) site 32 (SEM). (Table 6B) see location in Fig.6.1

- 1 Sd+Qz
- 2 Qz

3 Chl

4 Sd+other



Figure 6.33: Sample G-29 3635 (m) site 33 (SEM). (Table 6B) see location in Fig.6.1



Figure 6.34: Sample G-29 3635 (m) site 34 (SEM). (Table 6B) see location in Fig.6.2

- 1 F-Ap (diag)+Py
- 2 F-Ap (diag)+Py


1 IIm+Qz 2 IIm+Chl 3 IIm

Figure 6.35: Sample G-29 3635 (m) site 35 (SEM). (Table 6B) see location in Fig.6.2



Figure 6.36: Sample G-29 3635 (m) site 36 (SEM). (Table 6B) see location in Fig.6.6



Figure 6.37: Sample G-29 3635 (m) site 37 (SEM). (Table 6B) see location in Fig.6.8



1 Sd+Qz

- 2 Sd+Qz+other
- 3 Sd+Qz+other

Figure 6.38: Sample G-29 3635 (m) site 38 (SEM). (Table B) see location in Fig.6.8



- 1 Sd
- 2 Brt
- 3 Sd+Qz+Py+other
- 4 Brt
- 5 Brt+other

Figure 6.39: Sample G-29 3635 (m) site 39 (SEM). (Table 6B) see location in Fig.6.20



Figure 6.40: Sample G-29 3635 (m) site 40 (SEM). see location in Fig.6.18 $\,$



Figure 6.41: Sample G-29 3635 (m) site 41 (SEM). (Table 6B) see location in Fig.6.2



Figure 6.42: Sample G-29 3635 (m) site 42 (SEM). (Table 6B) see location in Fig.6.2



Figure 6.43: Sample G-29 3635 (m) site 43 (SEM). (Table 6B) see location in Fig.6.8



Figure 6.44: Sample G-29 3635 (m) site 44 (SEM). (Table 6B) see location in Fig.6.18



Qz+other 2 TiO2+Qz 3 TiO2+Qz 4 Kfs+Chl+other 5 Kfs+Chl+other 6 TiO2+Qz

Kfs+Chl+TiO2 8 Kfs+Chl+TiO3

Figure 6.45: Sample G-29 3635 (m) site 45 (SEM). (Table 6B) see location in Fig.6.1



2 Sd+Qz+other

- 3 Qz+Sd+Cal
- 4 Sd+Qz
- 5 Qz+Sd+Cal+other
- 6 Sd+Qz+other
- 7 Sd+Qz+other

Figure 6.46: Sample G-29 3635 (m) site 46 (SEM). (Table 6B) see location in Fig.6.2



1 Sd+Qz 2 Sd+Qz

3 Sd+Qz

4 Sd+Qz

Figure 6.47: Sample G-29 3635 (m) site 47 (SEM). (Table 6B) see location in Fig.6.2



Figure 6.48: Sample G-29 3635 (m) site 48 (SEM). (Table 6B) see location in Fig.6.5



- 1 Mag
- 2 Mag
- 3 Sd+Qz+other
- 4 Sd+Qz+other
- 5 Sd+other
- 6 Sd+other
- 7 Brt (cont)
- 8 Brt (cont)

Figure 6.49: Sample G-29 3635 (m) site 49 (SEM). (Table 6B) see location in Fig.6.7



- 1 Ilm+other 2 Sd+Qz
- 3 Sd+other
- 4 Ms+other
- 5 Sd+other
- 6 Ilm+other
- 7 Sd+other

Figure 6.50: Sample G-29 3635 (m) site 50 (SEM). (Table 6B) see location in Fig.6.9



Figure 6.51: Sample G-29 3635 (m) site 51 (SEM). (Table 6B) see location in Fig.6.14



1 Sd+Qz 2 Mag

- 3 Mag
- 4 Qz
- 5 Sd+Qz

Figure 6.52: Sample G-29 3635 (m) site 52 (SEM). (Table 6B) see location in Fig.6.14



Figure 6.53: Sample G-29 3635 (m) site 53 (SEM). (Table 6B) see location in Fig.6.14

Table 6A: SEM analyses from sample G-29 3635 n	Table 6A:
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Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Sc_2O_3	Cr_2O_3	ZnO	ZrO ₂	Ce_2O_3	Nd_2O_3	HfO ₂	WO_3	Total	Actual Total
1	6	F-Ap	2.29		1.68	0.41			45.59	0.70	0.40	39.34	0.87	8.73									100	112
1	7	Cal+Kfs	42.66	0.43	18.71	9.73	0.62	1.54	22.65	0.69	1.88											1.11	100	91
1	11	Qz	87.39	7.99	0.89	0.64		0.30		0.26	0.22		1.05	1.26									100	111
1	17	Chl+Fsp	28.90		15.78	42.26	0.77	4.00	3.32	1.01	1.16	1.92										0.87	100	66
1	20	F-Ap	0.66			0.71			44.79	0.85		37.72	1.42	12.72					0.76				100	99
1	21	Sd	1.96		0.99	43.53	0.77	4.73	4.49			0.50											57	67
2	4	Rt		99.52		0.48																	100	106
2	6	Tur	41.54	0.32	26.19	11.10		1.54	2.61	0.39	1.24												85	81
2	8	Zrn	32.61		0.35	0.68			0.20						0.23			65.04			1.04		100	157
2	9	Ms	42.03	0.32	31.43	10.13	0.19	0.63	0.68	1.37	6.17												93	103
2	15	F-Ap (diag)				5.04			43.52	0.88		37.79	2.62	9.07					0.71			0.23	100	109
2	19	Ab+Mg-Cal	70.61		1.32	0.49		5.17	5.58	15.53	0.49		0.82										100	159
2	21	Ab	66.38		20.12	0.69			1.82	10.75	0.23												100	116
2	22	mix	12.21		7.14	66.83	0.96	5.47	5.36	0.86	0.40	0.78											100	71
3	1	Glt	49.82		9.19	21.06		3.38			6.52												90	90
3	6	(Alt IIm) Rt	0.73	93.88	1.87	2.71			0.29							0.53							100	95
3	11	Ank+Chl	16.15		3.76	53.92	0.81	7.13	17.22		1.02												100	67
4	1	llm+other	5.41	87.31	3.14	3.25			0.71		0.18												100	84
4	2	Ms	47.67	0.26	27.18	5.31		1.83		0.24	10.50												93	112
4	10	Cal+Chl	2.67		1.68	2.38	0.30	0.48	48.32		0.16												56	58
4	15	Qz	98.55		0.77	0.45		0.22															100	110
5	1	Qz+Rt	52.92	45.72	0.55	0.80																	100	120
5	4	(Alt IIm) Rt	2.22	94.20	0.91	2.37			0.31														100	113
5	8	Kfs	65.99		17.71	0.30				0.57	15.42												100	116
5	9	Kfs	59.00		12.57	16.81		3.57		0.47	7.59												100	96
6	1	llm+Chl	4.45	77.33	2.78	14.40		0.56	0.27		0.20												100	103
6	2	Chl	32.78	2.48	18.90	21.96		7.24	0.35	0.42	0.73												85	81
6	4	Sd+Chl	24.02	0.62	11.81	52.23	0.94	4.76	3.65	0.55	1.40												100	74
6	10	F-Ap	2.33		1.85	0.57			45.19	0.78	0.20	38.73	0.97	9.16								0.20	100	106
6	11	TiO2 mineral		99.32		0.49			0.20														100	97
6	13	Rt		99.03		0.98																	100	96
6	17	Alt IIm	1.52	84.47	1.72	11.35			0.95														100	85
6	20	F-Ap				0.37			47.06	0.85		39.83	1.00	10.01								0.90	100	103
6	21	Tur	38.02		32.81	9.12		3.03	0.21	2.07													85	94
6	22	F-Ap	2.85		2.55	0.45			45.12	0.59	0.40	38.84	0.77	8.44									100	104
7	1	Tur	36.55	0.83	31.81	5.77		6.74	1.21	2.06													85	109
7	2	Tur	36.67	0.80	29.73	10.22	0.27	4.34	0.74	2.20													85	107
7	8	Crn (cont)	0.28		98.45	0.18		0.99															100	337
7	9	F-Ap				0.53			45.38	0.94		39.92	1.12	11.14					0.69			0.26	100	96
7	16	Qz	82.62		9.54	5.65		1.34			0.60												100	52
8	1	Chl	28.50	0.22	18.18	30.30	0.15	2.28	1.84	0.26	0.74	2.27					0.11						85	104
8	2	llm+other	3.47	85.09	2.74	7.67			1.05														100	90

Table 6A: SEM analyses from sample G-29 3635 m	I able 6A:	-29 3635 m	sample	yses from	SEM anal	I able 6A:
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Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Sc_2O_3	Cr_2O_3	ZnO	ZrO_2	Ce_2O_3	Nd_2O_3	HfO ₂	WO ₃	Total	Actual Total
8	3	(Alt IIm) Rt		99.43		0.57																	100	107
9	1	(Alt IIm) Rt	1.39	94.25	2.12	1.74			0.50														100	86
9	16	Chl	27.18		22.21	22.74	0.23	12.31			0.28												85	102
9	18	Tur	37.71	0.35	33.02	4.93		6.44	0.80	1.75													85	107
9	19	(Alt IIm) Rt	0.68	97.95	0.30	1.05																	100	114
9	20	(Alt IIm) Rt	2.16	91.09	3.17	2.41			0.60		0.22					0.37							100	99
9	22	Rt		99.60		0.41																	100	103
9	24	Zrn	31.62			0.64												66.50			1.24		100	120
9	25	TiO2 mineral		99.12		0.69			0.20														100	98
10	3	(Alt IIm) Rt	1.24	93.19	2.27	2.68			0.62														100	83
10	15	Ab	72.99		1.11	0.23		4.36	7.51	12.86	0.60		0.35										100	117
10	21	llm+Chl	4.77	84.50	2.91	6.74		0.32	0.48		0.28												100	107
11	2	Tur	36.67	0.45	33.26	10.84		1.36		2.00													85	90
11	16	TiO2 mineral		99.62		0.37																	100	113
12	1	llm+Chl	17.43	61.60	7.73	9.93		2.52	0.28		0.52												100	91
12	6	llm+Kfs	10.93	77.30	5.37	4.04		0.88	0.39		1.08												100	84
12	8	Chl	25.07		24.44	26.10	0.19	9.18															85	87
12	10	Chl	24.98		23.83	27.20	0.21	8.76															85	89
12	12	F-Ap (diag)	3.81		2.44	0.94			43.96	0.66	0.33	38.63	0.87	8.37									100	107
13	1	llm+Qz	27.57	55.56		16.88																	100	109
13	14	Spl			41.36	14.87		13.86								29.38	0.26						100	104
13	15	Spl	8.56	0.32	6.46	41.30	3.52	4.78	0.25		0.36					32.32	1.57						100	92
13	17	(Alt IIm) Rt	0.45	98.90		0.67																	100	109
14	2	TiO2 mineral		99.12		0.87																	100	121
14	4	(Alt IIm) Rt	1.54	96.75	0.55	0.78			0.39														100	113
14	10	(Alt IIm) Rt	0.62	94.95	0.91	1.17			0.27			0.41		1.42		0.26							100	110
14	11	Qz	91.04		7.27	1.21		0.27			0.20												100	110
15	1	TiO2 mineral		99.55		0.45																	100	119
15	2	TiO2 mineral	1.54	87.96	2.31	6.11			0.43							0.99						0.67	100	110
16	1	TiO2 mineral	0.49	98.07		1.45																	100	122
16	6	Spl			5.82	17.87	0.79	10.94								63.95	0.34						100	106
17	1	TiO2 mineral		99.53		0.46																	100	105
17	2	F-Ap (diag)+Sd+Chl	8.92		3.63	27.04	1.02	1.76	28.12	1.04	0.18	23.33	0.47	3.63								0.86	100	105
17	5	(Alt IIm) Rt+Qz	1.20	97.63	0.64	0.51																	100	114
18	1	llm+Qz	3.23	68.82	0.85	26.03	0.83		0.25														100	89
18	5	Tur	36.29	1.81	24.68	12.57		5.76	2.26	1.58													85	98
18	6	(Alt IIm) Rt	0.66	98.42		0.55										0.35							100	102
18	7	(Alt IIm) Rt	1.01	95.81	1.04	1.83			0.32														100	91
18	8	TiO2 mineral	0.41	99.03		0.58																	100	113
18	9	(Alt IIm) Rt	1.01	88.82	1.64	7.64	0.25		0.29							0.35							100	98
18	10	Qz	86.64	0.30	5.95	6.30		0.51			0.28												100	124
18	12	Spl	4.02	0.23	21.86	15.45		6.45	0.18		0.39					49.07	2.35						100	111

Table 6A:	SEM analy	vses from sa	ample G-29	3635 m
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Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Sc_2O_3	Cr_2O_3	ZnO	ZrO ₂	Ce_2O_3	Nd_2O_3	HfO ₂	WO_3	Total	Actual Total
18	16	llm+Kfs	13.54	73.11	4.78	6.23		0.66	0.25		1.42												100	103
19	1	(Alt Ilm) Rt	13.46	86.09		0.46																	100	101
19	2	Zrn	31.45			0.31												66.99			1.26		100	120
19	3	Tur	37.17	0.83	33.07	7.22		4.36	0.44	1.87													85	100
20	1	(Alt Ilm) Rt	2.42	94.80	1.21	1.29					0.29												100	95
20	2	llm	0.68	84.95	0.91	11.31	0.19	1.67	0.27														100	89
20	4	Chl	29.73	0.39	18.53	28.93	0.21	5.82	0.52	0.73	0.13												85	100
20	5	Chl	24.56	0.35	17.56	32.94	0.64	6.16	1.24	0.59	0.90												85	104
20	12	llm+Qz	9.84	80.07	5.39	2.82		0.71	0.18		0.73					0.29							100	116
21	1	llm+Qz	46.46	53.21		0.33																	100	125
21	2	llm+Qz	27.66	67.76	2.10	1.74			0.35		0.40												100	114
22	1	(Alt Ilm) Rt	2.10	94.98	1.27	0.94		0.56			0.17												100	121
22	2	llm	1.99	85.14	4.69	7.26			0.41							0.53							100	108
22	7	llm+Qz	10.12	83.90	5.59	0.39																	100	119
22	15	Chl	30.11		22.60	27.97		3.85	0.24		0.20												85	61
23	1	Tur	32.10		18.64	28.63		2.24	0.24	2.34	0.78												85	110
23	2	Ms	47.36	0.85	28.97	3.70		1.00	0.91	1.18	9.08												93	53
23	3	F-Ap (diag)				0.85			45.14	1.00		38.24	2.07	11.35					0.59			0.62	100	115
23	4	Tur	36.42	1.19	31.70	6.37		6.20	1.82	1.27													85	95
24	1	(Alt IIm) Rt	1.30	93.04	1.59	2.29			0.76			0.60				0.41							100	92
24	8	Tur	37.23	0.73	31.94	7.19		5.28	0.62	1.96													85	98
24	9	(Alt IIm) Rt		99.38		0.41			0.21														100	112
24	13	F-Ap (diag)	2.89		0.93	0.40			46.17	0.46	0.17	40.01	0.55	8.41									100	127
25	1	(Alt Ilm) Rt		99.25		0.58			0.18														100	95
25	2	F-Ap				0.94			45.25	0.90		39.87	0.77	10.82						0.56		0.87	100	86
26	1	llm+Kfs	19.15	63.27	12.74	0.96		0.58			3.32												100	107
26	2	Chl	27.11	0.53	17.29	29.55	0.21	6.49	0.70	0.45	1.57						0.22					0.64	85	86
26	3	llm+Kfs	12.11	73.18	4.18	5.83		0.98	0.91	0.35	1.02	1.44											100	98
26	6	llm+Qz	38.98	58.02	1.21	1.39			0.18		0.24												100	108
27	1	llm+Kfs	12.73	76.05	5.73	2.87		0.43	0.36		1.84												100	109
27	2	llm+Qz	11.94	81.07	2.38	4.16			0.20		0.28												100	73
27	4	Chl+other	30.16	0.38	18.68	24.49	0.15	5.45	2.53	0.34	0.70	2.08											85	86
27	5	Tur	37.40	1.59	26.82	0.42		12.78	2.03	1.80				2.12									85	109
28	1	llm+Kfs	9.78	77.16	4.69	4.34		0.73	0.31		0.94			2.05									100	115
28	5	(Alt IIm) Rt+Qz	43.28	51.53	2.66	0.96					1.34					0.22							100	86
28	6	Ilm+Kfs	32.39	37.50	20.82	4.64		0.70	0.45	0.32	1.48			1.71									100	98
29	1	(Alt IIm) Rt		98.12		1.54			0.35														100	111
29	2	(Alt IIm) Rt	0.36	95.76		3.64			0.22								l						100	92
30	1	Rt	7.81	90.03	0.77	0.99			0.18		0.20												100	106
30	2	llm+Kfs	6.70	74.28	2.99	14.46	0.22		0.24		1.08												100	105
30	3	(Alt IIm) Rt	1.90	87.86	2.46	6.77			0.42							0.57							100	95
30	4	(Alt IIm) Rt	4.83	90.63	2.78	1.17					0.60												100	104

Table 6A: SEM analyses from sample G-29 3635 m

Sito	Position	Minoral	SiO.	TiO.		E ₀ O	MnO	MaO	C20	Na-O	K-0	P.O.	SO.	F	Sc. 0.	Cr.O.	ZnO	ZrO.	Ce.O.	Nd.O.	HfO.	WO.	Total	Actual
OILE	FUSILION	winteral	0102	1102	7.1203	160	WINO	ivigO	CaO	11020	120	1 205	003	1	00203	01203	2110	2102	00203	110203	1102	110 3	TUlai	Total
30	6	(Alt IIm) Rt	0.77	96.01	1.28	1.31			0.63														100	99

Table 6B: SEM analyses from sample G-29 3636 m

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	Cr_2O_3	NiO	ZnO	SrO	BaO	Ce ₂ O ₃	WO_3	B_2O_3	Total	Actual Total
31	1	Sd+Qz	1.32		0.71	45.42	1.03	4.81	3.69														57	58
31	2	Qz	99.26			0.73																	100	119
31	3	Chl	30.20		20.15	28.27	0.31	3.14	1.24	0.42	0.48	0.75											85	75
31	4	Sd+other	2.21		1.48	45.28	1.04	3.15	3.81														57	57
32	1	Sd	0.52			53.28	1.24		0.42												1.51		57	66
32	2	Sd	0.53			55.01	0.72		0.21				0.51										57	77
32	3	Sd				55.79	0.84		0.35														57	69
33	1	Qz	92.18		2.70	1.05			3.68		0.37												100	113
33	2	Chl+Cal+Kfs	46.70	0.42	16.02	5.97	0.32	1.13	26.44	0.42	1.78										0.82		100	80
33	3	Chl+Cal+Kfs	50.57	0.35	19.99	11.78		1.89	9.63	0.46	4.61										0.72		100	81
33	4	Cal+Chl	2.04		0.97	2.00	1.02	0.45	49.53														56	55
33	5	Qz	92.24		1.27	4.75	0.23		1.33		0.17												100	115
34	1	F-Ap (diag)+Py				1.93			42.48	1.02		37.08	3.72 2	12.68						0.64	0.28		100	108
34	2	F-Ap (diag)+Py				0.58			43.43	0.85		39.23	1.25	13.55						0.64	0.30		100	112
35	1	Sd+Qz	0.71			55.44	0.83																57	74
35	2	Sd+Qz	2.34		0.53	51.52	0.53	0.56	0.57						0.26						0.66		57	72
35	3	Sd+Qz	2.59			52.45	0.76		0.45						0.46								57	69
35	4	Sd+Qz	1.62		0.39	53.81	0.91		0.28														57	70
36	1	llm+Qz	3.64	84.90	1.80	8.85			0.53		0.28												100	82
36	2	llm+Chl	20.56	50.89	14.04	10.14		2.32	0.77	0.85	0.43												100	102
36	3	llm	2.31	83.25	1.85	11.27	0.23		1.11														100	86
37	1	llm	1.93	78.68	1.63	17.07	0.22		0.48														100	91
37	2	llm	3.29	85.75	2.34	7.65			0.95														100	63
38	1	Sd+Qz	1.14			54.03	0.96								0.49	0.37							57	84
38	2	Sd+Qz+other	0.77			53.37	0.94	0.60	0.24	0.40						0.66							57	75
38	3	Sd+Qz+other	1.58			51.06	1.54	0.46	0.32		0.13				0.45	0.96					0.51		57	73
39	1	Sd				56.36													0.63				57	82
39	2	Brt				1.58							38.28					1.88	58.26				100	106
39	3	Sd+Qz+Py+other	7.38		1.01	41.46	0.22	0.56	0.87	0.37	0.20		1.42				0.51		2.55				57	75
39	4	Brt	0.39			0.60							20.25					0.43	34.04			44.32	100	177
39	5	Brt+other	6.78		2.25	26.41		0.71	0.57	0.77			19.68						42.11				100	58
45	1	Qz+other	92.70		5.10	0.81		0.33		0.33	0.72												100	181
45	2	TiO2+Qz	52.23	38.34	4.24	2.45		0.67	0.23		1.84												100	156
45	3	TiO2+Qz	34.92	56.00	3.88	2.67		0.64	0.33		0.97	0.59											100	223
45	4	Kfs+Chl+other	50.24	1.71	28.27	5.40		3.77			10.61												100	171
45	5	Kfs+Chl+other	49.74	7.77	25.75	4.51		3.52			8.70												100	164
45	6	TiO2+Qz	54.88	36.76	3.73	2.14		0.45	0.29		1.75												100	153
45	7	Kfs+Chl+TiO2	55.21	24.23	10.83	3.65		1.36			4.72												100	161
45	8	Kfs+Chl+TiO3	50.80	41.93	3.00	2.35		0.49			1.43												100	160
46	1	Sd+Chl	10.02		7.40	31.96	0.92	2.37	2.89		0.92	0.51											57	139
46	2	Sd+Qz+other	1.19		0.43	43.87	1.34	3.85	4.89			1.42											57	132
46	3	Qz+Sd+Cal	77.96			18.89	0.59	0.57	2.00														100	172
46	4	Sd+Qz	1.22		0.53	43.81	1.35	4.34	4.77			0.99											57	131
46	5	Qz+Sd+Cal+other	58.14		2.85	30.37	0.74	1.41	4.88		0.24	1.38											100	158

Table 6B: SEM analyses from sample G-29 3636 m

Site	Position	Mineral	SiO ₂	TiO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	Cr_2O_3	NiO	ZnO	SrO	BaO	Ce ₂ O ₃	WO_3	B_2O_3	Total	Actual Total
46	6	Sd+Qz+other	1.56		0.86	42.97	1.27	4.24	4.64			1.45											57	133
46	7	Sd+Qz+other	5.56		0.81	38.16	1.14	2.01	8.29			1.02											57	134
47	1	Sd+Qz	1.56			53.30	0.79		0.44	0.46													57	117
47	2	Sd+Qz	1.22			54.62	0.64		0.24														57	120
47	3	Sd+Qz	0.75			55.13	0.85								0.14								57	135
47	4	Sd+Qz	1.03			54.56	0.87		0.20														57	118
48	1	Qz+Sd	97.51			2.49																	100	181
48	2	Py+Brt+other	12.73		4.03	14.68		0.65	0.83		0.32		25.56					1.46	39.75				100	194
48	3	Sd+Chl	9.65		5.86	34.41	0.56	2.87	2.02		0.36	0.49									0.78		57	187
48	4	Sd+Qz+other	17.23		4.03	29.76	0.43	1.77	1.94		0.29	0.67									0.77		57	191
48	5	Qz	99.43			0.57																	100	180
48	6	Sd+other	35.84		12.32	35.37	0.50	2.77	1.85	0.57	0.65	0.65	0.44	7.23							1.80		100	171
48	7	Sd+other	10.22		7.67	28.43	0.38	1.35	1.52	0.44	0.39	0.58		4.92							1.10		57	180
48	8	Py+Qz	1.12		0.76	29.44							68.69										100	307
48	9	Sd	2.68		0.85	47.28	0.69	1.86	3.63														57	136
48	10	Brt+Sd+other	17.92		7.72	20.80		1.39	1.31		0.63		15.75					1.26	31.96		1.28		100	196
48	11	Sd+other	14.02		3.77	33.50	0.60	1.51	1.66		0.36										1.34		57	201
48	12	Sd+other	5.99		1.57	42.70	0.55	2.65	2.76		0.22	0.55											57	176
48	13	mix	39.96	0.58	33.56	22.31	0.32	0.99	1.23	0.64	0.41												100	173
48	14	Sd+other	7.54		1.76	40.16	1.20	2.76	3.12			0.47											57	280
48	15	Sd+other	3.96		2.33	41.84	1.25	2.88	4.74														57	153
48	16	Sd+other	4.57		2.49	41.46	1.38	3.00	3.92		0.18												57	165
48	17	Qz+Sd+other	85.68		2.44	10.23	0.18	0.41	0.87		0.18												100	224
49	1	Mag				98.19	1.81																100	141
49	2	Mag				98.22	1.78																100	140
49	3	Sd+Qz+other	3.25			50.26	1.07	0.38	0.67		0.14										1.07		57	152
49	4	Sd+Qz+other	4.66		0.33	46.92	0.44		1.14	0.81	0.25										2.45		57	147
49	5	Sd+other	0.62			54.71	0.81		0.30		0.15				0.41								57	139
49	6	Sd+other	0.59			54.05	0.78		0.41	0.38	0.13				0.44		0.23						57	138
49	7	Brt (cont)	2.21			15.97			0.30				25.29				1.01	2.00	52.06		1.15		100	161
49	8	Brt (cont)	1.11			4.98							31.97					3.02	58.93				100	223
50	1	Ilm+other	0.95	93.13	2.05	2.55			0.61			0.71											100	136
50	2	Sd+Qz	0.84			55.12	0.84		0.21														57	119
50	3	Sd+other	4.90	0.28	2.24	41.75	1.38	3.00	3.26		0.19												57	141
50	4	Ms+other	43.45	0.46	37.21	8.13		0.89	0.55	1.24	8.07												100	155
50	5	Sd+other	6.61		3.42	38.79	1.09	2.95	3.01		0.70	0.44											57	160
50	6	Ilm+other	3.01	87.35	3.56	4.34		0.51	0.61	0.61													100	157
50	7	Sd+other	2.05		0.99	45.23	1.24	3.27	3.58		0.17	0.46											57	147
51	1	Sd+other	1.36		0.69	47.39	0.43	2.23	4.02			0.89											57	128
51	2	Qz	98.13			1.87																	100	169
51	3	Kfs+Chl+other	32.65	1.06	20.51	30.38	0.28	10.47	1.14	0.78	2.73												100	284
51	4	Sd+other	2.19		1.18	46.31	0.36	2.38	3.53		0.17	0.88											57	137
51	5	Sd+other	1.71		1.08	47.48	0.43	2.18	3.25			0.86											57	138
51	6	Sd+other	2.16		0.83	47.58	0.44	1.87	3.16		0.20	0.77											57	135

Table ob. Selvi analyses from sample G-29 3030 m	Table 6B:	SEM analys	ses from samp	ole G-29 3636 m
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Sito	Desition	Minoral	SiO	TiO		EaO	MnO	MaO	C-0	No O	ĸ	PO	50	E	Cr O		700	80	P ₂ O	$\mathbf{C} = \mathbf{O}$	WO	ВО	Total	Actual
Sile	FUSILION	willierai	3102	1102	$A_{12}O_3$	FeO	WINO	lvigO	CaO	Na ₂ O	N ₂ O	F ₂ O ₅	303	Г	01203	NIO	2110	310	DaU	06203	vvO ₃	$D_2 O_3$	TOLA	Total
52	1	Sd+Qz	1.38			54.61	0.81		0.20														57	117
52	2	Mag				98.70	1.30																100	134
52	3	Mag	1.74			96.71	1.25								0.29								100	137
52	4	Qz	99.29			0.71																	100	175
52	5	Sd+Qz	2.20			53.84	0.69		0.26														57	117
53	1	Sd+other	2.15		0.58	45.38	1.62	3.16	3.46			0.65											57	131
53	2	Sd+other	5.11		1.72	41.42	1.20	3.06	2.58	0.49		0.49									0.93		57	148
53	3	Sd+other	5.97		1.76	41.11	1.29	2.90	2.23		0.19	0.42									1.12		57	161
53	4	Sd+other	5.89		2.53	40.77	1.16	2.05	2.20	0.69	0.21	0.48									1.01		57	157
53	5	Sd+other	2.14		0.92	45.13	1.55	3.22	3.45			0.59											57	127
53	6	Sd+other	6.93		2.97	39.53	1.23	2.10	1.98	0.59	0.24	0.45									0.98		57	157
53	7	Qz+Sd+other	66.13		1.75	23.67	0.69	1.38	1.62	1.06	0.23		0.23	2.49							0.74		100	491

Appendix 7 Back-scattered images and WDS geochemical analyses of detrital rutile from Mesozoic sandstones samples B-93 5170 (ft) (1577.33 m), B-93 5410 (ft) (1650.48 m) and B-93 6340 (ft) (1932.43 m)



Figure 7.1: Sample B-93 5170 (ft) (1577.33m). (Table 7)



Figure 7.2: Sample B-93 5410 (ft) (1650.48m). (Table 7)



Figure 7.3: Sample B-93 6340 (ft) (1932.43m). (Table 7)

Well	Sample	Depth	Analvsis	Mineral	Nb ₂ O ₅	FeO	TiO ₂	ZrO ₂	Cr ₂ O ₃	V ₂ O ₃	Actual
_		-1.			2 0		2	-	2 0	2 0	Total
Mohawk B-93	B-93 5170	1577.33	1	Rt	0.714	0.322	97.285	0.014	0.048	0.75	99.133
Mohawk B-93	B-93 5170	1577.33	2	Rt	0.794	0.368	97.151	0.015	0.036	0.746	99.11
Mohawk B-93	B-93 5410	1650.48	3	Rt	0.023	0.174	99.721	0.026	0.089	0.687	100.72
Mohawk B-93	B-93 5410	1650.48	4	Rt	0.041	0.303	98.874	0.02	0.094	0.686	100.018
Mohawk B-93	B-93 6340	1932.43	5	Rt	0.239	0.285	95.2	0.013	0.025	0.654	96.416
Mohawk B-93	B-93 6340	1932.43	6	Rt	0.255	0.229	97.345	0.012	0.023	0.657	98.521
Cation Total O = 1.0											
W/oll	Sampla	Dopth	Analysia	Minoral	Nb	Fo	Ti	Zr	Cr	V	Actual
vven	Sample	Depth	Analysis	wineral	DI	ге	11	ZI	Cr	v	Total
Mohawk B-93	B-93 5170	1577.33	1	Rt	0.0022	0.0018	0.4931	0	0.0003	0.0041	0.5016
Mohawk B-93	B-93 5170	1577.33	2	Rt	0.0024	0.0021	0.4927	0.0001	0.0002	0.004	0.5016
Mohawk B-93	B-93 5410	1650.48	3	Rt	0.0001	0.001	0.4963	0.0001	0.0005	0.0036	0.5016
Mohawk B-93	B-93 5410	1650.48	4	Rt	0.0001	0.0017	0.4958	0.0001	0.0005	0.0037	0.5019
Mohawk B-93	B-93 6340	1932.43	5	Rt	0.0007	0.0016	0.4954	0	0.0001	0.0036	0.5015
Mohawk B-93	B-93 6340	1932.43	6	Rt	0.0008	0.0013	0.4956	0	0.0001	0.0036	0.5014

Table 7: Electron microprobe analyses for rutile from sandstones samples B-93 5170 (ft) (1577.33 m), B-93 5410 (ft) (1650.48 m) and B-93 6340 (ft) (1932.43 m)

Appendix 8 Back-scattered images and WDS geochemical analyses of detrital rutile from Mesozoic sandstones collected from sample I-100 7230 (ft) (2203.7m)



Figure 8.1: Sample I-100 7230 (ft) (2203.7m). (Table 8)



Figure 8.2: Sample I-100 7230 (ft) (2203.7m). (Table 8)



Figure 8.3: Sample I-100 7230 (ft) (2203.7m). (Table 8)



Figure 8.4: Sample I-100 7230 (ft) (2203.7m). (Table 8)

Woll	Sampla	Dopth	Apolycic		E-O	TiO	Zr∩	Cr O	VO	Actual
Weil Sample		Deptil	Analysis	110205	FeO	1102	2102	01203	v ₂ O ₃	Total
Mohican I-100	I-100 7230	2203.7	1	0.234	1.2	97.321	0.004	0.017	0.509	99.285
Mohican I-100	I-100 7230	2203.7	2	0.211	1.236	96.505	0	0.018	0.512	98.482
Mohican I-100	I-100 7230	2203.7	3	0.248	1.203	98.573	0	0.025	0.5	100.549
Mohican I-100	I-100 7230	2203.7	4	0.245	1.215	99.372	0.001	0.015	0.492	101.34
Mohican I-100	I-100 7230	2203.7	5	0.231	0.971	98.825	0	0.016	0.549	100.592
Mohican I-100	I-100 7230	2203.7	6	0.26	0.962	98.006	0	0.019	0.552	99.799
Mohican I-100	I-100 7230	2203.7	7	0.291	0.959	97.65	0	0.026	0.598	99.524
Mohican I-100	I-100 7230	2203.7	8	0.276	0.985	98.218	0.002	0.027	0.601	100.109
Cation Total O = 1.0										
Wall	Sampla	Dopth	Apolycia	Nb	Fo	T:	7r	Ċ	V	Actual
weii	Sample	Deptil	Analysis	IND	ге	11	21	CI	v	Total
Mohican I-100	I-100 7230	2203.7	1	0.0007	0.0068	0.4936	0	0.0001	0.0028	0.5041
Mohican I-100	I-100 7230	2203.7	2	0.0006	0.007	0.4935	0	0.0001	0.0028	0.5041
Mohican I-100	I-100 7230	2203.7	3	0.0007	0.0067	0.4936	0	0.0001	0.0027	0.5038
Mohican I-100	I-100 7230	2203.7	4	0.0007	0.0067	0.4937	0	0.0001	0.0026	0.5039
Mohican I-100	I-100 7230	2203.7	5	0.0007	0.0054	0.4942	0	0.0001	0.0029	0.5034
Mohican I-100	I-100 7230	2203.7	6	0.0008	0.0054	0.494	0	0.0001	0.003	0.5034
Mohican I-100	I-100 7230	2203.7	7	0.0009	0.0054	0.4937	0	0.0001	0.0032	0.5034
Mohican I-100	I-100 7230	2203.7	8	0.0008	0.0055	0.4937	0	0.0001	0.0032	0.5034

Table 8: Electron mincroprobe analyses fro rutile from sample I-100 7230 (ft) (2203.7 m)

Appendix 9-1 Back-scattered images and EDS geochemical mineral analyses of sample Mohican I-100 2526.53 (m) Paragenetic sequence for sample I-100 2526.53

Mg-cal+cal \longrightarrow Mg-Fe-cal+Fe-cal \longrightarrow kln \longrightarrow chl+TiO₂+py+ill \longrightarrow qz over \longrightarrow dol ?

Site <u>1</u>

Quartz (3) is corroded and shows embayment filled with kaolinite (1)

kln → qz over

Pyrite (5) fills secondary porosity in kaolinite (1)

kln → py

Site 2

Diagenetic chlorite, pyrite (4) and illite (13) fill secondary porosity in Mg-calcite (6,7)

Mg-cal → chl+py+ill

Calcite (9) invades Mg-calcite (6,7)

Kaolinite fills primary porosity and illite, chlorite and pyrite fill secondary porosity

kln → ill+chl+py

Site 3

Mg-calcite is invaded by quartz overgrowths

Mg-cal → qz over

Site 5

Calcite (15) fills embayment in detrital quartz

cal → qz over

Site 6

Mg-Fe-calcite (13,14) cross-cuts Mg-calcite (16) and Fe-calcite (8) tends to invade Mg-calcite (16)

Mg-cal — Mg-Fe-cal and Fe-cal

Site 7

Quartz overgrowths invade Mg-calcite (10,11) and calcite (12) predates quartz overgrowths

Mg-cal+cal → qz over

Site 8

Diagenetic chlorite cross-cuts late fractures



Figure 9-1.1: Sample Mohican I-100 2526.53 (m) site 1 (SEM), (Table 9-1). Zircon (2) is detrital and it's crystal outlines are rounded. Quartz (3) is corroded and shows emaybments filled with kaolinite (A) and/or other diagenetic minerals (B). Kaolinite booklets (1), Mg-calcite (7), chlorite (8) and illite (9) fill intragranular space between detrital grains. Illite (9) replaces muscovite (10) and pyrite (5) fills secondary porosity in kaolinite (1).



7 Mg-Cal 8 Cal+other

- 9 Cal+Qz
- 10 Cal+other
- 11 Mg-Cal+Py+other
- 12 Cal+Chl
- 13 Cal+Chl+III

Figure 9-1.2 Sample Mohican I-100 2526.53 (m) site 2 (SEM), (Table 9-1). Diagenetic chlorite and pyrite (4) fill secondary porosity in Mg-calcite (6,7). Illite (1), TiO₂ mineral (2) and pyrite (5) are present as a mixture. Pure calcite (9) invades Mgcalcite (6,7) Kaolinite booklets (C) fill primary porosity. Illite (13), chlorite (4,13) and pyrite (4) fill secondary porosity in Mg-Cal (6,7,11).



Figure 9-1.3: Sample Mohican I-100 2526.53 (m) site 3 (SEM), (Table 9-1). Rutile (1) and perthite (2,3) are detrital minerals in this figure. Dissolution voids are visible in detrital quartz (D). Albite is present as inclusion (4) in detrital quartz. Quartz overgrowth showing straight crystal outlines is present around detrital quartz (E). Mg-calcite cement (9) filling intragranular space has dissolution voids (F). Detrital quartz is corroded with diagenetic chlorite to fill embayment (G).Mg-calcite (5,9) is invaded by quartz overgrowth (E) and diagenetic chlorite fills embayment.



Figure 9-1.4: Sample Mohican I-100 2526.53 (m) site 4 (SEM), (Table 9-1). Fapatite (1) is diagenetic with straight crystal outlines and displacive texture against the matrix (H). The matrix comprises a mixture of illite (2), TiO2 mineral (4), pyrite (6) and calcite (6). Rarely, pyrite fills secondary porosity in the matrix (J). Often secondary porosity (K) and fractures (L) in the matrix lack diagenetic minerals.

- 1 F-Ap (diag.)
- 2 III+TiO2 (diag.)
- 3 Qz+III+other
- 4 TiO2 (diag.)+other
- 5 III+TiO2 (diag.) 6 Cal+Py+III



Figure 9-1.5: Sample Mohican I-100 2526.53 (m) site 5 (SEM), (Table 9-1). Albite exsolusion lamellae (2) are visible in perthite (1,2). Albite lamellae tend to alter into cal (3) and chlorite (3). Calcite (12,14,15) fills embayments (M) and secondary porosity in detrital quartz (N). Calcite and matrix fill primary porosity (O). Mg-calcite (9) is invaded by calcite (11).



Figure 9-1.6: Sample Mohican I-100 2526.53 (m) site 6 (SEM), (Table 9-1). Detrital chlorite (2) appears as inclusion in detrital quartz. Other detrital mineral in this image is spinel (1). Illite (4) is present in a mixture together with detrital quartz (3).Detrital quartz is both corroded (P) and shows dissolution voids (Q).Calcite (10) invades cement mixture (5). Mg-Fe-calcite (7,12) crosscuts Mg-calcite (16) in position Q. Fecalcite (8) invades Mg-calcite (16).



1 TiO2 (diag.)

2 Cal

3 HI (lab?) + other

4 III

- 5 Kln
- 6 Chl (diag.)
- 7 Chl (diag.)+other
- 8 Cal
- 9 Mg-Cal
- 10 Mg-Cal
- 11 Mg-Cal
- 12 Cal
- 13 Mg-Cal+Qz
- 14 Cal+other
- 15 Mg-Cal

15 Mg-Cal

Figure 9-1.7: Sample Mohican I-100 2526.53 (m) site 7 (SEM), (Table 9-1). Detrital quartz (R) is corroded with embayments that are filled with diagenetic chlorite (7), calcite (S) and kaolinite (5). Calcite (2) is diagenetic forming at a displacive manner of muscovite (4). Quartz overgrowth (T) forms around detrital quartz and postdates Mg-calcite (10,11). Calcite (2,8,12) predates quartz overgrowth. Calcite (12) engulfs Mg-calcite (10).



- 1 Mg-Cal (bioclast)
- 2 Mg-Cal (bioclast) 3 Chl (diag.)
- 4 Chl (diag.)
- 5 Ms+Ab (clast) 6 Ms+Ab (clast)

Figure 9-1.8: Sample Mohican I-100 2526.53 (m) site 8 (SEM), (Table 9-1). One lithic clast (5,6) showing foliation is made up of muscovite and albite. One bioclastl (U) consists of Mg-calcite (1,2) which shows dissolution voids. Diagenetic chlorite (3) cross-cuts secondary porosity (V) that lacks diagenetic minerals.



1 Chl (detr.) 2 Cal (bioclastl) 3 Mg-Cal (bioclast) 4 Qz 5 Chl (diag.)

Figure 9-1.9: Sample Mohican I-100 2526.53 (m) site 9 (SEM), (Table 9-1). Detrital chlorite (1) is plastically deformed, thus creating pseudomatrix. Bioclast consist of calcite (2) and Mg-calcite (3). Framboidal pyrite may occupy secondary porosity in Mg-calcite (bioclast, position W). The main cement is a mixture of diagenetic minerals (X) that include chlorite (5) and others.



1 Chl (diag.) 2 III 3 Qz+other 4 III+TiO2 (diag.) 5 Py+Chl 6 Py

Figure 9-1.10 Sample Mohican I-100 2526.63 (m) site 10 (SEM), (Table 9-1). Matrix filling intragranular space is made up of chlorite (1), illite (2), silt size anhedral to subhedral detrital quartz (3), TiO2 mineral (4) and pyrite (5). Secondary porosity (Y) and fractures in the matrix (Z) lack diagenetic minerals.

	Cito	Desition	Minoral	8:0	TiO	AL O	F-0	Mao	6-0		КO	РO	\$0	_	0	0.0	7r∩	Recalculated	Actual
1 Kin 48,74 30.85 No.88 No.87 No.88 No.87 No.88 No.87 No.88 No.87 No.88 No.89 No.88 No.88 No.87 No.88 No.88 No.89 No.88	Sile	FUSILION	Willielai	3102	1102	$A_{12}O_3$	FeO	MgO	CaU	11020	R ₂ 0	F_2O_5	303	Г	CI	01203	2102	Total	Total
1 2 Zm 30.85	1	1	Kln	48.74		36.90	0.38											86	71
1 3 CC2 99.99 100 85 1 6 Ch(dag) 32.55 5.40 0.94 0.27 0.14 67.37	1	2	Zrn	30.85													69.15	100	86
1 4 Oz 9.26 5.40 0.94 1.89 26.06 7 7 0.74 6.73 7 0.42 85 60.0 145 1 7 Mg-Cal 32.55 20.26 21.74 7.88 0.47 0.80 0.90 67.37 0.42 85.6 38 1 8 Chi (dag.) 37.89 0.26 1.53 6.91 0.32 8.81 0.26 0.26 8.85 69 1 10 Att.M (Chi) 55.54 0.242 6.30 0.53 1.38 49 2.74 0.61 100 66 2 111 BirO2 (dag.) 44.52 1.40 1.43 62.09 2.74 0.60 0.60 90 76 2 1111 45.73 0.245 1.43 52.09 0.57 2.4 0.77 0.60 0.60 90 72 2 6 Mg-Cal 0.33 0.55 2.23 52	1	3	Qz	99.99														100	85
1 5 Py 4.28 1.89 26.06 0.27 0.14 67.37 100 145 1 6 Ch (dig) 32.55 20.26 21.74 7.88 0.47 0.80 0.90 0.42 885 60 1 7 Mg-Cal 0.76 2.00 53.24 0.28 0.28 1.56 0.4 0.26 885 69 1 9 III 50.55 0.41 24.80 2.13 2.93 0.28 82.1 2.261 0.61 0.10 66 1 10 Hift 55.54 2.42 2.48 32.21 2.274 2.61 0.61 0.60 0.60 90 76 2 11 Do-Py 4.573 2.441 12.03 2.48 32.51 335 13.25 7.16 0.51 60.0 0.60 0.60 90 76 2 2 III+Py 4.573 2.443 3.35 15.25 7.16 0.51 6.06 0.60 0.60 0.60 0.60 0.60 0.60 0.60 0.60 0.60 0.60 0.60	1	4	Qz	93.65		5.40	0.94											100	82
1 6 Ch(diag) 3.25 V 2.26 2.1.74 7.88 0.47 0.80 50 <td>1</td> <td>5</td> <td>Py</td> <td>4.28</td> <td></td> <td>1.89</td> <td>26.06</td> <td></td> <td></td> <td>0.27</td> <td>0.14</td> <td></td> <td>67.37</td> <td></td> <td></td> <td></td> <td></td> <td>100</td> <td>145</td>	1	5	Py	4.28		1.89	26.06			0.27	0.14		67.37					100	145
1 7 Mq-Cal 9 3 3 8 8 7 7 M 7 Mq-Cal 9 3 3 8 8 7 1 1 3 3	1	6	Chl (diag.)	32.55		20.26	21.74	7.88	0.47	0.80	0.90				0.42			85	60
1 8 Ch(dag) 37.89 20.94 16.53 6.91 0.38 0.22 1.56 7.66 9.66 9.078 1 10 AR Ms (Ch) 55.54 24.26 6.30 6.30 1.38 4.99 2.11 0.61 100 66 2 1 III T02 (dag) 44.52 2.45.1 2.84 3.15 3.35 1.52 7.16 0.51 0.60 0.60 90 76 2 2 III T02 (dag) 44.52 1.94 2.10 2.29 0.85 0.55 7.24 0.60 0.60 90 76 2 2 III T02 (dag) 44.52 3.04 7.27 2.33 3.31 55.26 0.39 6.72 4.43 0.14 90 82 2 6 IMpCal 0.33 0.27 2.33 52.33 0.60 0.60 0.14 56 61 2 7 MpCal 0.38 0.27 3.58 80.9 0.60 0.60 0.14 0.00 66 61 0.60	1	7	Mg-Cal				0.76	2.00	53.24									56	38
1 9 III 56.66 0.41 24.80 2.13 2.93 0.28 8.81 6 6 78 1 10 AHMS (ch) 55.54 24.26 6.30 6.30 1.38 4.99 2.61 0.61 100 66 2 1 III Dot+Py 1.45 2.451 2.81 0.55 7.24 2.61 0.60 900 76 2 2 III+TO2 (diag.) 44.52 19.40 21.60 2.89 0.55 7.24 - 0.60 0.60 900 76 2 4 Cat+Chi+Py-tother 20.57 - 1.15 1.43 52.09 - 0.67 4.43 0.14 90 52 39 2.72 0.26 100 46 16 Mg-Cai 0.38 - 0.55 2.23 52.33 - 0.60 - 100 63 61 2 7 Mg-	1	8	Chl (diag.)	37.89		20.94	16.53	6.91	0.38	0.52	1.56				0.26			85	69
1 0 Att & (Ch) 53.64 24.26 6.30 6.30 6.30 5.30 4.99 2.61 0.61 100 66 2 1 III 45.73 24.51 2.84 3.15 3.35 1.52 7.16 0.51 0.60 0.60 0.60 90 76 2 2 III+TO2 (dag) 4.45 2 1.840 2.80 0.85 0.55 7.24 0.77 0.26 1.00 76 2 4 CaltChtPyrother 2.33 0.40 7.2 2.33 3.81 58.26 0.39 6.72 0.43 0.14 90 86 61 2 6 Mg-Cal 0.38 0.32 52.23 52.33 0.50 0.60 0.14 90 86 61 2 6 CaltChtPyrother 1.36 2.47 0.60 0.50 0.14 90 86 61 2 6 CaltChtPyrother 1.52 0.6 <td>1</td> <td>9</td> <td>ili și î</td> <td>50.65</td> <td>0.41</td> <td>24.80</td> <td>2.13</td> <td>2.93</td> <td></td> <td>0.28</td> <td>8.81</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>90</td> <td>78</td>	1	9	ili și î	50.65	0.41	24.80	2.13	2.93		0.28	8.81							90	78
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	1	10	Alt Ms (Chl)	53.54		24.26	6.30	6.30		1.38	4.99			2.61	0.61			100	66
1 III istr32 19.40 24.51 2.84 3.15 3.35 1.52 7.16 0.61 0.60 0.60 0.60 0.60 7.60 7.71 2 2 3 Mg-Cal+Py 0.57 - 1.15 1.43 52.09 - - 1.66 39 2 4 Cal+ChI+Py-other 20.37 3.04 7.27 2.33 3.61 68.26 1.93 2.72 0.26 1.100 48 2 6 Mg-Cal 0.30 2.37 3.24 4.03 3.25 - 0.50 0.50 - 56 61 2 7 Mg-Cal 0.38 0.55 2.23 52.33 - 0.50 - - 100 60 56 61 2 10 Cal+other 4.99 2.63 2.79 3.58 86.9 - - - - - 100 70 100 72 11	1	11	Dol+Py	1.45		0.43	12.30	20.88	32.21				32.74					100	63
2 2 1H+TO2 (diag.) 44.52 19.40 2.160 2.86 0.85 7.24 100 77 100 76 2 3 Mg-Cai+Py-other 20.37 3.04 7.27 2.33 3.81 65.26 39 0.77 0.26 100 48 2 5 III+Py 47.34 0.30 2.340 4.03 3.25 0.39 6.72 4.43 0.14 90 82 2 6 Mg-Cai 0.38 0.55 2.23 52.33 0.50 0.60 56 61 2 9 Cai+Oze 1.16 0.62 54.22 0.50 0.50 0.56 56 59 2 10 Cai+Oze 1.16 0.62 54.22 0.50 0.50 0.50 100 70 2 11 Mg-Cai+Py-other 1.52 0.66 9.4 2.06 53.39 0.7 0.50 0.56 66 88	2	1	, III	45.73		24.51	2.84	3.15	3.35	1.52	7.16	0.51	0.60		0.60			90	76
2 3 Mg/Cai+Py 0.57 0.57 0.57 0.57 0.57 0.56 39 2 4 Cai+Chi+Py+other 20.37 3.04 7.27 2.33 3.81 58.26 1.93 2.72 0.26 100 48 2 6 Mg/Cai 0.30 2.340 4.03 3.25 0.39 6.72 4.43 0.14 90 82 2 6 Mg/Cai 0.38 0.55 2.23 0.50 0.50 56 61 2 7 Mg/Cai 0.38 2.79 3.58 86.9 0.50 0.50 55 66 61 2 9 Cai+Och 2.89 3.02 1.03 5.34 2.89 46.66 2.1 0.50 100 72 2 110 Gai+Och 2.03 0.85 0.96 0.46 51.70 2.34 100 70 2 12 Cai+Chi 2.03 0.85	2	2	III+TiO2 (diag.)	44.52	19.40	21.60	2.96	2.89	0.85	0.55	7.24							100	71
2 4 Cal+Ch+Py-other 20.37 3.04 7.27 2.33 3.81 58.26 1.93 2.72 0.26 100 48 2 5 III+Py 47.34 0.30 23.40 4.03 3.25 0.39 6.72 4.43 0.14 90 82 2 6 Mg-Cal 0.38 0.56 2.23 52.35 0.60 0.60 0.64 90 82 2 7 Mg-Cal 0.38 0.56 2.23 52.33 0.60 0.60 0.60 66 61 2 9 Cal+Oz 1.16 0.62 54.22 0.66 2.1 0.60 0.60 0.61 0.62 0.62 0.66 2.1 0.50 0.50 0.60 0.61 0.01 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.51	2	3	Mg-Cal+Pv	0.57			1.15	1.43	52.09				0.77					56	39
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2	4	Cal+Chl+Pv+other	20.37	3.04	7.27	2.33	3.81	58.26		1.93		2.72		0.26			100	48
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	5	III+Pv	47.34	0.30	23.40	4.03	3.25		0.39	6.72		4.43		0.14			90	82
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	6	Mg-Cal					3.15	52.25				0.60					56	61
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	7	Mg-Cal	0.38			0.55	2.23	52.33				0.50					56	61
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	8	Cal+other	4.09		2.63	2.79	3.58	86.9									100	60
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	9	Cal+Qz	1.16			0.62		54.22									56	59
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	10	Cal+other	28.99	3.02	11.03	5.34	2.89	46.66		2.1							100	72
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	11	Mg-Cal+Pv+other	1.52		0.6	9.4	2.06	53.39				33.04					100	90
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	2	12	Cal+Chl	2.03		0.85	0.96	0.46	51.70									56	88
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	2	13	Cal+Chl+III	25.44		15.89	10.43	5.84	40.07		2.34							100	56
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	3	1	Rt		99.68				0.32									100	71
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	3	2	Ab+Kfs (Perth)	67.90		18.37				8.80	4.94							100	86
3 4 Ab 66.61 20.90 10 12.50 10 10 81 3 5 Mg-Cal 0.53 11.55 9.43 9.48 52.62 0.77 0 56 76 3 6 Cal+Chl 16.15 11.55 9.43 9.48 52.62 0.77 0 0 56.0 68 3 7 Fe-Mg-Cal+other 1.37 0.60 1.27 1.15 51.62 0.77 0 0 100 58 3 8 Cal+Chl 4.68 2.32 1.48 3.83 87.14 0.53 0 0 100 58 3 9 Mg-Cal 0.67 0.78 1.79 55.44 0.53 0 0.28 00.28 90 77 4 1 F-Ap (diag.) 0.47 0.47 8.05 0.43 0.73 3.75 0.28 0.28 90 77 4 3 Qz+III+other 78.94 10.3 11.03 2.21 2.11 0.88 0.61	3	3	Kfs+Ab (Perth)	66.55		18.12				0.63	14.70							100	84
3 5 Mg-Cal 0.53 1.10 54.48 <t< td=""><td>3</td><td>4</td><td>Ab</td><td>66.61</td><td></td><td>20.90</td><td></td><td></td><td></td><td>12.50</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>100</td><td>81</td></t<>	3	4	Ab	66.61		20.90				12.50								100	81
3 6 Cal+Chl 16.15 11.55 9.43 9.48 52.62 0 0.77 0 0 100 56 3 7 Fe-Mg-Cal+other 1.37 0.60 1.27 1.15 51.62 0.77 0 0 0 56.00 68 3 8 Cal+Chl 4.68 2.32 1.48 3.83 87.14 0.53 0 0 0 100 58 3 9 Mg-Cal 0.47 1.79 55.44 0.53 0 0.88 100 89 4 1 F-Ap (diag.) 0.47 48.92 44.74 5.82 0.28 90 77 4 3 Qz+III+other 78.94 1.03 11.03 2.21 2.11 0.88 0.61 2.99 0.21 100 83 4 4 TiO2 (diag.) 54.72 2.97 18.18 3.02 1.77 0.69 4.45 0.41 90	3	5	Mg-Cal	0.53				1.10	54.48									56	76
3 7 Fe-Mg-Cal+other 1.37 0.60 1.27 1.15 51.62 56.00 68 3 8 Cal+Chl 4.68 2.32 1.48 3.83 87.14 0.53 100 58 3 9 Mg-Cal 0.78 1.79 55.44 56.00 68 4 1 F-Ap (diag.) 0.47 48.92 44.74 5.82 566 57 4 2 Ill+TiO2 (diag.) 45.17 3.59 17.82 10.17 8.05 0.43 0.73 3.75 0.28 90 77 4 3 Q2+Ill+other 78.94 1.03 11.03 2.21 2.11 0.88 0.61 2.99 0.28 90 77 4 4 TiO2 (diag.) 54.72 2.97 18.18 3.81 3.02 1.77 0.69 4.45 0.4	3	6	Cal+Chl	16.15		11.55	9.43	9.48	52.62				0.77					100	56
3 8 Cal+Chl 4.68 2.32 1.48 3.83 87.14 0.53 1 1 100 58 3 9 Mg-Cal 0.47 0.78 1.79 55.44 1 1 5.82 1 100 56 57 4 1 F-Ap (diag.) 0.47 1.79 55.44 48.92 44.74 5.82 0.28 90 77 4 2 III+TiO2 (diag.) 45.17 3.59 17.82 10.17 8.05 0.43 0.73 3.75 0.28 0.28 90 77 4 3 Qz+III+other 78.94 1.03 12.03 2.21 2.11 0.88 0.61 2.99 0.21 0.21 100 83 4 4 TiO2 (diag.) +other 11.68 81.75 3.85 0.81 0.55 0.28 1.08 0.21 0.01 100 83 4 4 Gal+Py+III 7.96 3.33 1.34 3.38 81.24 0.72 2.05 0.41 90 74 <	3	7	Fe-Mg-Cal+other	1.37		0.60	1.27	1.15	51.62									56.00	68
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	3	8	Cal+Chl	4.68		2.32	1.48	3.83	87.14		0.53							100	58
41 $F-Ap$ (diag.)0.4748.9244.745.821008942III+TiO2 (diag.)45.173.5917.8210.178.050.430.733.750.28907743Qz+III+other78.941.0311.032.212.110.880.612.990.211008344TiO2 (diag.)+other11.6881.753.850.810.550.281.080.211008344TiO2 (diag.)+other11.6881.753.850.810.550.281.080.41907446Cal+Py+III7.963.331.343.3881.240.722.051004351Kfs+Ab (Perth)66.4917.760.3515.391008852Ab+Kfs (Perth)68.7118.5710.791.082.131009153Kfs+Cal+ChI42.6817.6314.775.1110.791.082.362.360.241006754Kfs+Ab+Py53.3114.764.914.458.4814.081007155Qz94.660.330.382.001.051.581.051.58	3	9	Mg-Cal				0.78	1.79	55.44									56	57
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	4	1	F-Ap (diag.)	0.47					48.92			44.74		5.82				100	89
4 3 Qz+lll+other 78.94 1.03 11.03 2.21 2.11 0.88 0.61 2.99 0 0.21 100 83 4 4 TiO2 (diag.)+other 11.68 81.75 3.85 0.81 0.55 0.28 1.08 0 0.21 100 83 4 4 TiO2 (diag.)+other 11.68 81.75 3.85 0.81 0.55 0.28 1.08 0 0.21 100 76 4 5 Ill+TiO2 (diag.) 54.72 2.97 18.18 3.81 3.02 1.77 0.69 4.45 0.72 2.05 0.41 90 74 4 6 Cal+Py+III 7.96 3.33 1.34 3.38 81.24 0.72 2.05 0.41 90 74 5 1 Kfs+Ab (Perth) 66.49 17.76 0.35 15.39 0.72 2.05 100 88 5 2 Ab+Kfs (Perth) 68.71 18.57 10.78 10.38 2.13 100 91 5	4	2	III+TiO2 (diag.)	45.17	3.59	17.82	10.17	8.05	0.43	0.73	3.75				0.28			90	77
4 4 TiO2 (diag.)+other 11.68 81.75 3.85 0.81 0.55 0.28 1.08 100 76 4 5 Ill+TiO2 (diag.) 54.72 2.97 18.18 3.81 3.02 1.77 0.69 4.45 0.41 90 74 4 6 Cal+Py+III 7.96 3.33 1.34 3.38 81.24 0.72 2.05 100 43 5 1 Kfs+Ab (Perth) 66.49 17.76 0.35 15.39 100 88 5 2 Ab+Kfs (Perth) 68.71 18.57 10.58 2.13 100 91 5 3 Kfs+Cal+Chl 42.68 17.63 14.77 5.11 10.79 1.08 5.36 2.36 0.24 100 67 5 4 Kfs+Ab+Py 53.31 14.76 4.45 8.48 14.08 100 67 5 5 Qz 94.66 <td< td=""><td>4</td><td>3</td><td>Qz+III+other</td><td>78.94</td><td>1.03</td><td>11.03</td><td>2.21</td><td>2.11</td><td>0.88</td><td>0.61</td><td>2.99</td><td></td><td></td><td></td><td>0.21</td><td></td><td></td><td>100</td><td>83</td></td<>	4	3	Qz+III+other	78.94	1.03	11.03	2.21	2.11	0.88	0.61	2.99				0.21			100	83
4 5 III+TiO2 (diag.) 54.72 2.97 18.18 3.81 3.02 1.77 0.69 4.45 0 0.41 90 74 4 6 Cal+Py+III 7.96 3.33 1.34 3.38 81.24 0.72 2.05 0.41 90 74 5 1 Kfs+Ab (Perth) 66.49 17.76 0.35 15.39 0 0.41 100 43 5 2 Ab+Kfs (Perth) 68.71 18.57 0.35 15.39 0 0 100 91 5 3 Kfs+Cal+Chi 42.68 17.63 14.77 5.11 10.79 1.08 5.36 2.36 0.24 100 90 74 5 4 Kfs+Ab+Py 53.31 14.76 4.45 8.48 14.08 100 91 90 74 5 C Qz 94.66 0.33 0.38 2.00 1.05 1.58 100 96	4	4	TiO2 (diag.)+other	11.68	81.75	3.85	0.81	0.55	0.28		1.08				_			100	76
4 6 Cal+Py+III 7.96 3.33 1.34 3.38 81.24 0.72 2.05 100 43 5 1 Kfs+Ab (Perth) 66.49 17.76 0.35 15.39 100 43 5 2 Ab+Kfs (Perth) 68.71 18.57 0.35 15.39 100 88 5 2 Ab+Kfs (Perth) 68.71 18.57 10.79 10.88 2.13 100 91 5 3 Kfs+Cal+Chi 42.68 17.63 14.77 5.11 10.79 1.08 5.36 2.36 0.24 100 67 5 4 Kfs+Ab+Py 53.31 14.76 4.45 8.48 14.08 100 96 5 5 Oz 94.66 0.33 0.38 2.00 1.05 1.58 100 71	4	5	III+TiO2 (diag.)	54.72	2.97	18.18	3.81	3.02	1.77	0.69	4.45				0.41			90	74
5 1 Kfs+Ab (Perth) 66.49 17.76 0.35 15.39 100 88 5 2 Ab+Kfs (Perth) 68.71 18.57 10.58 2.13 100 91 5 3 Kfs+Cal+Chi 42.68 17.63 14.77 5.11 10.79 1.08 5.36 2.36 0.24 100 91 5 4 Kfs+Ab+Py 53.31 14.76 4.91 4.45 8.48 14.08 100 96 5 5 Qz 94.66 0.33 0.38 2.00 1.05 1.58 100 71	4	6	Cal+Pv+III	7.96		3.33	1.34	3.38	81.24		0.72		2.05					100	43
5 2 Ab+Kfs (Perth) 68.71 18.57 10.58 2.13 100 91 5 3 Kfs+Cal+Chi 42.68 17.63 14.77 5.11 10.79 1.08 5.36 2.36 0.24 100 91 5 4 Kfs+Ab+Py 53.31 14.76 4.91 4.45 8.48 14.08 100 96 5 5 Qz 94.66 0.33 0.38 2.00 1.05 1.58 100 71	5	1	Kfs+Ab (Perth)	66.49		17.76		2.00		0.35	15.39							100	88
5 3 Kfs+Cal+Chl 42.68 17.63 14.77 5.11 10.79 1.08 5.36 2.36 0.24 100 67 5 4 Kfs+Ab+Py 53.31 14.76 4.91 4.45 8.48 14.08 100 96 5 5 Qz 94.66 0.33 0.38 2.00 1.05 1.58 100 71	5	2	Ab+Kfs (Perth)	68 71		18.57				10.58	2 13							100	91
5 4 Kfs+Ab+Py 53.31 14.76 4.91 4.45 8.48 14.08 100 96 5 5 Oz 94.66 0.33 0.38 2.00 1.05 1.58 100 96	5	3	Kfs+Cal+Cbl	42 68		17.63	14 77	5 11	10 79	1.08	5.36			2 36	0.24			100	67
5 5 Qz 94.66 0.33 0.38 2.00 105 158 100 71	5	4	Kfs+Ab+Pv	53.31		14 76	4 91	0		4 45	8 48		14 08	2.00	0.2.			100	96
	5	5	Q7	94 66		11.75	0.33		0.38	2 00	0.10		1.05		1 58			100	71

Table 9-1: SEM analyses from sample I-100 2526.53 (m)

Site	Position	Mineral	SiO ₂	TiO ₂	Al ₂ O ₃	FeO	MaO	CaO	Na ₂ O	K₂O	P ₂ O ₅	SO3	F	CI	Cr ₂ O ₃	ZrO ₂	Recalculated	Actual
			2	- 2	2 - 3				- 2 -	2 -	2 - 3	3			- 2 - 3	- 2	Total	Total
5	6	Py	0.98			27.72						71.29					100	167
5	7	Kfs+Cal+Chl	52.79	1.05	19.88	4.34	3.43	2.17	0.49	5.02		0.59		0.27			90	75
5	8	Cal	0.55			0.60	0.95	53.92									56	63
5	9	Mg-Cal	0.43			0.69	1.75	53.12									56	62
5	10	Mg-Cal	0.40			0.32	2.69	51.90				0.70					56	62
5	11	Cal	0.45			0.88	0.81	53.86									56	62
5	12	Cal+Qz	1.65		0.39	1.09	0.80	52.07									56	60
5	13	Mg-Cal				0.52	2.00	52.64				0.85					56	62
5	14	Cal+Py+Qz	1.99		0.51	5.88	0.86	79.84				10.91					100	61
5	15	Cal	0.44				0.96	54.59									56	69
6	1	Spl			19.39	25.33	9.68								45.61		100	80
6	2	Chl (incl.)	37.77		16.93	18.55	10.62										85	78
6	3	Qz	99.99														100	90
6	4	Ms (incl.)	44.72	0.36	26.52	9.78	3.85		0.38	7.40							93	78
6	5	Chl+Cal+Py	30.16		21.43	24.67	8.51	4.98	1.04	0.47		8.39		0.33			100	71
6	6	Mg-Cal					3.09	52.50									56	42
6	7	Čal				0.74	0.66	53.86				0.50		0.23			56	42
6	8	Fe-Cal	0.46			1.22	0.95	53.37									56	56
6	9	Cal	0.61			0.37		55.02									56	61
6	10	Cal	0.55			0.37	0.40	54.68									56	62
6	11	Mg-Fe-Cal	0.59			1.08	1.10	53.25									56	62
6	12	Mg-Cal	0.43			0.72	1.11	53.74									56	62
6	13	Mg-Cal				-	3.84	51.75									56	61
6	14	Fe-Cal+Qz	1.06			1.03	0.92	52.98									56	63
6	15	Mg-Cal+Pv				0.50	1.82	52.67				1.02					56	61
6	16	Mg-Cal				0.58	2.75	52.24				0.43					56	61
6	17	Mg-Cal	0.55				3.05	52.15									56	61
6	18	Cal+Chl	3.21		1.63	2.33	3.37	89.48									100	61
7	1	TiO2 (diag.)		100.00													100	81
7	2	Cal				0.50		55.50									56	43
7	3	HI (lab?) + other	16.79		7.67	3.23	1.76	0.35	38.30	1.63				30.27			100	102
7	4		48 42		18.91	8 16	3 99	1.06	1 49	5.37			1 73	0.86			90	69
7	5	KIn	48.72		37.28												86	75
7	6	Chl (diag.)	30.35	0.34	16.65	23.52	10.90	0.96	1.06	0.59				0.32			85	73
7	7	Chl (diag)+other	36.41	2.08	19.35	15.60	5 76	0.66	1 12	2 18		0.89		0.94			85	53
7	8	Cal		2.00	10100	0.76	0.40	54 84		2.1.0		0.00		0.01			56	61
7	9	Mg-Cal	0.41			0.1.0	2.95	52 50									56	55
. 7	10	Mg-Cal	0.43				1.69	53.24				0.63					56	57
7	11	Mg-Cal	0.10				1.00	53.92				0.64					56	56
7	12	Cal	0.52			0.36	1.10	55.12				0.01					56	55
7	13	Mg-Cal+Oz	5.28		0.68	0.00	1 24	91.86			+						100	55
7	14	Cal+other	5.01	3.54	2 44	1 99	0.98	85.46		0.59							100	57
7	15	Ma-Cal	0.71	0.04	2 .77	1.00	3.07	51 42		0.00		0.81					56	58
8	1	Ma-Cal (hinclast)	0.71				5 21	48.23			+	1.34	1 22				56	43
				1		t	0.21	10.20			1		1.22	1	1			

Table 9-1: SEM analyses from sample I-100 2526.53 (m)

Site	Position	Mineral	810	TiO	AL O	E-O	MaO	CaO	Na.O	КO	PO	80	E	CI	Cr_2O_3	ZrO ₂	Recalculated	Actual
			3102	1102	$A_{12}O_3$	FeO	MgO	CaO	Na ₂ O	R ₂ 0	F_2O_5	303	Г	CI			Total	Total
8	2	Mg-Cal (bioclast)					3.36	51.32				1.32					56	40
8	3	Chl (diag.)	34.13	0.26	12.03	19.38	17.30	0.47	0.52	0.26							85	72
8	4	Chl (diag.)	31.97		15.66	20.37	15.89	0.38	0.55	0.17							85	71
8	5	Ms+Ab (clast)	59.79		29.23	2.02	0.75		3.03	5.17							100	87
8	6	Ms+Ab (clast)	52.50		34.03	3.45	1.28		2.60	6.17							100	80
9	1	Chl (detr.)	30.71	0.60	17.09	24.15	11.22	0.39	0.55								85	71
9	2	Cal (bioclastl)	0.94		0.43	0.68	0.42	53.56									56	42
9	3	Mg-Cal (bioclast)					2.99	51.18				1.83					56	42
9	4	Qz	99.99														100	80
9	5	Chl (diag.)	34.93		15.35	23.77	9.74	0.21	0.73	0.26							85	72
10	1	Chl (diag.)	38.56	1.64	15.08	16.39	10.71	0.39	0.52	1.69							85	80
10	2	III	47.78	0.86	27.62	3.48	2.56		0.85	6.86							90	84
10	3	Qz+other	91.45	0.32	5.25	0.85	0.85			1.28							100	83
10	4	III+TiO2 (diag.)	52.29	3.17	21.45	3.64	3.47		0.92	4.93				0.14			90	86
10	5	Py+Chl	10.87	0.40	5.27	27.85	1.28	0.41	0.43	0.84		52.66					100	130
10	6	Py	0.45			28.24		0.42				70.89					100	163

Table 9-1: SEM analyses from sample I-100 2526.53 (m)
Appendix 9-2 Back-scattered images and EDS geochemical mineral analyses of sample Mohican I-100 2529.62 (m) Paragenetic sequence for sample I-100 2529.62

Mg-cal \longrightarrow Mg-Fe-cal+cal+Fe-Cal \longrightarrow chl+ill+py \longrightarrow qz over

Site 1

Calcite (5,12) fill secondary porosity and engulfs Mg-calcite (8,10)

Mg-cal → cal

Quartz overgrowths invade Mg-calcite (11)

Mg-cal → qz over

Site 2

Mg-Fe-calcite (14) is partly replaced by illite (6,14) and chlorite (6)

Mg-Fe-cal → ill + chl

Mg-Fe-calcite (14) and calcite (10) invade Mg-calcite (12)

Mg-cal → Mg-Fe-ca+cal

Chlorite (3) fills secondary porosity between quartz and Mg-calcite (4)

Mg-cal → chl

Site 3

Quartz overgrowths invade Mg-Fe-cal (10)

Mg-Fe-cal → qz over

Pyrite (4) fills secondary porosity in Mg-cal (5)

Mg-cal → py

Site <u>4</u>

Quartz overgrowths invade Fe-cal (11)

Site 6

Quartz is corroded with embayments filled by chlorite (4,P)

chl → qz over



Figure 9-2.1: Sample Mohican I-100 2529.62 (m) site 1 (SEM), (Table 972)Chl Rutile (1), quartz (2,9) and chlorite (3) are detrital minerals in this figure. Quartz is corroded, showing embayment (A). Calcite (5) engulfs Mg-Calcite (10) and both fill intragranular boundaries. Primary porosity is also filled with diagenetic chlorite (7,B). Calcite (12) fills secondary porosity in Mg-Calcite (8). Chlorite (17) is partly repalced by calcite. Illite (6) is amorphous and shows fractures that lack diagenetic minerals. Quartz overgrowths invade Mg-calcite (11).



Figure 9-2.2: Sample Mohican I-100 2529.62 (m) site 2 (SEM), (Table 9-2). Perthite (1,9) exhibits albite exsolution lamelle. Muscovite (7) is replaced by diagenetic mineral (white color) (D) along its cleavage planes and contains quartz inclusions (8). Mg-Fe-calcite (5,14) and Mg-calcite (4) are diagenetic. Embayments and secondary porosity in Mg-Fe-calcite (5) are filled by illite and chlorite (6). Secondary porosity in Mg-calcite (4) usually lacks diagenetic minerals (E). Diagenetic chlorite (3) fills secondary porosity between quartz and Mg-calcite (4). Calcite (10) and Mg-Fe-calcite (14) invade Mg-calcite (12) (F).



Figure 9-2.3: Sample Mohican I-100 2529.62 (m) site 3 (SEM), (Table 9-2). Detrital quartz shows dissolution voids (G). F-apatite (1) and spinel (2) are detrital heavy minerals in this figure. Illite (6,7) and diagenetic chlorite (H) fill secondary porosity. Secondary porosity in Mg-calcite (5), probably a bioclast, is filled with pyrite (4). Secondary porosity in Mg-calcite (13,14) is filled by diagenetic chlorite. Mg-Fe-calcite (10) predates quartz overgrowth (G').



Figure 9-2.4: Sample Mohican I-100 2529.62 (m) site 4 (SEM), (Table 9-2). Tourmaline (1) is a detrital heavy mineral and shows straight crystal outlines. Muscovite(3) and F-apatite (2) are present as inclusions in detrital quartz (I). Secondary porosity in detrital quartz is filled with calcite (4). Fe-calcite (7) is diagenetic and fills primary porosity. One lithic clast (J) is made up mostly of chlorite (6) and detrital quartz (8). Quartz overgrowth (K) grows around detrital quartz. Rarely diagenetic chlorite (L) fills secondary porosity. Fe-calcite (11) and Mgcalcite (13) predate quartz overgrowth (K).



Cal+Kfs
 III
 III
 Qz
 Chl (detr.)
 Chl (detr.)
 Chl (deag.)

Figure 9-2.5: Sample Mohican I-100 2529.62 (m) site 5 (SEM), (Table 9-2). K-feldspar (1) is detrital and shows secondary porosity which is filled with calcite (2). Chlorite is both detrital (6,7) and diagenetic (8). Diagenetic chlorite (8,M) together with illite (3,4) partly fill secondary porosity. Diagenetic calcite (N) fills primary porosity. Late fractures (O) lack diagenetic minerals.



Figure 9-2.6: Sample Mohican I-100 2529.62 (m) site 6 (SEM), (Table 9-2). Detrital quartz is corroded and shows embayments, which are probably filled with diagenetic chlorite (P). In addition some detrital quartz shows dissolution voids (Q). Chlorite is both detrital (1) and diagenetic (4). Detrital chlorite (1) is plastically deformed, creating pseudomatrix. Diagenetic chlorite (4, R) partly fills secondary porosity. Mg-calcite (2) and calcite (3) are diagenetic filling intragranular space. Secondary porosity (S) in Mg-calcite (2) often lacks diagenetic minerals. Illite (6,8), calcite (7) and other minerals are components of the matrix (T). Mg-calcite (15) and calcite (10) predate quartz overgrowth (P').



Figure 9-2.7: Sample Mohican I-100 2529.62 (m) site 7 (SEM). Quartz (U, dark grey color) is the most abundant detrital mineral in this figure. Calcite (V, light grey color) is diagenetic and is the main cement in this figure. Secondary porosity (black color) is high and often lacks diagenetic minerals.

0.11	Desitien	Min and	8:0	TIO	AL O	F -0	M-0	0-0		кO	РО	2	-	0.0	Recalculated	Actual
Site	Position	winerai	3IO ₂	10_2	AI_2O_3	FeO	MgO	CaO	Na ₂ O	R ₂ U	$P_2 O_5$	303	F	O_2O_3	Total	Total
1	1	Rt (detr.)		100.00											100	132
1	2	Q7	99,99												100	152
1	3	Chl (detr.)	31.80	1.91	14.60	17.31	18.28	0.29	0.50						85	140
1	4	Pv+Cal+Chl	6.74		3.02	26.42	1.61	2.21	0.36	0.45		59.18			100	113
1	5	Cal	-			0.56		55.43							56	112
1	6	III	53.44		21.41	4.24	2.75		1.22	5.61		0.59			90	118
1	7	Chl (diag.)	32.29		14.30	24.07	12.93	0.25	0.87						85	119
1	8	Mg-Cal	0.67			0.85	1.65	52.82							56	116
1	9	Qz	99.99												100	135
1	10	Mg-Cal					2.26	52.37				1.38			56	111
1	11	Mg-Cal	0.59			0.58	1.69	52.90							56	50
1	12	Cal	0.88		0.39	0.88	0.61	53.23							56	50
1	13	Mg-Fe-Cal	0.85			1.41	1.25	52.49							56	52
1	14	Cal+Chl+Py	16.54		7.97	12.75	7.63	54.04				1.07			100	53
1	15	Mg-Cal	0.34			0.49	1.37	53.82							56	51
1	16	Mg-Fe-Cal	0.68			1.32	1.01	52.99							56	50
1	17	Chl (Cal)	32.35		14.82	19.53	17.49	0.26		0.31					85	80
2	1	Perth	66.57		18.20				1.19	14.06					100	145
2	2	Py+other	2.16		1.04	29.42	0.71	0.55	0.70			65.42			100	125
2	3	Chl (diag.)	31.55		15.56	24.17	12.27	0.54	0.65						85	129
2	4	Mg-Cal				0.63	1.11	53.74				0.52			56	111
2	5	Fe-Cal	0.67			1.40	0.86	52.54		0.17					56	112
2	6	III+ChI	45.56	0.47	32.18	10.6	2.69		0.74	7.76					100	138
2	7	Ms	45.79	0.65	26.37	7.82	3.38		0.37	8.59					93	138
2	8	Qz+other	90.98		5.44	1.02	0.36			2.20					100	146
2	9	Kfs+Ab (Perth)	66.08	0.37	18.12				0.77	14.70					100	146
2	10	Cal	0.44			0.66	0.58	54.33							56	51
2	11	Fe-Cal	0.52			1.00	0.86	53.64							56	50
2	12	Mg-Cal+Anh?					2.28	52.34				1.37			56	50
2	13	Cal+III	20.15		6.56	0.91	0.55	66.74		5.11					100	63
2	14	Mg-Fe-Cal+III	9.71		3.02	1.56	1.18	82.32		2.22					100	56
2	15	Mg-Cal+Anh?					2.47	52.39				1.13			56	51
2	16	Mg-Cal				0.43	1.78	52.88				0.90			56	51
2	17	Cal	0.88			0.80		54.33							56	50
3	1	F-Ap (detr.)	1.16					49.31			43.95	0.60	4.99		100	139
3	2	Spl			20.29	20.18	9.93							49.60	100	132
3	3	Chl (detr.)	33.42	0.41	11.88	16.84	20.76	0.26	0.85					0.36	85	133
3	4	Py+Cal	0.32			27.75		4.69				67.25			100	116
3	5	Mg-Cal				0.85	1.57	53.10				0.49			56	112
3	6	III	50.82		20.03	6.27	4.03	0.78	1.57	5.19		0.45			90	126
3	7	III	40.31		19.44	17.17	6.74	1.04	1.18	2.76		0.69			90	101
3	8	Qz	99.99												100	111

Table 9-2: SEM analyses from sample I-100 2529.62 (m)

Cito	Desition	Minoral	SiO	TiO	AL O	FaO	Mao	C-0	No O	КO	PO	50	F	Cr O	Recalculated	Actual
Sile	Position	winerai	5102	10_2	A12O3	reo	NigO	CaU	INd ₂ O	N ₂ O	F 205	303	Г	01203	Total	Total
3	9	Mg-Fe-Cal	0.54			1.04	1.13	53.30							56	51
3	10	Mg-Fe-Cal	0.69			1.41	1.09	52.81							56	51
3	11	Mg-Fe-Cal	0.57			1.50	1.13	52.82							56	51
3	12	Mg-Cal					3.10	52.11				0.80			56	51
3	13	Mg-Cal	0.49				2.92	51.64				0.95			56	52
3	14	Mg-Cal	0.42				3.81	50.86				0.91			56	52
3	15	Fe-Cal	0.84		0.40	1.33	0.86	52.57							56	51
3	16	Mg-Cal	0.40			0.63	1.40	52.65				0.92			56	52
3	17	Mg-Cal+other	1.03			1.14	1.54	50.58				1.20			56	53
4	1	Tur	36.95	1.33	26.42	11.36	5.64	0.62	2.69						85	139
4	2	F-Ap (diag.)+Qz	2.48					46.34			43.90		7.26		100	140
4	3	Ms (detr.) (incl.)	52.30	0.33	22.97	5.22	2.59			9.60					93	147
4	4	Cal+III+other	19.74		8.11	5.42	3.08	62.24		1.41					100	57
4	5	Qz	97.03		2.29					0.69					100	155
4	6	Chl (detr.)	29.77		21.17	23.64	9.83		0.37	0.25					85	132
4	7	Fe-Cal				1.03	0.96	54.00							56	116
4	8	Qz	99.99												100	141
4	9	Mg-Cal	0.55			0.78	1.48	52.53				0.67			56	51
4	10	Cal+other	3.76		1.7	1.38	2.29	89.8		0.35		0.72			100	52
4	11	Fe-Cal	0.52			1.26	0.92	53.31							56	50
4	12	Cal	0.76			0.73	0.51	54.01							56	50
4	13	Mg-Cal				0.51	1.86	52.72				0.91			56	50
4	14	Mg-Cal	0.37			0.63	1.27	53.10				0.40			56	49
4	15	Mg-Fe-Cal	0.44			1.10	1.06	53.41							56	50
5	1	Kfs	66.12		18.37				0.84	14.66					100	120
5	2	Cal+Kfs	21.52		6.58	0.55	2.04	63.93		4.64		0.72			100	119
5	3	111	53.93	0.57	22.28	3.02	3.04		1.19	5.09					90	130
5	4	III	45.94	0.39	26.73	6.43	1.85		0.69	7.56					90	137
5	5	Qz	94.83		2.95	0.66	0.33		0.32	0.66					100	132
5	6	Chl (detr.)	32.42		16.34	23.04	12.10		0.65	0.25					85	138
5	7	Chl (detr.)	32.08	0.57	13.54	21.37	16.68		0.78						85	123
5	8	Chl (diag.)	32.67		14.79	24.23	12.42		0.65						85	141
6	1	Chl (detr.)	32.84		13.27	15.42	22.65		0.65						85	114
6	2	Mg-Cal				0.55	2.47	52.13				0.85			56	114
6	3	Cal	0.58			0.91	0.99	53.52							56	134
6	4	Chl (diag.)	32.56		14.63	21.06	15.23	0.37	0.60	0.29					85	116
6	5	Cal+Chl	8.39		4.02	2.79	3.33	79.92		0.60		0.92			100	132
6	6	Ill+other	65.46	3.04	17.65	3.38	3.13	1.27	1.07	4.52					100	131
6	7	Cal+III	22.74	0.98	8.99	2.19	3.40	59.17	0.97	1.54					100	143
6	8		52.21	0.43	19.79	5.34	5.79		1.80	4.47					90	132

Table 9-2: SEM analyses from sample I-100 2529.62 (m)

Appendix 9-3 Back-scattered images, EDS and WDS geochemical mineral analyses of sample Mohican I-100 2530.47 (m)

Paragenetic sequence for sample I-100 2530.47

Fe-cal \rightarrow chl+py+qz over \rightarrow ank?

Site <u>1</u>

Pelloids made up of Mg-Fe-calcite (1), quartz (3), calcite (2,9), pyrite (3) and Fe-calcite (10)

Ankerite (4,5) engulfs Fe-calcite cement (8)

Fe-cal→ ank

Quartz overgrowths tend to invade Fe-calcite cement

Fe-cal → qz over

Ankerite (5) tends to invade diagenetic chlorite and pyrite (13,14)

chl+py —→ ank

Site 3

Coated grains are made up of Mg-calcite (1), Mg-Fe-calcite (2) and pyrite (3).

or

Coated grains have coating made up of calcite, chlorite and pyrite (4).



SEM analyses

- 1 Mg-Fe-Cal (peloid)
- 2 Cal+other (peloid)
- Qz+Cal+Pv
- 4 Ank
- 5 Ank
- 6 Fe-Cal
- 7 Ms
- 8 Fe-Cal
- 9 Cal+Py (peloid)
- 10 Fe-Cal (peloid)
- 11 Mg-Fe-Cal (peloid)
- 12 Mg-Fe-Cal (peloid)
- 13 Cal+Chl+Py
- 14 Chl+Cal

Figure 9-3.1: Sample Mohican I-100 2530.47 (m) site 1 (SEM), (Table 9-3A). Peloids (A) are made up of micritic Mq-Fe-calcite (1,11,12), Fe-calcite (10), calcite (2,9), quartz (3), and pyrite (3,9). Detrital minerals in this figure are guartz (B) and muscovite (7).Quartz overgrowth (C) forms around detrital quartz (B) and it seems to invade Fecalcite (see position C, light grey color).Fe-calcite (6,8) is diagenetic and fills intragranular space (primary porosity). In places there is matrix which is a mixture of calcite, chlorite and pyrite (13,14). Ankerite (4,5) is late and seems to replace Fe-calcite and invade chlorite and pyrite



SEM analyses

- 1 Mg-Cal (bioclast)
- 2 Cal (bioclast)
- 3 Mg-Cal (peloid)
 - Mg-Cal (peloid)
- 5 Py+Cal (peloid)
- 6 Qz
- 7 Qz
- 8 Qz+Pv
- 9 Cal+III
- 10 Fe-Cal
- 11 Ank
- 12 Chl (diag.)

Figure 9-3.2: Sample Mohican I-100 2530.47 (m) site 2 (SEM), (Table 9-3A). Peloids (D) are made up of micritic Mg-calcite (3,4,5), and pyrite (5). Often, some of the peloids contain guartz grains and (7) with pyrite inclusions (8). One bioclast (E), probably of foraminifera, is composed of Mg-calcite (1), calcite (2) and guartz (6). Fecalcite (10) is diagenetic and fills intragranular space (primary porosity). Quartz overgrowth (F) forms around detrital quartz and tends to invade Fe-calcite cement (G).Ankerite (11) is late and postdates Fe-calcite. Diagenetic chlorite (12) fills secondary porosity in Fe-calcite.



SEM analyses

- 1 Mg-Cal (c.g.)
- 2 Fe-Mg-Cal (c.g.)
- 3 Fe-Mg-Cal+Py (c.g.)
- 4 Cal+Chl+Py (c.g)
- 5 Fe-Mg-Cal (c.g.)
- 6 Fe-Mg-Cal+Py (c.g.)
- 7 Cal (bioclast)
- 8 Cal+Py+Chl
- 9 Fe-Mg-Cal

10 Ank

Figure 9-3.3: Sample Mohican I-100 2530.47 (m) site 3 (SEM), (Table 9-3A). The majority of the framework grains in this figure are peloids (H), bioclasts (I), detrital quartz (J) and coated grains (K). The peloids (H) have similar composition as those in previous figures. Two coated grains (K) consist of a mixture of Mg-calcite (1), Fe-Mg-calcite (2) and pyrite (3). Quartz overgrowth (L) around detrital quartz may be partly replaced with carbonate cement (M). The rock is grain-supported with a micritic carbonate cement (N). In places together with the micritic Fe-Mg-calcite (9) there is a mixture of calcite, pyrite and chlorite (8). Ankerite (10) is diagenetic and postdates the carbonate cement. Coated grain (K) has coating made up of Fe-Mg-calcite, chlorite and pyrite (4). EMP analyses



- Fe-Mg-Cal+other
 Fe-Mg-Cal+other
 Fe-Mg-Cal+other
 Fe-Mg-Cal+other
 Fe-Mg-Cal+other
 Fe-Mg-Cal+other
 Fe-Mg-Cal+other
- 8 Fe-Mg-Cal+other

Figure 9-3.4: Sample Mohican I-100 2530.47 (m) site 3 (SEM), (Table 9-3B). This images is to show the chemical composition of peloids in the sample. Peloids are made up mostly of Fe-Mg-calcite and other. The cement as already shown in figure 9-3.3 is pure Fe-calcite.



Figure 9-3.5: Sample Mohican I-100 2530.47 (m) site 4 (SEM), (Table 9-3A). In general this figure is similar to previous figures. Only detrital quartz (9) shows secondary porosity (N) that is filled with TiO_2 mineral (3) and illite (10).

Site	Position	Mineral	SiO	TiO	AlcOc	FeO	MnO	MaQ	CaO	Na ₂ O	K ₂ O	P _o O _c	SO	Recalculated	Actual
One	1 0310011	Wineral	0102	1102	7 11203	100	WINO	wigo	040	11020	1420	1 205	003	Total	Total
1	1	Mg-Fe-Cal (peloid)	0.71			1.14		1.94	51.01				1.20	56	121
1	2	Cal+other (peloid)	3.96	7.64	1.68	1.49		3.42	80.54		0.37		0.90	100	124
1	3	Qz+Cal+Py	93.70		0.45	1.20			2.06				2.57	100	161
1	4	Ank	1.66		0.85	7.02		12.31	33.97		0.20			56	121
1	5	Ank		0.52		7.82	0.45	14.68	32.52					56	118
1	6	Fe-Cal				1.03		0.63	54.34					56	116
1	7	Ms	46.85	0.35	33.64	1.54		0.60		0.60	9.42			93	142
1	8	Fe-Cal	0.69			1.05		0.86	53.41					56	113
1	9	Cal+Py (peloid)	4.00		1.45	5.26		3.52	78.91		0.28		6.57	100	121
1	10	Fe-Cal (peloid)	0.88	0.54		3.04		0.92	50.61					56	118
1	11	Mg-Fe-Cal (peloid)	3.53		1.55	2.44		3.58	86.75		0.25		1.87	100	112
1	12	Mg-Fe-Cal (peloid)				1.21		1.74	52.58				0.48	56	110
1	13	Cal+Chl+Py	23.34	0.57	12.94	9.47		4.68	39.95	0.57	1.26	1.54	5.29	100	112
1	14	Chl+Cal	37.56	3.25	17.46	8.34		4.06	22.39	0.59	3.01	2.45		100	122
2	1	Mg-Cal (bioclast)				0.71		2.17	52.48				0.63	56	118
2	2	Cal (bioclast)				0.99		0.85	54.17					56	119
2	3	Mg-Cal (peloid)				0.93	0.38	2.39	52.30					56	114
2	4	Mg-Cal (peloid)				0.39		3.15	51.37				1.09	56	115
2	5	Py+Cal (peloid)	0.51			33.83		1.13	24.32	0.78			39.43	100	120
2	6	Qz	97.72		0.51				1.78					100	156
2	7	Qz	99.75						0.24					100	153
2	8	Qz+Py	61.01			10.69			0.43				27.84	100	155
2	9	Cal+III	21.48		14.66	3.36	0.53	2.27	54.28		3.42			100	133
2	10	Fe-Cal				2.28		1.25	52.47					56	116
2	11	Ank	1.02	0.32	0.68	8.90	0.60	15.00	29.50					56	125
2	12	Chl (diag.)	32.69		19.77	21.08		8.56	0.80	1.01	0.42			85	121
3	1	Mg-Cal (c.g.)				0.55		2.70	52.21				0.53	56	120
3	2	Fe-Mg-Cal (c.g.)			0.36	3.78		1.29	50.57					56	125
3	3	Fe-Mg-Cal+Py (c.g.)				4.91	0.74	3.13	86.83				4.39	100	122
3	4	Cal+Chl+Py (c.q)	4.64		2.36	5.38		3.23	81.20		0.33		2.85	100	123
3	5	Fe-Mg-Cal (c.g.)				2.23	0.36	1.08	51.58				0.76	56	121
3	6	Fe-Mg-Cal+Pv (c.g.)				15.18		1.03	48.72				35.06	100	123
3	7	Cal (bioclast)						0.82	54.53				0.66	56	120
3	8	Cal+Pv+Chl	2.67		1.53	6.86		3.40	79.24				6.29	100	103
3	9	Fe-Mg-Cal				2.66	0.77	1.18	51.39					56	113
3	10	Ank				10.15	0.50	16.38	28.97					56	110
4	1	Cal+Chl+Pv (peloid)	6.46	1.05	3.17	1.78		3.30	82.04		0.45		1.75	100	123
4	2	Mg-Fe-Cal (peloid)	1.24		0.46	1.16		2.19	50.27				0.67	56	124
4	3	TiO2 (diag.)+III	12.17	77.20	6.07	1.33		0.76	1.34		1.13			100	141
4	4	Mg-Cal (peloid)			0.0.	0.56		2.68	51.97				0.80	56	121
4	5	Fe-Cal (peloid)				2.67		0.71	52.63				0.00	56	124
4	6	Mg-Cal (peloid)				2.07		1 13	52.88	0.48			1.52	56	120
-	U	ivig-oai (peioid)				1	l	1.10	02.00	0.40		1	1.02	50	120

Table 9-3A: SEM analyses from sample I-100 2530.47 (m)

Sito	Position	Minoral	SiO	TiO		E ₂ O	MnO	MaO	C20	Na O	КO	PO	50	Recalculated	Actual
Sile	FUSILION	Milleral	5102	1102	A12O3	FeO	IVIIIO	ivigO	CaU	Na ₂ O	R ₂ 0	r 205	303	Total	Total
4	7	Mg-Cal (peloid)	2.42			0.39		3.09	49.41				0.70	56	121
4	8	Mg-Fe-Cal (peloid)				1.09		2.16	52.76					56	125
4	9	Qz	99.99											100	165
4	10		61.34	0.41	20.71	2.48		1.33	1.10	0.52	1.96			90	140
4	11	Mg-Cal (peloid)						2.12	52.12	0.57			1.20	56	121
4	12	Mg-Cal (peloid)				0.35		2.04	51.87	0.50			1.23	56	121
4	13	Mg-Cal (peloid)				0.54		1.93	50.80				1.44	56	122

Table 9-3A: SEM analyses from sample I-100 2530.47 (m)

Site	Analysis	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO ^t	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO3	F	SnO ₂	Total
3	1	Fe-Mg-Cal+other	1.105	0.018	0.50	1.38	0.126	1.06	51.07	0.04	0.104	0.054	0.081	0.15	0.000	55.66
3	2	Fe-Mg-Cal+other	2.699	0.096	1.04	1.39	0.127	1.48	49.24	0.14	0.190	0.099	0.094	0.30	0.000	56.84
3	3	Fe-Mg-Cal+other	2.781	0.055	1.07	1.51	0.160	1.59	48.83	0.13	0.192	0.098	0.087	0.59	0.000	57.04
3	4	Fe-Mg-Cal+other	4.641	0.156	1.83	2.05	0.151	1.57	47.05	0.17	0.360	0.143	0.046	0.95	0.000	59.04
3	5	Fe-Mg-Cal+other	3.096	0.217	1.40	2.33	0.142	1.57	47.92	0.14	0.278	0.130	0.080	1.06	0.000	58.31
3	6	Fe-Mg-Cal+other	1.296	0.018	0.71	1.46	0.226	1.93	49.32	0.04	0.121	0.142	0.089	1.07	0.000	56.40
3	7	Fe-Cal	0.732	0.098	0.21	2.06	0.183	0.91	51.04	0.00	0.060	0.066	0.018	0.34	0.000	55.72
3	8	Fe-Mg-Cal+other	1.077	0.030	0.36	1.28	0.124	1.45	49.96	0.03	0.076	0.125	0.050	0.48	0.000	55.03

Table 9-3B: WDS geochemical analyses from sample I-100 2530.47 (m)

Appendix 9-4 Back-scattered images and EDS geochemical mineral analyses of sample Mohican I-100 2538.84 (m) Paragenetic sequence for sample I-100 2538.84

Fe-Mg-cal \longrightarrow cal \longrightarrow py+F-ap+TiO₂+qz over

Site <u>2</u>

Fe-Mg-calcite (5,6) and calcite (6) fill primary porosity

Calcite fills secondary porosity in detrital quartz

Fe-Mg-cal → cal?

Quartz overgrowths tend to invade calcite (6)

cal → qz over

Site 3

F-apatite (13) fills secondary porosity in the calcite cement

cal —→ F-ap

Pyrite (6) and TiO₂ mineral show displacive texture against calcite cement

 $py+TiO_2 \longrightarrow cal$



Figure 9-4.1: Sample Mohican I-100 2538.84 (m) site 1 (SEM), (Table 9-4). Quartz (4,5), chlorite (1) and F-apatite (2) are the only detrital minerals present. Subhedral to anhedral detrital quartz exhibits brittle fracturing (A). Most of the detrital quartz shows conchoidal fractures (B). Detrital chlorite (1) is plastically deformed, thus creating pseudomatrix, is partly replaced by calcite and exhibits brittle fracturing (C). Muscovite (7) is almost entirely replaced by calcite (7). Secondary porosity (D) lacks diagenetic minerals.



Kfs
 Qz
 Chl (detr.)
 Qz
 Fe-Mg-Cal
 Cal
 Qz+Cal+other
 Qz+Cal+other
 Qz+Cal+other





Figure 9-4.3: Sample Mohican I-100 2538.84 (m) site 1 (SEM), (Table 9-4). Muscovite (1,2) is a detrital mineral. Most of the detrital quartz shows conchoidal fractures (H). Calcite (3,4) is diagenetic and exhibits brittle fracturing (I). Secondary porosity in calcite is rarely filled with F-apatite (13). TiO2 mineral (8) and pyrite (6) are diagenetic and show replacive texture against the carbonate cement. Secondary porosity (J) lacks diagenetic minerals. One lithic clast is made up of chlorite (9,10), muscovite (11) and ilmenite (12). Muscovite (1) is plastically deformed, thus creating pseudomatrix (K).

Sito	Position	Mineral	SiO.	TiO.	ALO.	FoO	MaO	C2O	Na.O	K.O	P.O.	SO.	F	Recalculated	Actual
Sile	1 0311011	WIITETAI	0102	1102	$A_{12}O_3$	160	ivigo	CaO	11020	R ₂ O	1 205	003	1	Total	Total
1	1	Chl (detr.)	30.55	0.74	16.05	22.06	15.16	0.44						85	147
1	2	F-Ap (detr.)	0.83					49.43			43.56		4.65	100	151
1	3	Cal+other	6.33		3.70	3.01	3.50	83.07		0.40				100	122
1	4	Qz	99.47					0.53						100	158
1	5	Qz	99.99											100	163
1	6	Mg-Cal	0.92		0.52		1.88	52.68						56	125
1	7	Alt (Ms)	53.59	0.75	31.18	4.14	2.79	2.25	0.58	4.72				100	179
2	1	Kfs	66.40		17.95				0.53	15.12				100	160
2	2	Qz	99.99											100	170
2	3	Chl (detr.)	30.98	0.32	13.89	19.28	19.48	0.30	0.73					85	160
2	4	Qz	98.64		1.10					0.26				100	169
2	5	Fe-Mg-Cal	1.83		0.95	1.30	1.10	50.80						56	128
2	6	Cal				0.94	0.89	54.17						56	129
2	7	Qz+Cal+other	69.93		4.97	0.69	0.41	22.97		1.01				100	148
2	8	Qz+Cal+other	42.14		2.32	4.13	1.53	49.87						100	144
2	9	Qz+Cal+other	70.83		1.13		0.41	27.31		0.30				100	192
3	1	Ms	46.89	0.42	34.45	0.74	0.45		0.93	9.13				93	162
3	2	Ms	45.64	0.51	33.90	0.73		2.19	0.90	9.11				93	156
3	3	Cal				0.56		55.43						56	127
3	4	Cal				0.44		55.56						56	122
3	5	Chl (diag.)	31.71	0.91	14.12	19.52	16.66	1.22		0.88				85	156
3	6	Py	0.26			27.69		0.29				71.77		100	131
3	7	III	49.71	0.51	19.71	7.15	4.72	0.53		5.21			2.21	90	142
3	8	TiO2 (diag.) +other	17.05	66.67	6.63	3.11	1.34	3.83		1.36				100	135
3	9	Chl (detr.)	39.36	0.96	19.50	16.01	6.49	0.60	0.40	1.65				85	122
3	10	Chl (detr.)	31.13		20.69	24.23	8.31	0.41		0.25				85	135
3	11	Ms+IIm	46.11	5.82	18.54	9.31	5.45	0.81	0.49	3.29				90	145
3	12	llm	5.99	88.71	2.32	1.36	0.78	0.53		0.31				100	138
3	13	F-Ap (diag.)	0.86					49.56			44.29	0.55	4.74	100	150

Table 9-4: SEM analyses from sample I-100 2538.84 (m)

.

Appendix 9-5 Back-scattered images and EDS geochemical mineral analyses of sample Mohican I-100 3692.41 (m)

Paragenetic sequence for sample I-100 3692.41

anh cement \longrightarrow ab \longrightarrow anh \longrightarrow quartz over

Site <u>1</u>

Anhydrite (1) fills primary porosity (sabkha environment)

K-feldspar is replaced by albite at depths >3 km

anh → alb (Kfs)

Remobilized anhydrite partly replaces albitized K-feldspar (3,4)

Albitized Kfs ---- anh

Quartz overgrowth (position E) invades anhydrite cement (1)

anh→qz over



- 3 Kfs+Ab Kfs Ms 6 IIm+Qz 9 Plg (olig.) 10 Plg (olig.-ab.)

Figure 9-5.1. Sample Mohican I-100 3692.41 (m) site 1 (SEM), (Table 9-5). Quartz (8), tourmaline (1), K-feldspar (3,4), muscovite (7), plagioclase (9) and ilmenite (11) are detrital grains in this figure. Other detrital grains are the lithic clasts (A). Detrital quartz (8) contains muscovite inclusions (5). The grains are supported by anhydrite cement (1). Albitized K-feldspar (3,4) is partly replaced by anhydrite (light grey color) (B), which was remobilized from the anhydrite cement (1) or from anhydrite nodules as noted by (Sedge, 2015). Albitized K-feldspar shows dissolution voids (C). Secondary porosity(D) within the anhydrite cement lacks diagenetic minerals. Quartz overgrowth (E) can also be seen in places invading anhydrite cement. Cement support sandstone that implies the anhydrite precursor was an early cement or concretion. It seems that the anhydrite precursor was also anhydrite or gypsum. If the precursor was gypsum then a reduction of $\sim 20\%$ of the volume was encounted. Volume reduction creates porosity, probably around grain boundaries, enabling formation of quartz overgrowth around detrital quartz.



- 1 Ilm+Qz 2 Qz 3 Chl (detr.)
- 4 Ms
- 5 Ms
- 6 Qz+Chl

Figure 9-5.2: Sample Mohican I-100 3692.41 (m) site 2 (SEM), (Table 9-5). One lithic clast is made up of ilmenite (1), quartz (2), chlorite (3) and muscovite (4,5). Anhydrite (F,G) fills intragranular space. Quartz overgrowth (H) forms around detrital quartz and gives a subhedral shape to grains.



Figure 9-5.3: Sample Mohican I-100 3692.41 (m) site 3 (SEM), (Table 9-5): Muscovite (2) and ilmenite (3) are present as inclusions in detrital quartz (4). Plagioclase (6) contains muscovite inclusions (7). Detrital grain (I)is made up of ilmenite (J) with quartz (13) and muscovite (14) inclusions. Dissolution voids (K) are present in both detrital quartz and plagioclase. The rock is supported by anhydrite cement (L). In places, quartz overgrowth (M) forms around detrital quartz.



Figure 9-5.4. Sample Mohican I-100 3692.41 (m) site 4 (SEM), (Table 9-5). K-feldspar (1), possibly perthite, is partly replaced anhydrite (light grey color) (N). Dissolution voids (O) in K-feldspar are filled with diagenetic mineral (white color), probably a TiO2 mineral. Quartz is present as inclusions in detrital ilmenite (4). The grains are supported by anhydrite cement (3) and by matrix (P). Secondary porosity (Q) in the matrix and the anhydrite cement lacks diagenetic minerals. Dash line represents the pre partial replacement crystal boundaries of K-feldspar.



- 1 Qz 2 Chl (detr.)
- 3 Chl (detr.)
- 4 Ms
- 5 Ms
- 6 Ms
- 7 Qz+TiO2
- 8 Chl (detr.)+Ms

Figure 9-5.5: Sample Mohican I-100 3692.41 (m) site 5 (SEM), (Table 9-5). The matrix is made up of silt size detrital quartz (1), detrital chlorite (2,3) and muscovite (4,5,6). Ilmenite is present as framework grains (R). Secondary porosity (S) in the matrix lacks diagenetic minerals. In addition, ilmenite has quartz inclusions (T). Rarely, TiO_2 mineral (7) fills secondary porosity in the matrix.



- 1 Rt
- 2 Ms+Qz 3 Qz+Ms
- 4 Ms+IIm
- 5 Chl (detr.)
- 6 Qz
- 7 llm+Qz
- 8 Qz+other
- 9 Ab+Kfs+Chl

Figure 9-5.6: Sample Mohican I-100 3692.41 (m) site 6 (SEM), (Table 9-5). Framework grains such as rutile (1), lithic clasts (U), quartz (V) and ilmenite (7) are supported by anhydrite cement (W). Lithic clasts are made up of muscovite (2), quartz (3) and ilmenite (4) or of quartz (8) and albite+K-feldspar+chlorite (9). Ilmenite has quartz (6) and chlorite (5) inclusions.



- 1 Kfs+Ab
- 2 Ab
- 3 Anh
- 4 Kfs

Figure 9-5.7: Sample Mohican I-100 3692.41 (m) site 7 (SEM), (Table 9-5). Detrital quartz (X) has anhedral crystal outlines. Framework grains in this figure are supported by anhydrite cement (3). One K-feldspar (4) is partly replaced by anhydrite (light grey color) (Y) and one albite grain (2) has K-feldspar overgrowth (1). Rarely, quartz overgrowth (Z) forms around detrital quartz. Secondary porosity (AA) in anhydrite lacks diagenetic minerals.



- 3 Ms 4 IIm 5 Kfs 6 Anh 7 Qz+Chl 8 III
- 9 Ab

2 III

Figure 9-5.8: Sample Mohican I-100 3692.41 (m) site 8 (SEM), (Table 9-5). The matrix is made up of illite (2,8) and silt size detrital quartz (7), detrital chlorite (7) and muscovite (3). A predominantly feldspathic clasts (AB), probably of microgranite, made up of K-feldspar (5), albite (9) and quartz (AC) are partly replaced by anhydrite (6). Whether the albite is magmatic or diagenetic is unclear. Secondary porosity (AD) within the matrix lacks diagenetic minerals.



Figure 9-5.9: Sample Mohican I-100 3692.41 (m) site 9 (SEM), (Table 9-5). Detrital minerals in this figure are quartz (AC), K-feldspar (3,AE), zircon (4), ilmenite (AD) and chlorite (1,2). Detrital quartz shows dissolution voids (AF). Secondary porosity (AG) in the matrix lacks diagenetic minerals.

Sito	Position	Mineral	SiO	TiO	ALO	FeO	MnO	MaO	CaO	Na ₂ O	K ₂ O	SO.	ZrO₀	Recalculated	Acutal
One	1 0311011	Winteral	0102	1102	74203	100	WINO	wigo	oao	11020	1420	003	2102	Total	Total
1	1	Anh							37.12			62.18		100	126
1	2	Tur	36.04	0.77	33.62	7.68		4.09	0.93	1.60				85	132
1	3	Kfs+Ab	67.13	0.35	18.12					6.50	7.90			100	146
1	4	Kfs	66.55		18.12					0.65	14.70			100	139
1	5	Ms	54.83		27.43	1.03		0.88		0.32	8.53			93	136
1	6	llm+Qz	24.32	74.35	0.83				0.24		0.26			100	148
1	7	Ms	48.29		32.93	0.7		0.6		1.38	9.13			93	138
1	8	Qz	99.99											100	143
1	9	Plg (olig.)	65.40		21.52				2.57	10.17	0.35			100	131
1	10	Plg (oligab.)	66.53		17.99				1.41	12.17		1.87		100	132
1	11	llm		72.26		27.75								100	136
2	1	llm+Qz	21.54	68.54	4.55	0.53			1.68	0.40	1.14	1.60		100	131
2	2	Qz	96.65	1.98	1.08						0.28			100	140
2	3	Chl (detr.)	27.53		24.21	23.38		9.47			0.42			85	132
2	4	Ms	46.35	0.28	35.41	1.16		0.42		1.72	7.65			93	135
2	5	Ms	47.69		35.16	0.49				1.84	7.83			93	135
2	6	Qz+Chl	74.49		9.35	12.22		3.70			0.24			100	137
3	1	Plg (olig.)	65.97		20.92				2.31	10.53	0.26			100	145
3	2	Ms (incl.)	47.85		35.11	0.34				1.77	7.92			93	137
3	3	Qz+llm	94.62	5.22							0.17			100	140
3	4	Qz	99.99											100	146
3	5	Ab	69.14		18.48					12.38				100	139
3	6	Plg (olig.)	66.02		20.88				2.17	10.93				100	140
3	7	Ser (alter.)	50.45		32.16	0.37				1.55	8.47			93	135
3	8	Ab	69.14		18.73					12.15				100	143
3	9	Plg (olig.)	66.55		20.44				1.94	11.06				100	142
3	10	Qz	97.16	0.55	1.81						0.48			100	146
3	11	Ms (incl.)	47.03	0.56	35.27	0.42				1.47	8.25			93	137
3	12	Ms (incl.)	51.69	0.42	31.16	0.59		0.42		1.24	7.50			93	142
3	13	Qz	86.06		9.28				0.70		2.45	1.52		100	143
3	14	Ms	49.28		28.10	3.58		1.87			10.17			93	133
4	1	Kfs	66.46		17.76					0.35	15.43			100	139
4	2	Qz	99.99											100	149
4	3	Anh							37.64			62.38		100	137
4	4	llm+Qz	6.52	63.89		28.80	0.80							100	122
4	5	Qz	99.99											100	145
4	6	Ab	68.75		19.12					12.13				100	147
4	7	Ms (incl.)	48.13		27.68	5.83		3.18		1.11	7.08			93	136
4	8	Chl (detr.)+other	37.78	0.58	24.14	12.03		6.12		0.54	3.81			85	137

Table 9-5: SEM analyses from sample I-100 3692.41 (m)

Site	Position	Mineral	SiO	TiO	Al _a O _a	FeO	MnO	MaO	CaO	Na ₂ O	K ₂ O	SO	ZrO ₂	Recalculated	Acutal
One	1 0010011	Winterda	0102	1102	7203	100	WINO	mgo	ouo	11020	1.20	003	2102	Total	Total
5	1	Qz	99.99											100	148
5	2	Chl (detr.)	27.87		24.67	20.47		11.65			0.31			85	138
5	3	Chl (detr.)	37.20	1.09	23.69	13.20		6.10		0.48	3.24			85	135
5	4	Ms	48.22	1.32	32.06	1.55		0.96		2.87	6.03			93	138
5	5	Ms	49.96		29.20	2.92		1.97		0.74	8.21			93	133
5	6	Ms	50.75		31.23	1.12		0.82		1.29	7.79			93	140
5	7	Qz+TiO2	58.81	40.78		0.40								100	156
5	8	Chl (detr.)+Ms	62.08		20.73	8.65		3.95		0.51	4.10			100	132
6	1	Rt		99.57		0.44								100	129
6	2	Ms+Qz	71.81	1.57	18.01	1.29		1.21			6.11			100	142
6	3	Qz+Ms	84.01		10.22	1.20		0.93			3.63			100	127
6	4	Ms+IIm	54.96	18.82	16.57	1.78		1.11		0.42	6.36			100	125
6	5	Chl (detr.)	28.44	1.19	21.17	24.12		10.11						85	140
6	6	Qz	98.72	1.27										100	152
6	7	llm+Qz	17.91	77.26	1.95	0.99		0.60	0.36	0.53	0.40			100	148
6	8	Qz+other	87.49	0.27	7.95	0.31				3.10	0.88			100	154
6	9	Ab+Kfs+Chl	67.64		19.76	1.90		1.39		5.20	3.24	0.55		100	132
7	1	Kfs+Ab	66.49		18.29					1.31	13.91			100	140
7	2	Ab	68.18		19.52				0.66	11.63				100	145
7	3	Anh							37.36			61.70		100	135
7	4	Kfs	65.99		18.46					0.78	14.76			100	137
8	1	Cal+other	8.64		2.49	2.11		1.69	83.46		1.60			100	106
8	2	III	47.39		22.52	9.90		4.72		0.95	4.37			90	132
8	3	Ms	47.33		35.41	0.54				1.97	7.77			93	139
8	4	llm	1.95	80.52	0.96	13.91	2.17		0.49					100	128
8	5	Kfs	66.40		17.84					0.49	15.29			100	146
8	6	Anh	1.11						37.15		0.22	61.53		100	135
8	7	Qz+Chl	63.11		14.87	14.50		6.77			0.76			100	137
8	8		46.98	12.94	20.48	1.69		0.73		1.81	5.18			90	122
8	9	Ab	68.18		18.50				0.92	12.11	0.29			100	142
9	1	Chl (detr.)	36.95	0.81	33.24	7.01		4.62	0.33	2.01				85	143
9	2	Chl (detr.)	36.13	0.32	33.12	11.52		1.41	0.23	2.27				85	142
9	3	Kfs	66.68		17.59					0.35	15.38			100	137
9	4	Zrn		0.52									99.47	100	140

Table 9-5: SEM analyses from sample I-100 3692.41 (m)

Appendix 9-6 Back-scattered images and EDS geochemical mineral analyses of sample Mohican I-100 3964.6A (m) Paragenetic sequence for sample I-100 3964.6A

anh \longrightarrow cal+qz over+TiO₂

Site <u>2</u>

Quartz overgrowth invades ahydrite cement (5)

anh —→ qz over

Site 3

TiO₂ mineral (9) shows replacive texture against the anhydrite

anh \longrightarrow TiO₂

Calcite (12) fills intragranular space and secondary porosity in detrital quartz

cal → late



Figure 9-6.1: Sample Mohican I-100 3964.6A (m) site 1 (SEM), (Table 9-6). Framework grains in this figure, such as detrital quartz (5,12), K-feldspar (1,6), biotite (3,4,9), muscovite (7,10) and albite (11) are matrix supported. Detrital quartz (12) has illite inclusions (13), probably originally muscovite. K-feldspar (1) is partly replaced by anhydrite (2). Biotite (3) and other micas (A) are plastically deformed, thus create pseudomatrix (B). Pyrite (8) is diagenetic and shows displacive texture against the matrix. Secondary porosity (D) and <u>secondary fractures (E) lack diagenetic minerals</u>.



Figure 9-6.2: Sample Mohican I-100 3964.6A (m) site 2 (SEM), (Table 9-6): Detrital minerals in this figure are K-feldspar (1,8), biotite (4,10), muscovite (6,12,14), quartz (11,F) and chlorite (13). The framework grains are supported by anhydrite cement (5) and by matrix (G). K-feldspar (1) is partly replaced by anhydrite (2). One biotite grain (10) is partly replaced along the cleavage planes by pyrite (10). Often, muscovite (11) is present as inclusion in detrital quartz (11). Late fractures (H) lack diagenetic minerals. Quartz overgrowths invade anhydrite cement (5).



Figure 9-6.3: Sample Mohican I-100 3964.6A (m) site 3 (SEM), (Table 9-6). Often, detrital albite (1) is partly replaced by calcite (2). Other detrital albite grains (6) show dissolution voids (I). Some biotite (8) and muscovite (10) grains alter to chlorite. TiO_2 mineral (9) is diagenetic and shows replacive texture against derital quartz and anhydrite (J). Calcite (12) fills intragranular space and partly replaces detrital albite. Calcite and other diagenetic minerals (13) fill secondary porosity in detrital quartz.

Sito	Position	Minoral	SiO	TiO	AL O	E ₂ O	MaO	C-0		КO	50	Recalculated	Actual
Sile	POSILION	wineral	302		$A_{12}O_3$	FeO	MgO	CaO	Na ₂ O	N ₂ O	303	Total	Total
1	1	Kfs	66.42		18.20				1.09	14.29		100	140
1	2	Anh						37.76			62.23	100	135
1	3	Bt	35.98	1.52	16.55	13.93	12.15			5.88		96	136
1	4	Bt+Anh	32.54	1.74	14.82	14.32	9.00	2.42		6.10	5.07	96	141
1	5	Qz	99.99									100	146
1	6	Kfs	66.79		18.31	0.59				14.33		100	136
1	7	Ms	47.25	0.30	32.69	1.88	0.80		0.62	9.47		93	137
1	8	Py	1.07		0.60	26.55			0.47	0.13	71.17	100	124
1	9	Bt	39.10	1.78	16.17	13.86	8.08			6.85		96	135
1	10	Ms	48.13	0.44	29.40	3.81	1.48		0.49	9.26		93	141
1	11	Ab	70.79		18.31				10.66	0.24		100	140
1	12	Qz	95.96		2.78				0.82	0.42		100	147
1	13	III	54.20	0.26	23.53	2.33	2.20			7.47		90	141
1	14	Qz+III	82.89	0.25	11.70	0.71	0.51			3.93		100	143
1	15	Ms	48.25		34.69	0.55	0.37		1.49	7.67		93	138
2	1	Kfs	66.76		17.65				0.50	15.08		100	140
2	2	Anh	0.45					37.58		0.19	61.78	100	135
2	3	Py	1.39		0.64	26.46		0.36	0.47	0.16	70.52	100	123
2	4	Bt	35.45	1.31	17.23	13.42	14.09			4.32		96	135
2	5	Anh						37.62			62.38	100	137
2	6	Ms	47.21		34.61	0.59	0.73		1.26	8.19	0.44	93	132
2	7	Ms+Anh	47.55	0.55	28.66	1.7	1.28	3.44	0.47	8.91	7.44	100	144
2	8	Kfs	67.06		17.55				0.50	14.88		100	139
2	9	Ms	46.93	0.54	31.02	3.12	1.10		0.95	9.35		93	139
2	10	Bt+Py	41.24	1.03	22.11	12.67	9.12		0.40	6.60	2.83	96	136
2	11	Qz+Ms (incl.)	87.96		4.06	1.79	3.08	1.55	0.38	1.16		100	129
2	12	Ms+Anh	40.84		29.21	1.29	0.80	5.79	0.53	8.56	12.98	100	140
2	13	Chl (detr.)	26.27		22.31	23.79	12.63					85	133
2	14	Ms	48.80	0.40	29.51	2.67	1.65		0.68	9.29		93	135
3	1	Ab	68.63		18.61			0.36	12.03	0.17		100	147
3	2	Cal+Ab	11.70		4.04			81.31	2.45	0.49		100	115
3	3	Chl (detr.)	28.87		22.31	20.74	12.74			0.33		85	130
3	4	ÎII ÎI	49.30	0.29	22.72	3.60	2.86	3.53	0.39	7.31		90	138

Table 9-6: SEM analyses from sample I-100 3964.6A (m)
Cito	Desition	Minorol	SiO	TiO		F =0	Mao	6-0		КO	80	Recalculated	Actual
Sile	Position	wineral	302	ΠO_2	Al_2O_3	reo	ivigO	CaO	INd ₂ O	R ₂ U	303	Total	Total
3	5	Chl (detr.)	25.59		24.07	23.73	11.33					85	134
3	6	Ab	68.95		18.88				12.17			100	146
3	7	Bt	36.27	1.62	15.62	14.82	10.79			6.72		96	133
3	8	Bt (chl.)	35.72	1.53	17.91	11.42	15.95	0.31		3.15		96	133
3	9	TiO2 (diag.)	1.03	98.50	0.47							100	126
3	10	Alt Ms (chl)	43.04		22.79	15.01	15.49			3.69		100	130
3	11	Anh	1.03		0.57			37.27			61.15	100	132
3	12	Cal	0.48					55.31		0.22		56	111
3	13	Cal+other	15.62		1.02	1.35	2.62	73.14	3.18	0.34	1.27	100	118
3	14	Anh						37.12			61.88	100	131
3	15	Chl (diag.)	27.60		22.75	22.75	11.15			0.44		85	130

Table 9-6: SEM analyses from sample I-100 3964.6A (m)

Appendix 9-7 Back-scattered images and EDS geochemical mineral analyses of sample Mohican I-100 4098.08 (m) Paragenetic sequence for sample I-100 4098.08

anh \longrightarrow micritic cal \longrightarrow TiO₂+pyrite

Site <u>1</u>

Micritic calcite (dark grey color) tends to invade anhydrite (4) position F or anhydrite tends to invade micritic calcite

anh → micritic cal or micritic cal → anh

 $\text{TiO}_{\mbox{\tiny 2}}$ mineral (12) and pyrite (5) shows replacive texture against the micritic calcite

micritic cal \longrightarrow TiO₂+pyrite





Sito	Position	Minoral	SiO	TiO		E-O	MaO	C-0		кo	80	Recalculated	Actual
Sile	FUSILION	winteral	310 ₂	HO_2	$A_{12}O_3$	FeO	ivigO	CaO	Na ₂ O	N ₂ O	303	Total	Total
1	1	Kfs	66.19		18.12				0.92	14.77		100	145
1	2	Ab	68.58		18.99			0.59	11.84			100	150
1	3	Chl (diag.)	25.49		22.50	25.01	11.40	0.23				85	138
1	4	Anh						37.95			62.08	100	137
1	5	Py				27.25			0.62		72.14	100	120
1	6	Qz	99.99									100	148
1	7	Kfs	66.66		17.91				1.32	14.11		100	138
1	8	Chl (diag.)	26.96		20.71	25.37	11.11			0.50		85	123
1	9	Ms	46.54		33.67	1.09	0.88	0.78	1.00	9.05		93	137
1	10	Ms	44.44	0.73	27.50	5.55	6.03	0.85	1.22	6.68		93	142
1	11	Ms	47.87	0.37	29.54	3.53	1.43		0.70	9.55		93	139
1	12	TiO2 (diag.)+Ms	23.49	54.16	16.84	0.58			0.78	4.13		100	139
1	13	Ms	46.68	0.56	33.78	1.37	0.70		0.95	8.98		93	141
1	14	Chl+Cal	28.58	0.37	20.92	19.35	18.09	11.19		1.14		100	132
1	15	Anh+Ab	12.13		3.19			30.63	1.73		52.31	100	140
1	16	Ms (chl.)	38.40		24.53	18.27	14.81	1.01		2.51		100	136
1	17	Kfs	66.72		17.71					15.57		100	143
1	18	Chl (diag.)	31.00		21.17	18.84	12.91	0.26		0.44		85	136

Table 9-7: SEM analyses from sample I-100 4098.08 (m)

Appendix 10-1A Back-scattered images, EDS and WDS geochemical mineral analyses of sample Moheida P-15 2563.67 (m) Paragenetic sequence for sample P-15 2563.67

Fe-Mg-cal+Mg-cal \rightarrow Fe-cal+e-ank+e-sd \rightarrow I-sd \rightarrow chl \rightarrow I-ank

Site <u>1</u>

Coated grains are made up of siderite, kaolinite, calcite and Fe-Mg-calcite

Fe-calcite (4) fills primary porosity and tends to be surrounded and replaced by late siderite (I-sd) (white color)

Fe-cal → I-sd

One bioclast is made up of siderite, calcite, kaolinite (8) and Mg-calcite (9)

bioclast → Mg-cal

Site 3

Late ankerite (I-ank) (1) shows replacive texture against early siderite (e-sd) (B) and chlorite (C).

e-sd+chl → I-ank

Fe-Mg-calcite (4) is partly replaced by late siderite (I-sd) (D)

Fe-Mg-cal → I-sd

Site <u>7</u>

Early siderite (e-sd) (1) invades early ankerite (e-ank) (2)

e-ank — → e-sd

Late siderite (I-sd) (3) surrounds early siderite and early ankerite

e-sd+e-ank ---→ I-sd

Chlorite (11) fills secondary porosity in the cement

e-sd+e-ank+l-sd ----> chl

Site <u>7</u>

Late ankerite (I-ank) (5) seems to cross-cut early and late siderite, early ankerite and chlorite

e-sd+e-ank+l-sd+chl ----> l-ank



Figure 10-1A.1: Sample Moheida P-15 2563.67 (m) site 1 (SEM), (Table 10-1A). Framework grains in this figure are coted grains (A) with narrow concentric bands. Distinctive color represent concentric bands with different chemical composition. The coated grains are made up of a mixture of components like siderite (dark grey color) (1,2,5), cassiterite (white color) (6,7,17), kaolinite (dark grey color) (3,5,18,19), calcite (18,21) and Fe-Mg-calcite (dark grey color) (22). One coated grain (A) tends to show nucleus made up of siderite and kaolinite (16). Another coated grain has incorporated intraclasts made up of calcite, siderite and kaolinite (3). Often, between concentric layers the CaCO3 has been recrystallized to spary Fe-Mg-calcite (22). One bioclast, probably of foraminifera (A1) is made up of siderite, calcite, kaolinite (8) and Mg-calcite (9). Fe-Mg-calcite (4) fills primary porosity and is replaced by late siderite.





EMP analyses

- 1 Sd+KIn+other
- 2 Sd+KIn
- 3 Sd+KIn+Cst+other
- 4 Sd+KIn+Cst+other
- 5 Sd+KIn+Cst+other
- 6 Sd+KIn+Cst+other
- 7 Sd+Cal+KIn+other
- 8 Sd+KIn+Cst+other
- 9 Sd+KIn+Cst+other

Figure 10-1A.2: Sample Moheida P-15 2563.67 (m) site 1 (SEM), (Table 10-1B). Same as figure 10-1.1.



SEM analyses 1 Ank+Chl 2 F-Ap+Sd+Py+other 3 Sd+Chl+other 4 Fe-Mg-Cal 5 Fe-Cal

Figure 10-1A.3: Sample Moheida P-15 2563.67 (m) site 2 (SEM), (Table 10-1A). Main components of the cement are late ankerite showing straight crystal oultines (1), F-apatite (2), siderite (3), Fe-Mg-calcite (4), Fe-calcite (5) and chlorite (1,4). Late ankerite (1) shows replacive texture against early siderite (white color) (B) and chlorite needles (C). Fe-Mg-calcite (4) is replaced by late siderite (D) (white color).



EMP analyses

- 10 Cal+Sd+Chl+other
- 11 Cal+Sd+Py+other
- 12 Cal+Sd+Py+other

Figure 10-1A.4: Sample Moheida P-15 2563.67 (m) site 2 (SEM), (Table 10-1B). Same as figure 10-1.3.



- SEM analyses
- 1 Fe-Cal
- 2 Sd+KIn+other
- 3 Fe-Cal
- 4 Sd+KIn+other
- 5 Mg-Fe-Cal
- 6 Sd+other
- 7 Sd+Cal+other
- 8 Fe-Cal
- 9 Mg-Fe-Cal (bioclast)

Figure 10-1A.5: Sample Moheida P-15 2563.67 (m) site 3 (SEM), (Table 10-1A). The framework grain in this figure is coted grains with narrow concentric bands and nucleus. Distinctive color represent concentric bands with different chemical composition. White color concentric bands are made up by siderite, calcite, chlorite and other (4,7). The dark color concentric bands are a mixture between Mg-Fe-calcite (5), siderite (6) and other (also see analyses in figure 10-1.1). The nucleus (black dash line, E) is an intraclast made up of Fe-calcite (1,3,8), siderite and chlorite (2). In some concentric layers there is an asymmetric relative abundance of calcite and siderite (for example between analyses 4,5,6 and 7). The cement is same as that in figures 10-1.4 and 10-1.7



13 Sd+KIn+Cst+other 14 Sd+Cal+Cst+KIn+other 15 Sd+kln+other

Figure 10-1A.6: Sample Moheida P-15 2563.67 (m) site 3 (SEM), (Table 10-1B). Same as figure 10-1.5.



Figure 10-1A.7: Sample Moheida P-15 2563.67 (m) site 4 (SEM), (Table 10-1A). Silt size quartz (12) is the only detrital mineral in this figure. The coated grains in figure 10-1.1 are supported by cement composed of mix of siderite (1.3.4), ankerite (2,5,6), Fe-calcite (7), Fe-Mg-calcite (8) and chlorite (9,11). Early siderite (1) and late siderite (G) (white color) replace early ankerite (2) (see F) and G (black color). In turn early siderite (H) is replaced with late siderite (I). Chlorite (11) fills secondary porosity in the cement. late ankerite (5) seems to cross-cut early and late siderite, early ankerite and chlorite (position J).

0.1	D		0:0	TO							KO		00	-	0.0	Recalculated	Actual
Site	Position	Mineral	SIO ₂	TIO ₂	AI_2O_3	FeO	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	SnO ₂	Total	Total
1	1	Sd+KIn+Cst+other	13 48	0.50	8.03	72 27			0.66	1.05	0.79				2.76	100	105
1	2	Sd+KIn+other	11.77	0.72	6.42	77.61		0.98	1.08	0.98	0.42				20	100	109
1	3	Cal+Sd+KIn+other	6.40	02	3.53	21.88		2.54	63 79	0.74	0.40		0.72			100	137
1	4	Fe-Cal	0.59		0.37	4.38		0.83	49.84	0.1 1	0110		0.1.2			56	130
1	5	Sd+KIn+other	15.49	0.58	9.60	71.64		1.19	1.05		0.45					100	87
1	6	Cst+Sd+KIn	5.56		2.08	18.00		0.95					1.00		72.42	100	130
1	7	Cst+Sd+KIn	11.85	0.48	5.65	56.01		0.93	1.46						23.61	100	121
1	8	Sd+Cal+KIn	17.63	0.43	13.55	42.98		3.80	20.46	0.57	0.60					100	157
1	9	Mg-Cal						3.02	51.27	0.50			1.20			56	135
1	10	Sd+Chl+other	24.86	0.50	16.27	52.06		3.70	0.92	0.54	1.16					100	148
1	11	Sd+Chl+other	23.10	0.37	14.64	51.47		3.48	4.09	0.58	0.87	1.40				100	153
1	12	Sd+Chl+other	21.78		15.21	40.15		4.51	15.56		0.65	2.13				100	144
1	13	Sd+Chl+other	20.56	0.38	12.09	45.91		2.55	16.73		0.96	0.80				100	147
1	14	Cal+Sd+other	5.97		3.23	12.27		2.52	75.49		0.53					100	134
1	15	Sd+Chl+other	24.52	0.42	14.34	52.62		3.52	3.47		1.13					100	143
1	16	Sd+KIn	13.09	0.72	8.07	75.31		0.96	1.13		0.72					100	85
1	17	Cst+Sd+KIn+other	5.39		1.42	14.78		0.88		0.78			0.77		76.00	100	126
1	18	Sd+Cal+KIn+other	7.36	0.58	6.07	54.68		1.59	29.73							100	106
1	19	Sd+KIn+other	16.77	0.62	9.28	68.66		1.31	0.74	0.96	0.82					100	90
1	20	Sd+Cal+other	17.56	0.57	10.98	57.02		1.23	10.38	1.11	1.17					100	83
1	21	Cal+Sd+KIn+other	7.17		4.44	10.41		1.91	75.63		0.46					100	131
1	22	Fe-Mg-Cal				4.28		1.50	50.23							56	108
1	23	Sd+Cal+Chl+other	18.20	0.40	9.96	55.56		2.19	11.92	0.63	1.13					100	147
3	1	Ank+Chl	18.89		15.15	24.78		5.07	36.10							100	109
3	2	F-Ap+Sd+Py+other	7.27		4.14	18.01		0.55	31.30	1.05	0.65	29.35	1.30	6.37		100	116
3	3	Sd+Chl+other	23.51		12.38	56.37		2.14	2.95	0.65	2.02					100	137
3	4	Fe-Mg-Cal				1.46		1.79	52.75							56	110
3	5	Fe-Cal	0.74		0.48	3.33		0.89	50.56							56	115
5	1	Fe-Cal				2.67		0.49	52.84							56	116
5	2	Sd+KIn+other	13.24	0.67	11.38	68.83		1.81	1.19	1.38	1.00					100	113
5	3	Fe-Cal				2.71		0.61	52.68							56	111
5	4	Sd+KIn+other	18.91	0.65	10.83	65.46		1.54	0.66	1.02	0.94					100	129
5	5	Mg-Fe-Cal				1.69	1.32	1.54	50.03							56	121
5	6	Sd+other	9.26		8.75	75.13		1.38	1.06						4.42	100	145
5	7	Sd+Cal+other	8.49	0.60	5.18	70.55		1.14	13.64		0.39					100	156
5	8	Fe-Cal				2.72		0.75	52.52							56	131
5	9	Mg-Fe-Cal (bioclast)				1.64	0.98	2.00	51.82							56	134
7	1	Sd	0.66			40.21	0.37	8.21	6.56							56	132
7	2	Ank				10.91	0.85	12.66	31.95							56	110
7	3	Sd+other	21.46	0.43	12.74	59.49		1.71	2.74		1.43					100	114
7	4	Sd+other	2.25			72.57	0.62	15.54	9.02							100	124
7	5	Ank	0.42			11.32	0.77	12.53	31.30							56	107
7	6	Ank				10.80	1.06	12.88	30.74							56	122
7	7	Fe-Cal	0.84		0.50	3.48		0.87	50.32							56	118

Table 10-1A: SEM analyses from sample P-15 2563.67 (m)

Site	Position	Mineral	SiOa	TiOa	Al ₂ O ₂	FeO	MnΟ	MaQ	CaO	Na ₂ O	K₂O	P₂O₅	SO ₂	F	SnO ₂	Recalculated	Actual
0.10	1 conton	Minora	0.02			100	Wine	ingo	040			. 203	003	·	002	Total	Total
7	8	Fe-Mg-Cal				2.44		2.16	51.40							56	127
7	9	Chl+Cal+other	21.52		16.19	34.63		5.21	22.44							100	80
7	10	Ank				10.95	1.28	12.45	30.89							56	119
7	11	Chl+Cal+other	17.13		13.81	21.57		4.31	43.15							100	126
7	12	Qz	99.49			0.50										100	116

Table 10-1A: SEM analyses from sample P-15 2563.67 (m)

Site	Position	Mineral	SiO ₂	TiO ₂	Al_2O_3	FeO ^t	MnO	MgO	CaO	Na ₂ O	K ₂ O	P_2O_5	SO_3	F	SnO ₂	Total
1	1	Sd+KIn+other	6.54	0.44	4.14	49.91	0.000	0.57	4.05	0.35	0.397	0.101	0.11	0.067	0.19	66.83
1	2	Sd+Kln	7.77	0.40	4.90	51.88	0.007	0.62	0.44	0.53	0.508	0.134	0.07	0.023	0.71	67.97
1	3	Sd+KIn+Cst+other	6.37	0.34	3.66	40.79	0.015	0.65	0.73	0.38	0.000	0.275	0.04	0.101	17.57	70.87
1	4	Sd+KIn+Cst+other	6.60	0.43	4.24	48.46	0.007	0.51	0.64	0.29	0.383	0.152	0.06	0.127	2.98	64.84
1	5	Sd+KIn+Cst+other	7.19	0.46	4.29	52.73	0.021	0.59	0.82	0.35	0.187	0.266	0.02	0.190	9.72	76.76
1	6	Sd+KIn+Cst+other	6.00	0.32	3.19	36.32	0.009	0.59	0.69	0.34	0.000	0.258	0.10	0.028	19.76	67.58
1	7	Sd+Cal+KIn+other	3.37	0.28	2.81	25.94	0.084	1.08	24.07	0.29	0.189	0.221	0.07	0.019	0.15	58.55
1	8	Sd+KIn+Cst+other	7.71	0.38	5.02	44.94	0.000	0.54	0.32	0.36	0.635	0.171	0.11	0.040	0.16	60.36
1	9	Sd+KIn+Cst+other	7.59	0.39	4.69	48.53	0.000	0.49	0.67	0.56	0.564	0.145	0.06	0.051	0.34	64.06
2	10	Cal+Sd+Chl+other	5.33	0.02	4.16	11.70	0.177	3.44	36.44	0.07	0.078	0.212	0.06	0.032	0.00	61.72
2	11	Cal+Sd+Py+other	7.29	0.18	4.16	19.36	0.207	3.70	30.52	0.22	0.545	0.216	2.71	0.279	0.02	69.28
2	12	Cal+Sd+Py+other	9.43	0.22	5.42	23.69	0.170	3.13	26.99	0.23	0.638	0.185	2.63	0.309	0.00	72.91
3	13	Sd+KIn+Cst+other	8.11	0.38	4.82	50.44	0.041	0.58	0.55	0.36	0.478	0.149	0.11	0.151	3.64	69.73
3	14	Sd+Cal+Cst+KIn+other	4.86	0.31	3.29	36.35	0.039	0.78	11.96	0.26	0.240	0.136	0.10	0.087	3.00	61.39
3	15	Sd+kIn+other	8.27	0.39	5.11	53.00	0.011	0.52	0.41	0.39	0.633	0.137	0.07	0.059	0.11	69.09

Table 10-1B: WDS geochemical analyses from sample P-15 2563.67 (m)

Appendix 10-1B Back-scattered images, secondary images and EDS geochemical mineral analyses of sample Moheida P-15 2563.67 (m)



Figure 10-1B.1: Sample Moheida P-15 2563.67 (m) site 1 (SEM). Coated grain showing concentric narrow bands. The light grey color represents areas enriched in cassiterite whereas the dark areas are enriched in siderite. The white squares with labelled 6 and 7 represent points of interest in the figure.



Figure 10-1B.2: Sample Moheida P-15 2563.67 (m) site 2 (SEM), (Table 10-1C). The coated grain is made up of mixture between cassiterite (1,5), siderite, (2), kaolinite (4), calcite (3) and other. The light grey color represents areas are enriched mostly in cassiterite whereas the dark areas are enriched mostly in siderite.



Figure 10-1B.3: Sample Moheida P-15 2563.67 (m) site 3 (SEM). Microcrystallites (white color) made up mostly of cassiterite with minor siderite and kaolinite (see photo 10-1.6)



Figure 10-1B.4: Sample Moheida P-15 2563.67 (m) site 4 (SEM), (Table 10-1C). The image represents spot 6 in figure 10-1B.1. Microcrystallites (white color) are made up mostly of cassiterite with minor siderite and kaolinite (1,2,3).



Figure 10-1B.5: Sample Moheida P-15 2563.67 (m) site 5 (SEM), (Table 10-1C). Siderite needles (1) with rare cassiterite (3).



Figure 10-1B.6: Sample Moheida P-15 2563.67 (m) site 6 (SEM). Part of coated grain showing changing in the relief: with high relief (light grey color) are areas where cassiterite is dominant compared to the low relief (dark grey color) where siderite is dominant. The white square labelled 7 represents point of interest in this figure.



1 Sd+Chl+other 2 Sd+Chl+other

3 Cst+Sd+KIn+other

- 4 Cst+Sd+Kln+other
- 5 Sd+Cal+Cst+KIn+other
- 6 Cst+Sd+KIn+other
- 7 Sd+Cst+KIn+other

Figure 10-1B.7: Sample Moheida P-15 2563.67 (m) site 7 (SEM), (Table 10-1C). Part of coated grain showing differentiation in the chemical composition. The light grey areas are enriched in cassiterite (3,4,6) whereas the dark areas are enriched in siderite (1,2,5,7).



- 1 Sd+Chl+other
- 2 Cst+Sd+KIn+other
- 3 Sd+Cst+Chl+other

Figure 10-1B.8: Sample Moheida P-15 2563.67 (m) site 8 (SEM), (Table 10-1C). The image represents area 7 in figure 10-1B.7 Cassiterite microcrystallites (2) with amorphous material made up of siderite, chlorite and other (1).



Figure 10-1B.9: Sample Moheida P-15 2563.67 (m) site 9 (SEM), Part of coated grain showing areas with different brightness. Light grey color represents mostly cassiterite whereas the dark grey color represents siderite. The white square labelled 17 represents point of interest in figure 10-1A.1 in appendix 10-1A.



1 Cst+Sd+KIn+other 2 Cst+Sd+KIn+other 3 Sd+Cst+kIn+other

Figure 10-1B.10: Sample Moheida P-15 2563.67 (m) site 10 (SEM), (Table 10-1C). Cassiterite microcrystallites (1,2) with siderite (3). This figure represents spot 17 in figure 10-1B.9.



Figure 10-1B.11: Sample Moheida P-15 2563.67 (m) site 11 (SEM). Image showing morphology of cassiterite microsrystallites.

Sito	Docition	Minoral	SiO	TiO		E ₂ O	MaO	C-0	K.O	SO.	SnO.	Recalculated	Actual
Sile	FUSILION	Willieral	0102	1102	A12O3	FeO	ivigO	CaO	R ₂ 0	003	01102	Total	Total
2	1	Cst+Sd+KIn+other	5.11		2.02	23.17	0.8			1.07	67.83	100	76
2	2	Sd+KIn+other	11.17	0.75	6.07	79.92	0.76	0.77	0.58			100	86
2	3	Sd+Cal+KIn+other	12.09	0.48	9.69	61.29	1.03	15.04	0.39			100	71
2	4	Sd+KIn+other	11.96	0.87	8.13	76.49	0.99	0.76	0.79			100	89
2	5	Cst+Sd+KIn+other	4.98		2.02	23.25	0.9			1.02	67.84	100	64
4	1	Cst+Sd+KIn	4.9		2.83	25.94					66.35	100	73
4	2	Cst+Sd+KIn	5.97		3.84	30.04					60.17	100	66
4	3	Cst+Sd+KIn	4.58		2.42	33.41					59.6	100	87
5	1	Sd+Cal+KIn+other	14.89		10.28	33.29	2.4	39.12				100	78
5	2	Cst+Sd+Chl	5.26		2.53	15.08	1.04				76.1	100	72
5	3	Cst+Sd+other	3.32		1.1	4.09				1.4	90.09	100	74
7	1	Sd+Chl+other	10.12	0.63	6.65	79.43	0.86	1.46	0.83			100	66
7	2	Sd+Chl+other	10.46	0.55	7.27	78.73	0.95	1.54	0.49			100	61
7	3	Cst+Sd+KIn+other	5.75		1.76	15.94	1.09			0.9	74.57	100	94
7	4	Cst+Sd+KIn+other	3.79		1.11	8.79	0.99			1.07	84.26	100	98
7	5	Sd+Cal+Cst+KIn+other	10.93	0.43	5.99	72.99	0.99	4.7	1.37	0.67	1.92	100	89
7	6	Cst+Sd+KIn+other	4.88		1.8	21.88	0.75			0.95	69.75	100	91
7	7	Sd+Cst+KIn+other	12.45	0.53	7.52	72.31	0.93	2.1	1.13		3.01	100	90
8	1	Sd+Chl+other	10.4		5.97	80.04	0.7	2.27	0.59			100	91
8	2	Cst+Sd+KIn+other	4.15		1.63	8.63	1.04			1.12	83.45	100	99
8	3	Sd+Cst+Chl+other	10.31		6.1	60.04	1.14	3.27		0.85	18.27	100	88
10	1	Cst+Sd+KIn+other	5.84		3.06	29.95	0.81				60.33	100	2
10	2	Cst+Sd+KIn+other	4.45		2.32	19.19	0.95			0.85	72.26	100	3
10	3	Sd+Cst+kIn+other	11.36		6.65	77.91			1.4		2.68	100	3

Table 10-1C: SEM analyses of sample P-15 2563.67 (m)

Appendix 10-2 Back-scattered images, EDS and WDS geochemical mineral analyses of sample Moheida P-15 3306.03 (m) Paragenetic sequence for sample P-15 3306.03

dol ---> Fe-cal +py

Site <u>1</u>

Oolites and peloids are made up mostly of calcite (10,11) Mg-calcite (8) and pyrite (1,5,6).

Site 3

Dolomite (1) is partly replaced by Fe-calcite (8 and position E)

dol —→ Fe-cal

Pyrite (4) shows replacive texture against dolomite (position G) and Fe-cal

dol**—**▶ py



Figure 10-2.1: Sample Moheida P-15 3306.03 (m) site 1 (SEM), (Table 10-2A). Peloids (A) and ooids (B) are framework grains in this figure. All framework grains are made up by micritic mixture of predominantly Mg-calcite (1,8,13,14), with some calcite (10,11), pyrite (2,5,6,9) and other. Often, detrital albite (7) and lithic clasts made up of quartz and muscovite (3) represent the nucleus for some of the ooids (A) or peloids (B). Rarely, at the contact between framework grains, one grain has undergone dissolution leading to the penetration of one grain by another (C). The grains are loosely supported by a mixture of detrital and diagenetic minerals (see figure 2-2.2). Secondary porosity in the cement lacks diagenetic minerals (D).



EMP analyses

- 1 Mg-Cal
- 2 Mg-Cal
- 3 Mg-Cal+other
- 1 Cal
- 5 Fe-Cal
- 6 Mg-Cal+other
- 7 Mg-Cal
- 8 Mg-Cal
- 9 Mg-Cal
- 10 Mg-Cal+other

Figure 10-2.2: Sample Moheida P-15 3306.03 (m) site 1 (SEM), (Table 10-2B). Same as figure 10-2.1.



Figure 10-2.3: Sample Moheida P-15 3306.03 (m) site 2 (SEM), (Table 10-2A). This figure shows the main components of the cement that supports the framework grains in figure 2-2.1 as well as their textural relationship. The cement is a mixture of silt sized dolomite (1,2), diagenetic chlorite (3,5), pyrite (4), muscovite (6), calcite (7,10), Fe-calcite (8) and detrital quartz (9). Possible quartz overgrowth (E) forms around detrital quartz (9). Fe-calcite (light grey color) (8) and calcite (7) are the main cement replacing both detrital quartz (black color) (F) and dolomite (1). Pyrite (4) is diagenetic and shows replacive texture against dolomite (G) and cement (H).

Sito	Desition	Minoral	SiO	AL O	E-O	MaO	6-0		КO	PO	50	Recalculated	Actual
Sile	FUSILION	Millerai	3102	Al ₂ O ₃	FeO	ivigO	CaU	Na ₂ O	N ₂ O	F ₂ O ₅	303	Total	Total
1	1	Mg-Cal (peloid)			0.65	1.19	54.17					56	123
1	2	Mg-Cal+Py+other	5.86	3.51	1.04	3.02	84.18		0.72		1.65	100	122
1	3	Qz	97.78	1.30	0.27	0.28			0.33			100	152
1	4	Alt (Ms)	53.41	24.35	2.94	3.12	0.66		8.53			93	134
1	5	Mg-Cal+Py+other	3.68	1.87	0.81	2.40	89.80		0.28		1.15	100	121
1	6	Mg-Cal+Py+other	9.09	4.72	1.16	2.04	81.17		0.63		1.17	100	131
1	7	Ab	68.54	18.80			0.32	12.35				100	152
1	8	Mg-Cal (ooid)				1.81	53.49				0.70	56	115
1	9	Mg-Cal+Py+other	11.12	7.01	1.03	2.06	76.16		1.63		1.02	100	114
1	10	Cal (peloid)			0.73	0.92	54.35					56	112
1	11	Cal (peloid)			0.38	0.95	54.68					56	122
1	12	Mg-Cal (peloid)	2.59	0.85	0.52	1.55	49.38				1.13	56	131
1	13	Mg-Cal (ooid)			0.68	1.17	54.16					56	139
1	14	Mg-Cal (ooid)			0.65	1.02	54.33					56	135
1	15	Cal+Qz+other	45.56	11.90	1.72	1.87	30.66	0.40	2.75	4.56		100	135
2	1	Dol	0.84		2.07	19.02	34.07					56	130
2	2	Dol			2.35	19.40	34.26					56	130
2	3	Chl (diag.)	27.39	23.67	23.09	9.78	0.54		0.54			85	161
2	4	Py			27.50		0.32	0.24			71.94	100	129
2	5	Chl (diag.)	31.76	20.24	19.19	12.89	0.56		0.35			85	162
2	6	Ms	47.90	33.56	0.73	0.51	1.40	0.60	8.30			93	166
2	7	Cal	0.95	0.41	0.77	0.65	52.58		0.17		0.46	56	126
2	8	Fe-Cal	0.66	0.36	1.53	0.69	52.62		0.15			56	133
2	9	Qz	99.99									100	174
2	10	Cal+other	4.36	2.65	1.94	5.70	84.81		0.54			100	129

Table 10-2A: SEM analyses from sample P-15 3306.03 (m)

Appendix 10-3 Back-scattered images and EDS geochemical mineral analyses of sample Moheida P-15 3744.92 (m) Paragenetic sequence for sample P-15 3744.92

anh \longrightarrow TiO₂ \longrightarrow kln+ill \longrightarrow qz over

Site 2

Kaolinite and illite (6) tend to fill open space between anhydrite cement and detrital minerals

Quartz overgrowth (E) invades anhydrite cement (D)

anh → qz over

Kaolinite and illite (6) show replacive texture agains TiO_2 (5 in site 1)

Site 3

$$TiO_2 \longrightarrow kln+ill$$

TiO₂ mineral (6) shows replacive texture against anhydrite cement (7)

anh \longrightarrow TiO₂

Quartz is corroded and kaolinite (1) fills embayment

kln → qz over



Figure 10-3.1: Sample Moheida P-15 3744.92 (m) site 1 (SEM), (Table 10-3). Detrital quartz (2 and 6,A) has inclusions of both muscovite (A,13) and altered muscovite (illite?) (3,7). Quartz overgrowth (B) forms around detrital quartz (2). Anhydrite (1) fills primary porosity. TiO₂ mineral (5) is diagenetic and shows replacive texture against biotite (4). In places detrital quartz (black color) is corroded (C). Anhydrite (anh) tends to engulf bitotite (4).



- 1 Ms+llm
- 2 Chl (detr.)
- 3 Qz+Ms
- 4 Ms
- 5 Ms
- 6 KIn+III
- 7 Qz+Ms

Figure 10-3.2: Sample Moheida P-15 3744.92 (m) site 2 (SEM), (Table 10-3). One Lithic clast showing foliation is made up of muscovite (4,5), chlorite (2), quartz (3) and ilmenite (1). Diagenetic minerals are anhydrite (D), kaolinite (6), illite (6) and quartz overgrowths (E). Kaolinite and illite (6) fill secondary porosity. Anhydrite (D) postdates quartz overgrowth (F and G) because there is no anhydrite between quartz overgrowths in position G. That means that quartz overgrowth filled primary porosity and anhydrite fills space bounded by quartz overgrowth.





Site	Position	Mineral	SiO	TiO	ALO	FeO	MaQ	CaO	Na ₂ O	K ₂ O	SO.	Recalculated	Actual
Ono	1 001001	Millora	0102	1102	7.1.203	100	mgo	040	na ₂ o	1120	003	Total	Total
1	1	Anh						37.16			61.63	100	144
1	2	Qz	99.99									100	159
1	3	Ms	55.31		24.34	1.83	0.91		0.61	7.00		90	150
1	4	Bt	41.34	1.76	20.62	15.01	10.14		0.59	6.28		96	142
1	5	TiO2 (diag.)	1.58	94.78	2.10	1.14		0.39				100	138
1	6	Qz	99.99									100	148
1	7	Ms	52.96	0.34	25.29	2.09	0.63		0.53	8.15		90	146
1	8	Qz	99.99									100	157
1	9	Anh+other	3.81		1.27			35.34		0.59	59.01	100	126
1	10	Qz	98.12		1.51					0.35		100	153
1	11	Ms+Qz	61.10	0.40	26.89	1.60	1.16		0.49	8.37		100	134
1	12	Qz+III	88.71		8.69				0.69	1.92		100	150
1	13	Ms (incl.)	53.65	0.28	26.34	2.56	0.96		0.41	8.81		93	151
2	1	Ms+IIm	49.46	6.94	30.61	1.60	1.04		0.74	9.59		100	126
2	2	Chl (detr.)	29.05		24.14	20.20	10.00			1.23		85	146
2	3	Qz+Ms	76.13		11.53	7.41	3.47			1.47		100	161
2	4	Ms	49.30		30.56	2.10	1.34		1.12	8.58		93	146
2	5	Ms	47.49	1.44	32.86	1.32	1.01		1.20	7.68		93	141
2	6	Kln+III	52.11		38.09	0.41		1.99	0.35	2.79	4.27	100	150
2	7	Qz+Ms	70.74		20.58	2.60	1.24		1.28	3.58		100	143
3	1	Kln	48.69		36.90					0.41		86	145
3	2	Ms	47.50		30.91	4.08	2.42		0.84	7.03		93	144
3	3	Chl (detr.)	25.20		23.63	24.88	11.02					85	146
3	4	Ms	46.97		35.22	0.78	0.37		1.59	8.09		93	151
3	5	Ms	46.85	0.26	35.34	0.63			1.68	8.23		93	151
3	6	TiO2 (diag.)+other	1.37	94.45	1.91	1.14		1.15				100	136
3	7	Anh						37.81			62.20	100	140
3	8	Py	0.30			26.73		0.78			72.19	100	116
3	9	Ms	45.79		29.12	0.97	1.25	2.57	0.65	8.12	4.55	93	147
3	10	Qz+TiO2 (diag.)	21.63	77.46	0.91							100	159

Table 10-3: SEM analyses from sample P-15 3744.92 (m)

Appendix 10-4 Back-scattered images and EDS geochemical mineral analyses of sample Moheida P-15 3750.94 (m) Paragenetic sequence for sample P-15 3750.94

dol *→* anh

Site <u>1</u>

Anhydrite (2) fills secondary porosity in dolomite (1)




Sample	Depth (m)	Site	Position	Mineral	FeO	MgO	CaO	SO_3	Recalculated	Actual
									Total	Total
P-15 3750.94	3750.94	1	1	Dol	0.6832	24.0688	31.248		56	118
P-15 3750.94	3750.94	1	2	Anh			37.23	62.03	100	150
P-15 3750.94	3750.94	1	3	Dol	0.3248	24.6512	31.0296		56	122
P-15 3750.94	3750.94	1	4	Dol	0.3528	24.1136	31.5392		56	121
P-15 3750.94	3750.94	1	5	Dol	4.1328	20.44	31.4272		56	116

Table 10-4: SEM analyses from sample P-15 3750.94 (m)