

Table 4 - Microprobe analyses of plagioclase from San Pedro-Cerro Grande Volcanic Complex rocks

Sample	SPC122												SPC 126			
	Period	First											First	Amphibole-bearing		
		Group	Amphibole-bearing				Core	Core	Micro core	Core	Core	Micro core				
Texture (wt%)	Gdm	Core	Rim	Core	Rim	Micro core	Micro rim	Core	Rim	Gdm	Gdm	Gdm	Core	Micro core	Core	Core
SiO ₂	55.4	60.9	62.4	55.8	53.6	53.3	54.8	52.6	52.3	59.0	56.9	55.0	59.7	54.7	50.0	53.0
TiO ₂	0.02	bdl	0.04	0.02	bdl	bdl	0.03	0.04	bdl	0.04	0.07	bdl	bdl	0.06	0.02	0.05
Al ₂ O ₃	27.8	24.3	23.8	28.1	29.4	30.1	28.4	30.5	30.2	26.0	27.3	28.0	26.1	28.6	31.7	29.9
Fe ₂ O ₃	0.36	0.13	0.22	0.20	0.44	0.34	0.43	0.41	0.52	0.41	0.57	0.58	0.21	0.42	0.39	0.33
MgO	bdl	bdl	bdl	bdl	0.03	0.05	0.07	0.04	0.04	0.05	0.04	0.08	0.04	0.05	0.02	0.03
CaO	10.05	5.79	4.89	10.00	11.65	12.16	10.66	12.52	12.91	7.70	9.29	10.30	7.37	10.61	14.20	11.79
Na ₂ O	5.27	7.74	7.98	5.39	4.67	4.20	4.94	3.72	3.69	6.57	5.52	5.33	6.89	5.09	3.24	4.59
K ₂ O	0.21	0.49	0.55	0.25	0.15	0.14	0.22	0.14	0.15	0.43	0.29	0.21	0.36	0.24	0.12	0.13
SrO	bdl	bdl	bdl	0.20	0.17	0.14	0.22	0.17	0.18	0.26	0.26	bdl	bdl	bdl	0.12	0.23
BaO	bdl	bdl	bdl	bdl	0.03	bdl	bdl	bdl	0.04	0.02	0.06	bdl	bdl	bdl	0.05	bdl
Total	99.0	99.4	99.8	100.0	100.2	100.5	99.8	100.1	100.0	100.5	100.3	99.5	100.6	99.7	99.9	100.0
An %	50.7	28.4	24.5	49.9	57.4	61.0	53.7	64.5	65.3	38.3	47.3	51.0	36.4	52.8	70.2	58.2
Ab %	48.1	68.7	72.3	48.6	41.6	38.1	45.0	34.7	33.8	59.1	50.8	47.8	61.5	45.8	29.0	41.0
Or %	1.3	2.9	3.3	1.5	0.9	0.8	1.3	0.9	0.9	2.5	1.8	1.2	2.1	1.4	0.7	0.8

bdl: values below detection limit; Core: phenocryst core; Rim: phenocryst rim; Micro core: micro-phenocryst core; Micro rim: micro-phenocryst rim; Agg core: Mineral of glomeroporphyritic aggregate core; Agg rim: Mineral of glomeroporphyritic aggregate rim; Gdm: mineral in the groundmass. Compositions of major mineral phases were performed at the Dipartimento di Scienze della Terra of the Università degli Studi di Firenze using a JEOL JXA-8600 microprobe operating at 15 kv and 10 nA. Matrix effect were corrected following the Bence and Albee (1968) method. Accuracy and precision estimates are given in Vaggelli et al. (1999).

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Table 4 - Continue

Sample	SPC 126									SPC 132								
Period	First Amphibole-bearing									First Amphibole-bearing								
Group	Rim	Agg core	Agg rim	Agg core	Agg rim	Agg rim	Micro core	Rim	Core	Agg rim	Agg core	Rim	Rim	Micro core	Agg core	Agg rim		
Texture (wt%)																		
SiO ₂	55.6	50.6	50.9	52.3	55.9	51.3	52.6	60.2	53.6	53.7	46.0	46.6	49.6	50.1	46.9	47.9		
TiO ₂	0.05	0.07	bdl	0.02	0.04	0.05	bdl	0.03	bdl	0.03	bdl	bdl	bdl	bdl	0.02	0.04		
Al ₂ O ₃	28.6	31.2	31.2	30.7	28.0	31.1	30.2	25.2	29.2	28.9	34.1	34.1	32.4	31.2	33.9	33.0		
Fe ₂ O ₃	0.41	0.56	0.54	0.56	0.29	0.62	0.68	0.21	0.57	0.39	0.56	0.46	0.48	0.60	0.49	0.51		
MgO	bdl	0.07	0.06	0.02	0.08	0.09	0.08	bdl	0.16	0.02	0.02	0.02	0.07	0.05	0.07	0.02		
CaO	10.23	13.65	13.75	12.51	9.64	13.21	12.94	6.73	11.51	11.20	17.18	16.95	14.92	14.09	17.01	16.07		
Na ₂ O	5.55	3.64	3.69	4.28	5.89	3.77	4.06	7.40	4.45	5.20	1.48	1.60	2.85	3.39	1.75	2.33		
K ₂ O	0.17	0.08	0.07	0.14	0.21	0.09	0.07	0.44	0.16	0.16	0.04	0.03	0.11	0.07	bdl	0.06		
SrO	0.25	0.13	0.16	0.09	0.14	0.27	0.29	0.18	0.23	bdl	bdl	bdl	bdl	bdl	bdl	bdl		
BaO	0.03	0.05	bdl	bdl	0.05	0.05	bdl	0.10	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl		
Total	100.8	100.0	100.4	100.6	100.2	100.6	100.8	100.5	99.9	99.6	99.4	99.8	100.3	99.6	100.1	100.0		
An %	49.9	67.1	67.0	61.3	46.9	65.5	63.5	32.5	58.3	53.8	86.3	85.3	73.8	69.4	84.3	78.9		
Ab %	49.0	32.4	32.6	37.9	51.8	33.8	36.1	64.7	40.8	45.2	13.5	14.6	25.5	30.2	15.7	20.7		
Or %	1.0	0.5	0.4	0.8	1.2	0.5	0.4	2.5	1.0	0.9	0.2	0.2	0.6	0.4	0.1	0.4		

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Table 4 - Continue

Sample	SPC 132								SPC 130							
Period	First Amphibole-bearing								First Amphibole-bearing							
Group	Micro core	Gdm	Gdm	Agg core	Agg core	Agg rim	Micro core	Micro rim	Gdm	Agg core	Agg rim	Agg rim	Micro core	Micro rim	Core	Rim
Texture (wt%)																
SiO ₂	50.8	52.8	53.4	47.7	47.3	47.6	51.7	53.6	53.8	46.4	46.9	45.7	47.8	47.9	53.6	52.7
TiO ₂	0.03	0.05	0.05	bdl	bdl	0.03	0.05	0.08	0.05	0.02	0.02	0.02	bdl	bdl	0.03	bdl
Al ₂ O ₃	31.2	29.9	29.0	34.0	34.0	33.6	30.6	29.7	29.5	34.2	33.5	34.2	33.4	33.0	29.4	30.1
Fe ₂ O ₃	0.44	0.67	0.80	0.49	0.54	0.63	0.56	0.50	0.62	0.54	0.51	0.54	0.40	0.66	0.46	0.37
MgO	0.08	0.07	0.07	0.02	0.03	0.06	0.10	0.09	0.02	0.05	0.09	0.07	0.07	0.07	0.08	0.01
CaO	14.01	12.02	11.49	16.39	16.94	16.61	13.02	11.68	11.92	16.95	16.40	17.33	16.50	15.81	11.34	11.95
Na ₂ O	3.45	4.47	4.79	2.04	1.76	1.85	3.82	4.60	4.50	1.47	1.74	1.27	2.07	2.30	4.71	4.27
K ₂ O	0.08	0.22	0.22	0.06	0.02	0.04	0.13	0.13	0.26	0.02	0.03	0.04	0.04	0.04	0.12	0.09
SrO	bdl	bdl	bdl	0.29	0.20	0.39	0.19	0.26	0.18	0.19	bdl	bdl	bdl	bdl	bdl	bdl
BaO	bdl	bdl	bdl	bdl	bdl	0.02	bdl	0.05	0.02	bdl	bdl	bdl	bdl	bdl	bdl	bdl
Total	100.1	100.2	99.9	100.9	100.7	100.8	100.1	100.7	100.9	99.8	99.1	99.2	100.3	99.8	99.7	99.5
An %	68.9	59.0	56.3	81.3	84.1	83.0	64.8	57.9	58.5	86.3	83.7	88.1	81.3	79.0	56.7	60.4
Ab %	30.7	39.7	42.4	18.3	15.8	16.7	34.4	41.3	40.0	13.5	16.1	11.7	18.5	20.8	42.6	39.1
Or %	0.5	1.3	1.3	0.4	0.1	0.2	0.8	0.8	1.5	0.1	0.2	0.2	0.2	0.2	0.7	0.5

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Table 4 - Continue

Sample	SPC 111																
Period	Second Amphibole-free																
Group	Rim	Rim	Rim	Core	Rim	Agg core	Agg rim	Gdm	Agg core	Agg rim	Rim	Rim	Agg Core	Agg rim	Micro core	Micro rim	Gdm
Texture (wt%)																	
SiO ₂	58.6	55.0	61.2	60.0	61.1	51.3	51.7	57.1	58.6	60.1	57.8	53.1	56.2	60.6	54.7	56.3	54.3
TiO ₂	bdl	0.04	bdl	0.03	0.02	0.03	0.04	0.05	0.03	bdl	0.03	0.02	bdl	bdl	0.04	0.07	bdl
Al ₂ O ₃	25.9	28.1	24.3	25.2	24.4	30.4	30.3	26.5	26.1	24.7	26.4	29.6	27.8	25.4	28.4	27.5	28.8
Fe ₂ O ₃	0.29	0.82	0.24	0.23	0.21	0.59	0.57	0.82	0.24	0.24	0.32	0.60	0.26	0.17	0.66	0.57	0.64
MgO	bdl	0.08	bdl	bdl	0.05	0.09	0.07	0.05	bdl	bdl	bdl	0.05	bdl	bdl	0.03	0.04	0.04
CaO	7.38	10.25	6.04	6.75	5.90	13.36	13.12	8.69	7.72	6.42	8.11	12.08	9.46	6.46	11.35	9.37	10.91
Na ₂ O	6.90	5.10	7.76	7.16	7.63	3.78	3.91	5.94	6.66	7.44	6.79	4.42	5.87	7.23	4.89	6.15	4.64
K ₂ O	0.39	0.29	0.59	0.45	0.59	0.10	0.14	0.46	0.39	0.50	0.36	0.18	0.29	0.44	0.27	0.37	0.33
SrO	0.22	0.19	0.21	bdl	0.21	0.21	0.14	bdl	0.20	0.12	0.18	0.26	0.17	0.17	0.21	0.25	0.26
BaO	0.02	0.10	0.04	0.10	0.02	0.05	bdl	bdl	0.04	0.02	0.04	bdl	0.02	0.02	0.08	0.07	bdl
Total	99.8	100.0	100.3	99.9	100.1	99.8	100.0	99.6	100.0	99.6	100.0	100.3	100.0	100.5	100.6	100.7	99.9
An %	36.3	51.6	29.0	33.3	28.9	65.7	64.4	43.5	38.1	31.3	38.9	59.5	46.3	32.2	55.2	44.7	55.4
Ab %	61.4	46.5	67.5	63.9	67.6	33.6	34.7	53.8	59.5	65.7	59.0	39.4	52.0	65.2	43.1	53.1	42.6
Or %	2.3	1.7	3.4	2.6	3.4	0.6	0.8	2.7	2.3	2.9	2.1	1.1	1.7	2.6	1.6	2.1	2.0

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Table 4 - Continue

Sample	SPC 109A										SPC120A/B					
Period	Second Mafic					Second Amphibole-bearing										
Group	Micro core	Micro rim	Gdm	Gdm	Gdm	Agg core	Agg core	Agg rim	Core	Rim	Core	Rim	Core	Agg core	Agg rim	Gdm
Texture (wt%)																
SiO ₂	55.3	55.0	53.9	53.9	58.8	62.1	48.5	51.3	61.1	61.4	53.1	55.4	52.8	48.3	52.1	54.7
TiO ₂	0.15	0.11	0.16	0.13	0.24	bdl	0.06	bdl	bdl	0.06	0.03	0.08	bdl	bdl	0.05	0.04
Al ₂ O ₃	28.2	27.7	28.2	28.9	24.4	24.4	32.5	30.8	24.5	25.0	30.1	29.2	30.4	33.3	30.3	28.9
Fe ₂ O ₃	0.72	0.76	0.90	0.92	0.91	0.18	0.56	0.43	0.14	0.19	0.42	0.22	0.51	0.59	0.41	0.46
MgO	0.12	0.12	0.09	0.10	0.06	bdl	bdl	0.05	bdl	bdl	0.04	0.05	0.03	0.05	0.02	0.08
CaO	10.38	9.98	10.31	10.82	6.67	5.23	14.79	12.97	5.79	5.83	11.81	10.37	12.05	15.66	12.23	10.77
Na ₂ O	5.36	5.44	5.21	5.14	6.94	8.19	2.95	4.45	7.93	7.82	4.30	5.36	4.52	2.35	4.10	4.89
K ₂ O	0.48	0.47	0.42	0.44	1.07	0.57	0.10	0.12	0.48	0.48	0.11	0.14	0.11	0.05	0.13	0.15
SrO	0.25	0.12	0.21	0.13	0.12	bdl	0.18	0.25	0.13	0.13	0.25	0.18	0.27	0.26	0.27	0.29
BaO	0.05	0.05	0.06	0.05	0.05	bdl	bdl	0.06	0.07	0.07	bdl	0.06	bdl	bdl	0.02	0.10
Total	100.9	99.7	99.5	100.5	99.3	100.6	99.7	100.4	100.2	100.9	100.1	101.0	100.7	100.6	99.6	100.4
An %	50.2	48.9	50.9	52.4	32.5	25.2	73.0	61.2	27.9	28.3	59.9	51.2	59.2	78.4	61.7	54.3
Ab %	46.9	48.3	46.5	45.0	61.2	71.5	26.4	38.0	69.2	68.8	39.5	47.9	40.2	21.3	37.4	44.6
Or %	2.8	2.7	2.5	2.5	6.2	3.3	0.6	0.7	2.8	2.8	0.7	0.8	0.6	0.3	0.8	0.9

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Table 4 - Continue

Texture (wt%)	SPC120A/G										SPC 23						
	Period	Second Amphibole-bearing										Second Amphibole-bearing					
		Agg core	Agg rim	Core	Rim	Core	Agg core	Agg rim	Micro core	Micro rim	Gdm	Core	Rim	Rim	Core	Micro core	Core
SiO ₂	54.7	56.3	56.0	55.1	54.1	52.7	53.2	52.0	53.0	54.9		55.1	54.1	54.6	55.8	52.3	51.9
TiO ₂	bdl	bdl	0.04	0.04	bdl	bdl	0.04	0.05	bdl	0.06		0.05	bdl	0.05	bdl	bdl	0.03
Al ₂ O ₃	29.0	27.9	28.4	28.7	30.2	30.7	30.3	30.2	30.0	28.8		28.0	29.2	29.2	28.4	30.0	30.5
Fe ₂ O ₃	0.33	0.40	0.42	0.31	0.20	0.51	0.38	0.51	0.56	0.60		0.27	0.44	0.40	0.22	0.52	0.53
MgO	0.02	0.04	0.03	0.04	bdl	0.02	0.03	0.09	0.06	0.04		bdl	0.05	0.03	bdl	0.04	0.07
CaO	10.52	9.20	9.43	9.56	11.22	12.15	11.80	12.18	11.69	10.49		9.71	10.80	10.88	9.77	12.33	12.52
Na ₂ O	5.26	5.98	5.95	5.51	4.67	4.39	4.47	4.20	4.56	5.09		5.56	5.26	5.18	5.92	4.38	4.09
K ₂ O	0.15	0.26	0.20	0.17	0.18	0.10	0.14	0.13	0.13	0.21		0.25	0.14	0.19	0.25	0.14	0.08
SrO	0.13	0.21	0.26	0.28	0.26	0.23	0.23	0.31	0.33	0.21		0.37	0.25	0.30	0.22	0.30	0.27
BaO	bdl	bdl	0.03	0.05	0.07	bdl	0.07	0.02	bdl	bdl		0.04	bdl	0.10	bdl	0.02	bdl
Total	100.0	100.3	100.7	99.8	100.9	100.8	100.6	99.7	100.3	100.3		99.3	100.2	100.9	100.6	100.0	100.0
An %	52.0	45.3	46.1	48.4	56.4	60.1	58.8	61.1	58.2	52.6		48.3	52.7	53.0	47.0	60.4	62.5
Ab %	47.1	53.2	52.7	50.5	42.4	39.3	40.3	38.1	41.1	46.2		50.1	46.5	45.7	51.6	38.8	37.0
Or %	0.9	1.5	1.2	1.0	1.1	0.6	0.8	0.8	0.8	1.3		1.5	0.8	1.1	1.4	0.8	0.5

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Table 4 - Continue

Sample		SPC 65															
Period	Group	Second Amphibole-bearing															
Texture (wt%)		Core	Core	Core	Rim	Agg core	Agg rim	Core	Rim	Agg core	Agg rim	Core	Rim	Rim	Micro core	Micro rim	Gdm
SiO ₂		55.8	57.3	57.3	57.7	57.6	59.0	62.2	60.2	57.9	60.2	58.1	60.1	59.8	51.5	54.2	59.0
TiO ₂		0.05	bdl	0.02	bdl	bdl	bdl	0.04	0.04	bdl	0.05	0.04	0.02	0.02	bdl	bdl	0.04
Al ₂ O ₃		28.0	26.9	26.8	26.7	26.9	25.8	23.9	25.6	26.6	25.0	26.3	25.4	25.0	31.1	29.1	25.3
Fe ₂ O ₃		0.30	0.30	0.29	0.24	0.21	0.31	0.20	0.17	0.29	0.22	0.23	0.30	0.19	0.37	0.36	0.52
MgO		0.01	bdl	0.05	bdl	bdl	bdl	bdl	0.03	bdl	bdl	0.02	bdl	0.02	0.05	bdl	0.10
CaO		10.06	8.68	8.61	8.71	8.72	7.75	4.95	6.66	8.06	6.24	7.97	6.60	6.55	13.20	10.97	6.95
Na ₂ O		5.79	6.19	6.14	6.36	6.42	6.85	7.73	7.10	6.27	7.15	6.37	7.34	7.08	3.74	4.73	6.99
K ₂ O		0.26	0.34	0.54	0.31	0.28	0.32	0.58	0.60	0.61	0.49	0.38	0.40	0.41	0.13	0.16	0.86
SrO		0.19	0.22	bdl	bdl	0.26	0.13	bdl	bdl	0.27	0.14	0.17	0.22	0.22	0.40	0.25	0.10
BaO		0.08	0.06	bdl	bdl	0.11	bdl	bdl	bdl	0.05	0.11	0.09	0.06	0.07	0.07	0.05	0.06
Total		100.5	100.0	99.7	100.1	100.5	100.2	99.6	100.4	100.1	99.6	99.7	100.4	99.4	100.6	99.9	99.9
An %		48.2	42.7	42.3	42.3	42.1	37.8	25.2	32.9	40.0	31.5	39.9	32.4	33.0	65.5	55.6	33.7
Ab %		50.2	55.2	54.6	55.9	56.1	60.4	71.3	63.5	56.3	65.3	57.7	65.2	64.5	33.6	43.4	61.3
Or %		1.5	2.0	3.2	1.8	1.6	1.9	3.5	3.5	3.6	2.9	2.3	2.3	2.5	0.8	1.0	5.0

Table 5 - Microprobe analyses of clinopyroxene and orthopyroxene from San Pedro-Cerro Grande Volcanic Complex rocks

Sample	Clinopyroxene			Orthopyroxene						SPC 122			SPC 126			SPC 132			
	SPC 109			First Amphibole-bearing						First		First			First				
Period	Second			Gdm	Mafic Gdm	Gdm	Micro core	Micro rim	Micro core	Micro rim	Micro core	Gdm	Gdm	Core	Rim	Micro core	Core	Rim	Agg core
Group																			
Texture (wt%)																			
SiO ₂	48.4	46.6	47.7	55.7	55.6	53.1	53.2	53.3	54.7	54.8	54.6	54.3	53.5	53.6	54.4	54.5			
TiO ₂	2.53	3.35	2.40	0.15	0.12	0.20	0.25	0.19	0.11	0.17	0.12	0.18	0.25	0.13	0.25	0.17			
Al ₂ O ₃	3.13	3.66	3.52	0.81	0.91	1.49	1.61	1.50	1.27	0.76	1.43	0.87	2.30	1.49	2.17	1.92			
Cr ₂ O ₃	bdl	bdl	0.08	0.15	0.08	bdl	bdl	0.02	0.02	0.05	0.09	bdl	0.22	0.03	0.18	0.06			
Fe ₂ O ₃	1.33	3.71	3.96	bdl	0.19	1.91	1.75	1.43	1.82	0.84	0.28	2.02	3.59	2.87	2.31	2.13			
FeO	10.56	8.58	8.36	11.72	11.60	16.40	15.94	16.66	14.97	18.10	16.12	14.72	10.64	13.92	10.19	11.34			
MnO	0.27	0.31	0.23	0.26	0.31	0.88	0.62	0.63	0.68	1.08	0.51	0.49	0.29	0.64	0.26	0.36			
MgO	12.4	11.5	12.5	29.4	29.3	25.4	25.7	25.0	27.3	25.5	26.9	27.2	28.8	27.3	29.7	29.2			
CaO	20.1	20.7	20.1	1.40	1.45	0.85	0.98	1.30	0.92	0.64	0.63	0.93	1.29	0.72	1.16	1.14			
Na ₂ O	0.32	0.57	0.54	0.06	0.11	0.03	0.02	0.04	bdl	bdl	bdl	0.03	0.04	bdl	0.09	bdl			
Total	99.1	99.1	99.4	99.7	99.8	100.2	100.0	100.2	101.8	102.0	100.7	100.8	100.9	100.7	100.6	100.8			
Mg#	0.65	0.63	0.65	0.81	0.81	0.70	0.72	0.70	0.74	0.70	0.74	0.74	0.78	0.74	0.81	0.79			

bdl: values below detection limit; Core: phenocryst core; Rim: phenocryst rim; Micro core: micro-phenocryst core; Micro rim: micro-phenocryst rim; Agg core: Mineral of glomeroporphyritic aggregate core; Agg rim: Mineral of glomeroporphyritic aggregate rim; Gdm: mineral in the groundmass. Compositions of major mineral phases were performed at the Dipartimento di Scienze della Terra of the Università degli Studi di Firenze using a JEOL JXA-8600 microprobe operating at 15 kv and 10 nA. Matrix effect were corrected following the Bence and Albee (1968) method. Accuracy and precision estimates are given in Vaggelli et al. (1999).

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Table 5 - Continue

Sample	SPC 132								SPC 130					SPC 111			
Period	First								First					Second			
Group	Amphibole-bearing								Amphibole-bearing					Amphibole-free			
Texture (wt%)	Agg rim	Micro core	Gdm	Agg rim	Micro core	Micro rim	Gdm	Gdm	Gdm	Micro core	Micro core	Gdm	Rim	Core	Rim	Agg rim	
SiO ₂	54.6	53.9	52.3	53.7	56.0	55.8	54.3	55.1	52.5	54.6	53.7	52.4	54.6	53.3	51.4	53.1	
TiO ₂	0.19	0.14	0.34	0.23	0.11	0.13	0.24	0.20	0.29	0.23	0.31	0.34	0.20	0.33	0.32	0.27	
Al ₂ O ₃	1.59	0.81	3.00	2.40	0.98	0.92	1.47	0.93	2.38	1.99	1.22	2.79	1.02	2.56	3.87	2.37	
Cr ₂ O ₃	0.09	0.03	0.10	0.07	0.13	0.16	0.03	bdl	bdl	0.11	0.05	bdl	0.11	0.16	bdl	0.17	
Fe ₂ O ₃	2.13	1.28	2.77	2.36	0.56	1.37	1.77	0.99	3.92	1.54	1.46	2.96	0.59	1.50	2.75	3.17	
FeO	10.92	15.40	12.46	12.70	11.88	10.93	14.06	13.75	13.54	11.30	16.03	14.12	13.54	14.01	14.91	12.93	
MnO	0.24	0.48	0.40	0.28	0.23	0.23	0.47	0.35	0.48	0.27	0.46	0.49	0.41	0.29	0.46	0.34	
MgO	29.5	26.6	26.9	27.9	29.7	30.1	27.2	27.8	26.2	29.3	25.6	26.2	27.8	26.5	24.6	27.3	
CaO	1.12	0.92	1.48	1.31	1.33	1.26	1.54	1.52	1.65	1.11	1.68	1.37	1.37	1.88	1.60	1.37	
Na ₂ O	0.05	0.03	bdl	bdl	0.04	0.06	bdl	0.05	0.04	0.04	0.06	bdl	0.04	bdl	0.09	bdl	
Total	100.4	99.6	99.8	100.9	101.0	100.9	101.1	100.7	100.9	100.5	100.6	100.7	99.6	100.5	100.0	101.0	
Mg#	0.80	0.74	0.76	0.77	0.81	0.81	0.75	0.77	0.73	0.80	0.72	0.73	0.77	0.75	0.71	0.75	

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Table 5 - Continue

SPC 111												SPC 65					
Texture (wt%)	Second Amphibole-free										Second Amphibole-bearing						
	Micro core	Gdm	Gdm	Agg core	Agg rim	Agg rim	Micro core	Micro rim	Gdm	Gdm	Micro core	Micro core	Micro core	Micro core	Micro rim	Micro core	
	SiO ₂	53.3	51.8	52.6	52.9	53.3	54.5	53.2	53.5	53.9	52.4	53.4	53.2	54.1	54.0	54.4	54.0
TiO ₂	0.26	0.30	0.30	0.25	0.25	0.26	0.28	0.23	0.25	0.29	0.20	0.20	0.20	0.23	0.16	0.05	0.20
Al ₂ O ₃	2.10	2.39	2.22	3.14	2.63	0.85	2.85	2.62	1.01	3.23	1.53	2.06	1.59	2.49	0.48	2.74	
Cr ₂ O ₃	0.02	bdl	0.04	0.22	0.13	0.02	0.10	0.17	bdl	bdl	bdl	0.05	0.04	0.12	bdl	0.09	
Fe ₂ O ₃	1.52	2.24	0.38	2.00	1.22	0.58	1.46	1.61	0.61	2.38	1.35	1.87	0.52	0.99	bdl	bdl	
FeO	14.53	17.59	18.39	13.51	14.31	15.02	13.92	14.02	16.41	15.20	17.40	15.79	13.86	12.21	16.33	13.58	
MnO	0.42	0.69	0.62	0.37	0.37	0.41	0.39	0.39	0.67	0.47	0.76	0.54	0.91	0.30	0.69	0.28	
MgO	26.1	23.5	23.2	26.7	26.9	26.9	26.8	26.9	25.5	25.2	24.6	25.6	27.0	28.2	26.2	27.3	
CaO	1.98	1.52	1.73	1.39	1.05	1.43	1.33	1.37	1.67	1.55	1.42	1.23	0.63	1.33	0.88	1.68	
Na ₂ O	bdl	0.02	0.08	0.04	bdl	0.03	bdl	bdl	bdl	0.06	0.04	0.05	0.22	0.05	0.04	bdl	
Total	100.2	100.0	99.6	100.5	100.1	100.1	100.3	100.9	100.0	100.7	100.7	100.6	99.2	99.8	99.1	99.9	
Mg#	0.74	0.67	0.68	0.75	0.75	0.75	0.75	0.75	0.72	0.72	0.69	0.72	0.76	0.79	0.73	0.78	

Table 6 - Microprobe analyses of amphibole from San Pedro-Cerro Grande Volcanic Complex rocks

Sample	SPC 122																
Period	First Amphibole-bearing																
Group	Agg core	Agg core	Agg rim	Agg core	Core	Rim	Micro core	Agg core	Core	Rim	Micro core	Micro rim	Agg core	Agg rim	Micro core	Core	Rim
Texture (wt%)	Agg core	Agg core	Agg rim	Agg core	Core	Rim	Micro core	Agg core	Core	Rim	Micro core	Micro rim	Agg core	Agg rim	Micro core	Core	Rim
SiO ₂	48.7	44.4	44.3	44.9	45.1	43.2	45.0	43.6	49.4	49.5	47.3	46.7	43.9	42.9	44.8	42.9	49.3
TiO ₂	1.16	1.80	1.63	1.73	1.61	1.69	1.62	2.94	0.96	0.94	1.41	1.44	1.91	1.83	1.94	3.03	0.98
Al ₂ O ₃	6.5	11.4	11.0	10.7	11.4	12.8	11.4	10.6	6.0	5.9	8.2	8.3	11.8	12.1	11.3	11.5	5.8
Cr ₂ O ₃	bdl	0.40	bdl	0.04	0.92	0.13	bdl	0.06	bdl	bdl	0.02	bdl	bdl	bdl	0.03	bdl	bdl
Fe ₂ O ₃	0.57	0.02	0.95	1.46	1.41	1.36	0.57	bdl	bdl	0.99	0.31	0.34	0.83	2.39	2.11	bdl	0.11
FeO	11.5	8.9	12.1	8.6	7.1	8.6	9.0	11.8	12.6	11.8	12.0	11.9	9.6	11.0	8.1	12.8	11.5
MnO	0.56	0.17	0.27	0.15	0.14	0.14	0.13	0.16	1.01	0.86	0.37	0.46	0.06	0.16	0.15	0.27	0.85
MgO	16.1	16.3	14.1	16.3	17.2	15.2	16.2	14.5	14.9	15.7	15.6	15.4	15.2	13.8	16.3	13.7	16.3
CaO	10.5	11.1	10.8	11.0	11.3	11.5	11.0	11.1	11.1	11.1	10.7	10.7	11.4	11.2	11.3	11.2	10.7
Na ₂ O	1.16	2.25	1.98	1.86	2.14	2.18	1.99	2.18	1.07	1.09	1.64	1.73	2.08	2.09	1.94	2.49	1.27
K ₂ O	0.28	0.32	0.37	0.36	0.33	0.32	0.28	0.52	0.37	0.33	0.36	0.34	0.32	0.40	0.28	0.56	0.32
F	bdl	0.09	0.30	bdl	bdl	bdl	bdl	bdl	bdl	0.16	0.11	0.24	0.05	0.17	bdl	bdl	0.22
Cl	bdl	bdl	0.02	bdl	bdl	bdl	bdl	bdl	bdl	0.03	0.03	bdl	0.04	bdl	0.02	bdl	0.03
Total	97.01	97.12	97.81	97.14	98.76	97.04	97.03	97.43	97.61	98.37	98.19	97.45	97.34	97.97	98.34	98.52	97.34
F+Cl=O	-	0.04	0.13	-	-	-	-	-	0.07	0.05	0.10	0.03	0.07	-	-	-	0.10
Total	97.01	97.08	97.68	97.14	98.76	97.04	97.03	97.43	97.54	98.32	98.09	97.42	97.27	97.96	98.34	98.52	97.24
Mg#	0.70	0.76	0.65	0.74	0.78	0.73	0.75	0.68	0.66	0.67	0.69	0.69	0.72	0.65	0.74	0.65	0.70

bdl: values below detection limit; Core: phenocryst core; Rim: phenocryst rim; Micro core: micro-phenocryst core; Micro rim: micro-phenocryst rim; Agg core: Mineral of glomeroporphyritic aggregate core; Agg rim: Mineral of glomeroporphyritic aggregate rim; Gdm: mineral in the groundmass. Compositions of major mineral phases were performed at the Dipartimento di Scienze della Terra of the Università degli Studi di Firenze using a JEOL JXA-8600 microprobe operating at 15 kv and 10 nA. Matrix effect were corrected following the Bence and Albee (1968) method. Accuracy and precision estimates are given in Vaggelli et al. (1999).

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Table 6 - Continue

Sample	SPC 122						SPC 126						SPC 132			
Period	First Amphibole-bearing						First Amphibole-bearing						First Amphibole-bearing			
Group	Core	Rim	Micro core	Micro rim	Core	Rim	Core	Rim	Agg core	Agg rim	Core	Rim	Rim	Agg core	Agg rim	Agg core
Texture (wt%)	Core	Rim	Micro core	Micro rim	Core	Rim	Core	Rim	Agg core	Agg rim	Core	Rim	Rim	Agg core	Agg rim	Agg core
SiO ₂	45.4	44.5	44.0	44.4	49.1	49.3	44.6	44.5	43.9	42.8	42.9	43.7	44.3	44.2	43.3	43.5
TiO ₂	1.69	1.85	2.02	1.99	0.94	1.02	1.72	1.84	2.92	3.02	1.88	1.97	1.82	2.53	2.41	2.49
Al ₂ O ₃	10.7	10.8	11.2	11.2	5.6	5.7	11.8	11.6	11.0	11.1	12.4	11.2	11.7	11.0	11.3	11.4
Cr ₂ O ₃	bdl	0.08	bdl	bdl	bdl	bdl	bdl	0.06	0.02	0.04	bdl	bdl	bdl	0.29	0.11	bdl
Fe ₂ O ₃	0.77	1.81	1.04	1.44	1.83	0.74	0.66	1.18	bdl	bdl	0.96	1.05	bdl	0.28	2.13	0.86
FeO	7.9	9.8	10.5	9.6	10.7	11.2	10.1	8.9	12.0	12.6	9.7	11.9	14.6	10.0	8.0	8.5
MnO	0.17	0.22	0.15	0.11	0.94	0.76	0.11	0.14	0.20	0.20	0.12	0.50	0.26	0.11	0.16	0.10
MgO	16.9	15.5	14.8	15.5	16.1	16.2	15.5	16.0	14.5	14.0	15.1	14.1	12.8	15.7	16.1	16.1
CaO	11.3	10.9	11.1	11.1	10.9	10.8	10.7	11.1	11.1	11.1	11.2	11.0	10.2	11.1	11.4	11.5
Na ₂ O	2.01	1.98	1.97	1.96	1.13	1.03	1.98	2.09	2.29	2.38	2.38	2.16	2.14	2.13	2.20	2.37
K ₂ O	0.31	0.30	0.37	0.33	0.31	0.39	0.27	0.29	0.43	0.45	0.39	0.53	0.58	0.40	0.38	0.30
F	bdl	bdl	bdl	bdl	bdl	bdl	0.08	0.14	0.05	0.07	0.19	0.22	0.65	bdl	bdl	bdl
Cl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	bdl	0.01	0.02	0.02	0.03	0.05	0.02	bdl	bdl
Total	97.17	97.82	97.18	97.72	97.55	97.20	97.50	97.85	98.57	97.83	97.14	98.41	99.09	97.73	97.35	96.99
F+Cl=O	-	-	-	-	-	-	0.03	0.06	0.02	0.03	0.08	0.10	0.28	-	-	-
Total	97.17	97.82	97.18	97.72	97.55	97.20	97.46	97.79	98.55	97.80	97.05	98.32	98.81	97.72	97.35	96.99
Mg#	0.78	0.70	0.70	0.71	0.68	0.70	0.72	0.74	0.68	0.66	0.72	0.65	0.61	0.73	0.74	0.75

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Table 6 - Continue

Sample		SPC 132															
Period	Group	First Amphibole-bearing															
Texture (wt%)		Core	Rim	Agg core	Agg core	Agg rim	Agg core	Agg rim	Micro core	Micro rim	Agg core	Agg rim	Agg core	Agg rim	Core	Rim	Rim
SiO ₂		42.5	42.8	43.6	43.5	43.8	43.8	44.2	43.1	43.8	44.0	44.4	43.4	42.4	43.4	43.5	43.4
TiO ₂		3.03	0.48	2.21	2.45	2.08	2.52	2.37	2.45	2.38	2.47	2.28	1.62	2.19	2.00	2.00	1.85
Al ₂ O ₃		11.0	7.5	10.9	11.4	11.2	11.2	11.1	11.4	11.1	11.6	11.2	12.4	11.7	12.1	11.5	11.6
Cr ₂ O ₃		bdl	0.03	0.04	0.11	bdl	0.12	0.04	bdl	0.05	0.12	0.02	bdl	bdl	0.04	0.02	bdl
Fe ₂ O ₃		3.52	18.93	1.63	1.56	1.79	1.08	1.07	2.01	1.46	1.09	0.99	0.43	2.86	1.57	2.05	1.83
FeO		14.3	3.2	10.7	8.7	10.3	9.0	9.1	10.6	11.0	9.3	11.3	13.5	11.7	11.2	11.1	11.2
MnO		0.24	0.40	0.24	0.14	0.19	0.13	0.15	0.23	0.13	0.08	0.15	0.15	0.21	0.20	0.17	0.19
MgO		10.2	20.1	15.0	15.9	15.4	16.1	15.8	14.5	15.3	16.0	15.0	13.4	13.6	14.3	14.5	14.2
CaO		13.4	5.0	10.9	11.4	10.9	11.3	11.6	11.3	11.0	11.4	11.0	10.8	11.1	11.2	11.1	11.3
Na ₂ O		1.73	1.10	2.22	2.27	2.26	2.39	2.23	2.15	2.43	2.36	2.06	2.41	2.19	2.23	2.27	2.23
K ₂ O		0.24	0.09	0.40	0.38	0.38	0.35	0.35	0.39	0.41	0.37	0.40	0.37	0.41	0.38	0.34	0.44
F		bdl	bdl	bdl	bdl	bdl	bdl	0.11	0.23	0.05	0.20	bdl	bdl	bdl	0.08	0.24	0.06
Cl		bdl	bdl	bdl	bdl	bdl	bdl	bdl	0.02	0.02	bdl	0.03	0.02	0.02	0.02	0.02	bdl
Total		100.01	99.72	97.83	97.73	98.29	98.13	98.16	98.28	99.14	98.94	98.82	98.43	98.34	98.70	98.86	98.30
F+Cl=O		-	-	-	-	-	-	0.05	0.10	0.03	0.08	0.01	-	-	0.04	0.11	0.03
Total		100.01	99.72	97.83	97.73	98.29	98.13	98.11	98.18	99.11	98.86	98.81	98.43	98.33	98.66	98.75	98.28
Mg#		0.51	0.63	0.68	0.74	0.69	0.74	0.73	0.67	0.69	0.73	0.68	0.63	0.63	0.67	0.66	0.66

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Table 6 - Continue

Sample	SPC 130				SPC 23						SPC120A/B					
Period	First Amphibole-bearing				Second Amphibole-bearing						Second Amphibole-bearing					
Group	Agg core	Agg rim	Core	Rim	Core	Rim	Core	Rim	Micro core	Micro rim	Agg core	Agg rim	Agg Core	Agg rim	Agg core	Agg core
Texture (wt%)																
SiO ₂	43.2	43.0	43.8	43.0	44.9	46.1	48.5	48.4	48.9	44.5	44.1	44.7	43.1	43.2	43.7	43.0
TiO ₂	2.38	2.47	2.28	2.44	1.58	1.59	0.95	1.06	0.98	2.49	1.80	1.64	1.68	1.85	1.89	1.53
Al ₂ O ₃	11.8	11.8	10.6	11.9	11.1	8.7	6.3	7.3	6.2	9.8	12.1	11.3	11.6	12.5	12.1	13.4
Cr ₂ O ₃	bdl	0.04	bdl	bdl	bdl	bdl	0.02	bdl	bdl	bdl	0.10	bdl	0.05	0.03	0.06	bdl
Fe ₂ O ₃	bdl	0.71	1.21	1.29	1.46	0.37	1.49	0.61	0.93	0.91	1.25	0.65	2.54	2.53	0.77	1.20
FeO	9.8	8.5	11.6	11.0	10.5	11.4	12.4	11.3	11.2	11.8	8.2	10.0	7.9	9.4	10.4	10.4
MnO	0.14	0.09	0.33	0.16	0.19	0.36	0.51	0.48	0.77	0.39	0.13	0.20	0.11	0.16	0.18	0.12
MgO	15.6	15.9	14.8	14.8	15.2	15.5	14.7	16.1	16.2	14.8	16.3	15.6	15.8	14.9	15.1	14.6
CaO	10.9	11.3	10.5	10.9	11.1	10.7	11.5	10.8	10.6	10.9	11.4	11.1	11.0	11.4	11.2	10.8
Na ₂ O	2.42	2.40	2.13	2.44	2.06	1.73	1.07	1.45	1.29	1.93	2.33	2.15	2.09	2.12	2.33	2.26
K ₂ O	0.26	0.27	0.43	0.31	0.31	0.42	0.44	0.31	0.26	0.44	0.38	0.36	0.37	0.42	0.40	0.33
F	0.19	bdl	bdl	bdl	0.21	0.31	0.14	bdl	0.12	0.33	0.21	0.18	bdl	bdl	0.18	0.05
Cl	0.03	bdl	bdl	bdl	0.02	0.04	0.04	0.03	0.03	0.02	bdl	bdl	bdl	bdl	0.02	0.02
Total	96.66	96.47	97.73	98.30	98.63	97.26	97.91	97.82	97.64	98.29	98.23	97.92	96.23	98.49	98.26	97.68
F+Cl=O	0.09	-	-	-	0.09	0.14	0.07	0.01	0.06	0.14	0.09	0.08	0.00	0.00	0.08	0.03
Total	96.57	96.47	97.73	98.30	98.53	97.12	97.84	97.81	97.59	98.15	98.14	97.85	96.23	98.49	98.18	97.65
Mg#	0.74	0.75	0.67	0.68	0.69	0.70	0.65	0.70	0.69	0.67	0.75	0.72	0.73	0.69	0.71	0.69

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Table 6 - Continue

Sample	SPC120A/B						SPC120A/G									
Period	Second Amphibole-bearing						Second Amphibole-bearing									
Group	Agg rim	Core	Agg core	Agg rim	Micro core	Micro rim	Agg core	Agg rim	Core	Rim	Core	Rim	Micro core	Micro rim	Gdm	Gdm
Texture (wt%)	Agg rim	Core	Agg core	Agg rim	Micro core	Micro rim	Agg core	Agg rim	Core	Rim	Core	Rim	Micro core	Micro rim	Gdm	Gdm
SiO ₂	42.5	44.5	45.0	45.1	45.7	45.4	44.9	49.3	44.9	44.8	43.6	44.2	44.2	45.6	44.4	45.5
TiO ₂	1.86	1.69	1.74	1.80	1.65	1.75	2.27	0.87	1.83	1.82	1.85	2.18	2.59	1.51	2.05	1.86
Al ₂ O ₃	12.4	11.0	11.7	11.2	9.2	10.2	10.0	5.9	11.4	11.5	12.3	11.3	10.6	9.7	11.6	10.8
Cr ₂ O ₃	bdl	bdl	bdl	bdl	bdl	bdl	0.02	bdl	0.11	0.05	0.03	bdl	bdl	bdl	bdl	bdl
Fe ₂ O ₃	1.19	2.27	1.03	0.83	2.09	0.66	-	1.13	1.01	1.02	0.66	bdl	0.71	0.52	0.80	bdl
FeO	11.3	9.0	9.1	8.6	10.6	11.8	13.5	11.2	8.1	8.5	9.2	11.3	12.5	12.4	10.3	11.4
MnO	0.16	0.10	0.10	0.15	0.34	0.32	0.56	0.96	0.11	0.06	0.07	0.22	0.29	0.23	0.18	0.19
MgO	13.9	15.9	16.0	16.3	15.5	15.0	14.2	16.3	16.6	16.5	15.7	14.8	14.2	14.9	15.7	15.6
CaO	10.6	11.0	11.3	11.5	10.9	10.7	10.7	10.6	11.3	11.2	11.1	10.8	11.0	10.5	10.7	10.5
Na ₂ O	2.08	2.03	2.04	2.12	1.76	1.85	2.09	1.25	2.02	2.08	2.25	2.05	1.95	1.96	2.20	2.20
K ₂ O	0.39	0.30	0.30	0.33	0.40	0.38	0.48	0.27	0.33	0.35	0.35	0.57	0.47	0.30	0.31	0.35
F	bdl	0.06	0.06	0.15	0.13	0.10	0.18	0.26	0.12	bdl	0.13	bdl	0.22	0.10	0.19	0.11
Cl	0.02	0.02	0.02	0.02	0.03	0.02	0.03	0.02	bdl	bdl	0.02	0.04	0.03	0.04	0.01	0.02
Total	96.42	97.83	98.43	98.08	98.29	98.07	98.81	98.11	97.86	97.92	97.17	97.40	98.71	97.71	98.52	98.50
F+Cl=O	-	0.03	0.03	0.07	0.06	0.05	0.08	0.11	0.05	0.00	0.06	0.01	0.10	0.05	0.08	0.05
Total	96.41	97.80	98.40	98.02	98.23	98.02	98.73	98.00	97.81	97.92	97.11	97.39	98.61	97.66	98.44	98.45
Mg#	0.66	0.72	0.74	0.75	0.68	0.68	0.64	0.69	0.76	0.76	0.74	0.70	0.65	0.67	0.72	0.71

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Table 6 - Continue

Sample	SPC 65									
Period	Second									
Group	Amphibole-bearing									
Texture (wt%)	Agg core	Agg rim	Core	Rim	Micro core	Micro rim	Core	Rim	Rim	Agg core
SiO ₂	44.6	45.3	43.2	44.2	44.1	44.1	44.5	43.8	44.6	45.0
TiO ₂	1.44	1.64	2.92	2.64	1.71	1.84	1.83	1.67	2.07	1.79
Al ₂ O ₃	12.4	11.3	10.8	10.5	11.5	10.8	11.2	11.5	10.0	9.8
Cr ₂ O ₃	bdl	0.27	0.03	0.03	bdl	0.02	0.19	0.02	0.02	bdl
Fe ₂ O ₃	1.31	0.57	bdl	bdl	2.27	1.49	1.17	1.38	1.63	0.49
FeO	8.2	7.9	12.0	12.4	8.2	9.6	7.8	10.0	10.4	12.4
MnO	0.15	0.17	0.22	0.51	0.10	0.12	0.14	0.20	0.23	0.41
MgO	16.4	17.2	14.7	14.0	15.9	15.2	16.1	15.0	15.2	14.5
CaO	10.9	11.1	11.0	11.3	11.4	11.2	11.6	10.9	11.3	10.8
Na ₂ O	2.12	2.18	2.42	2.03	2.04	1.90	1.89	1.96	1.98	1.89
K ₂ O	0.30	0.31	0.47	0.46	0.31	0.30	0.32	0.43	0.41	0.48
F	bdl	bdl	bdl	bdl	0.07	0.30	0.10	0.00	0.23	bdl
Cl	bdl	bdl	bdl	bdl	0.02	0.03	0.00	0.05	0.02	bdl
Total	97.80	97.93	97.69	98.13	97.57	96.85	96.82	96.86	98.12	97.55
F+Cl=O	-	-	-	-	0.03	0.13	0.04	0.01	0.10	-
Total	97.80	97.93	97.69	98.13	97.53	96.72	96.77	96.85	98.02	97.55
Mg#	0.75	0.78	0.68	0.66	0.73	0.71	0.76	0.70	0.69	0.66

Table 7 - Microprobe analyses of mica from San Pedro-Cerro Grande Volcanic Complex rocks

Sample	SPC 122				SPC 126						SPC 111				SPC 23
Period	First				First						Second				Second
Group	Amphibole-bearing				Amphibole-bearing						Amphibole-free				Amp-bear
Type (wt%)	Core	Core	Micro core	Micro rim	Agg core	Core	Rim	Core	Rim	Rim	Agg core	Agg rim	Agg core	Agg rim	Rim
SiO ₂	38.1	37.7	38.1	38.2	37.4	40.7	38.2	38.2	40.2	38.7	36.4	36.9	36.6	37.1	36.9
TiO ₂	4.18	3.87	3.96	3.98	4.18	3.81	4.35	4.35	4.00	4.12	3.79	3.94	3.98	3.88	3.79
Al ₂ O ₃	14.1	13.8	14.0	14.6	14.5	15.7	14.2	14.2	16.2	15.2	14.0	13.6	14.5	15.1	14.1
Cr ₂ O ₃	0.02	bdl	bdl	bdl	0.03	bdl	0.02	0.02	bdl	0.02	bdl	0.04	0.07	bdl	bdl
FeO	13.3	12.8	13.4	13.7	13.8	13.0	13.5	13.5	12.3	11.5	17.4	17.5	17.2	17.3	17.9
MnO	0.14	0.21	0.15	0.23	0.19	0.14	0.23	0.23	0.21	0.09	0.35	0.43	0.31	0.38	0.44
MgO	16.1	16.1	15.9	15.9	16.1	14.4	15.9	15.9	14.9	16.6	13.5	13.4	13.7	12.5	13.3
CaO	bdl	0.02	bdl	0.05	bdl	0.22	0.26	0.26	0.19	0.18	0.03	0.05	0.02	0.02	0.03
Na ₂ O	0.94	0.92	1.07	0.91	0.93	0.35	0.65	0.65	0.21	0.58	0.67	0.74	0.75	0.71	0.69
K ₂ O	8.16	7.82	8.36	8.35	8.45	6.73	7.39	7.39	6.92	7.81	9.10	8.89	8.44	7.91	8.74
BaO	bdl	0.72	0.57	0.67	1.07	0.46	0.67	0.67	0.08	0.16	0.77	0.85	0.76	0.87	0.88
F	bdl	0.36	0.15	0.48	0.28	0.21	0.31	0.31	bdl	0.29	0.09	0.21	0.16	bdl	0.33
Cl	bdl	0.04	0.06	0.05	0.06	0.05	0.05	0.05	0.05	0.07	0.03	0.06	0.08	0.09	0.03
Total	99.05	98.17	99.68	100.87	100.88	99.82	99.64	99.64	99.38	99.26	100.01	100.41	100.45	99.74	100.89
F+Cl=O	-	0.16	0.08	0.21	0.13	0.10	0.14	0.14	0.01	0.14	0.04	0.10	0.09	0.02	0.15
Total	99.05	98.01	99.61	100.65	100.75	99.72	99.49	99.49	99.37	99.13	99.97	100.31	100.37	99.72	100.75
Mg#	0.68	0.69	0.68	0.67	0.67	0.66	0.67	0.67	0.68	0.72	0.58	0.57	0.58	0.56	0.67

bdl: values below detection limit; Core: phenocryst core; Rim: phenocryst rim; Micro core: micro-phenocryst core; Micro rim: micro-phenocryst rim; Agg core: Mineral of glomeroporphyritic aggregate core; Agg rim: Mineral of glomeroporphyritic aggregate rim; Gdm: mineral in the groundmass. Compositions of major mineral phases were performed at the Dipartimento di Scienze della Terra of the Università degli Studi di Firenze using a JEOL JXA-8600 microprobe operating at 15 kv and 10 nA. Matrix effect were corrected following the Bence and Albee (1968) method. Accuracy and precision estimates are given in Vaggelli et al. (1999).

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Table 7 - Continue

Sample	SPC 23				SPC120A/B				SPC120A/G				SPC 65			
Period	Second Amphibole-bearing		Second Amphibole-bearing				Second Amphibole-bearing				Second Amphibole-bearing			Second Amphibole-bearing		
Group	Rim	Micro core	Micro core	Micro core	Agg core	Core	Rim	Core	Rim	Core	Rim	Core	Micro rim	Core	Rim	Core
Type (wt%)																
SiO ₂	36.7	37.9	38.3	38.1	37.6	38.4	38.6	40.1	38.6	40.1	38.3	39.7	38.2	37.6	37.7	38.0
TiO ₂	4.05	4.11	4.09	4.08	3.93	4.12	4.24	3.71	4.05	3.73	4.23	4.23	4.23	4.24	4.26	4.07
Al ₂ O ₃	13.9	14.0	14.6	14.3	14.8	15.2	14.2	15.4	14.1	15.0	14.2	14.7	14.4	14.1	13.9	14.1
Cr ₂ O ₃	bdl	0.03	0.03	bdl	bdl	bdl	bdl	bdl	0.02	0.02	bdl	bdl	bdl	0.04	bdl	bdl
FeO	13.8	13.5	13.4	12.9	13.8	13.6	13.2	14.0	14.1	12.7	14.3	12.3	14.2	14.0	13.8	13.6
MnO	0.22	0.22	0.23	0.11	0.20	0.17	0.23	0.18	0.18	0.20	0.21	0.22	0.21	0.40	0.13	0.22
MgO	15.9	16.0	16.7	16.9	15.7	14.3	15.5	13.8	15.8	14.6	16.0	15.6	16.1	15.8	16.1	16.1
CaO	bdl	0.03	0.07	0.14	bdl	0.38	0.21	0.16	0.13	0.16	0.08	0.15	0.14	0.02	bdl	bdl
Na ₂ O	1.08	0.83	0.81	0.88	0.74	0.44	0.44	0.29	0.54	0.11	0.71	0.28	0.74	0.95	1.15	1.18
K ₂ O	8.29	8.66	7.77	7.83	8.17	7.03	7.86	6.66	7.70	6.84	7.92	7.75	7.56	8.58	8.46	8.59
BaO	0.64	0.77	0.69	0.68	0.83	0.21	0.46	0.43	0.46	0.05	0.62	0.11	0.62	bdl	bdl	bdl
F	0.13	0.18	bdl	0.20	0.24	0.26	0.34	0.05	0.43	0.26	0.31	0.19	0.35	bdl	bdl	0.23
Cl	0.05	0.06	0.07	0.07	0.05	0.05	0.05	0.06	0.05	0.08	0.07	0.07	0.07	bdl	bdl	0.06
Total	98.66	100.23	100.93	100.16	100.00	98.08	99.19	98.93	99.98	97.78	100.90	99.30	100.67	99.83	99.65	100.14
F+Cl=O	0.07	0.09	0.02	0.10	0.11	0.12	0.15	0.03	0.19	0.13	0.15	0.10	0.16	-	-	0.11
Total	98.59	100.14	100.91	100.06	99.89	97.96	99.04	98.90	99.79	97.66	100.75	99.20	100.51	99.83	99.65	100.03
Mg#	0.67	0.67	0.69	0.70	0.67	0.65	0.67	0.63	0.66	0.67	0.66	0.69	0.67	0.66	0.67	0.67

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Table 7 - Continue

Sample	SPC 65				
Period	Second				
Group	Amphibole-bearing				
Type (wt%)	Agg core	Agg rim	Agg rim	Core	Rim
SiO ₂	36.4	36.9	36.1	36.3	36.0
TiO ₂	4.47	4.16	4.08	4.23	4.10
Al ₂ O ₃	14.8	14.8	14.5	14.8	15.0
Cr ₂ O ₃	bdl	0.02	bdl	bdl	bdl
FeO	15.6	15.9	17.3	16.3	15.9
MnO	0.22	0.22	0.18	0.30	0.20
MgO	15.4	15.0	15.1	14.8	15.2
CaO	bdl	0.01	bdl	0.03	0.01
Na ₂ O	0.69	0.81	0.71	0.69	0.96
K ₂ O	8.26	8.33	7.92	7.90	8.38
BaO	0.83	0.64	0.78	0.84	0.87
F	1.14	1.15	0.73	0.42	1.67
Cl	0.08	0.07	0.06	0.08	0.06
Total	101.29	101.47	101.10	100.47	101.45
F+Cl=O	0.50	0.50	0.32	0.19	0.72
Total	100.79	100.98	100.78	100.28	100.74
Mg#	0.64	0.62	0.61	0.61	0.63

Table 8 - Microprobe analyses of oxides from San Pedro-Cerro Grande Volcanic Complex rocks

Sample	SPC 122										SPC 126				SPC 132	
Period	First Amphibole-bearing										First Amphibole-bearing				First Amph.-bear.	
Group	Agg core	Micro core	Core	Gdm	Core	Micro core	Micro core	Core	Core	Micro core	Core	Core	Agg core	Agg core	Gdm	Agg core
Texture (wt%)																
SiO ₂	0.04	0.11	0.13	0.35	0.04	0.08	0.11	bdl	bdl	bdl	bdl	0.18	0.03	0.17	0.09	
TiO ₂	1.87	5.11	6.55	4.66	8.01	3.02	7.55	5.12	6.13	5.65	36.81	5.27	5.12	6.55	6.56	11.62
Al ₂ O ₃	0.84	1.96	1.83	3.44	2.47	2.16	1.60	1.99	2.40	2.08	0.39	2.37	1.95	2.17	3.26	1.81
Cr ₂ O ₃	0.05	bdl	0.05	bdl	0.11	0.12	bdl	0.04	0.05	bdl	0.02	0.03	0.06	0.05	0.02	0.12
Fe ₂ O ₃	64.6	57.6	55.1	55.4	50.2	61.1	52.8	58.1	54.7	54.8	31.2	56.3	56.6	55.2	52.0	43.6
FeO	31.2	33.6	36.0	35.2	36.0	31.7	35.3	33.5	34.7	33.8	29.3	34.2	34.0	35.3	36.3	39.0
MnO	0.47	0.51	0.49	0.48	0.47	0.57	0.73	0.74	0.64	0.59	0.43	0.58	0.65	0.48	0.52	0.51
MgO	0.80	1.45	0.95	0.45	1.28	1.35	1.49	1.41	1.12	1.04	1.88	0.95	1.02	1.39	0.61	1.42
CaO	0.03	bdl	0.03	0.04	0.06	bdl	0.03	bdl	bdl	0.07	0.03	bdl	bdl	bdl	0.02	0.04
Total	99.9	100.3	101.1	100.1	98.7	100.1	99.5	100.9	99.8	98.0	100.1	99.7	99.7	101.2	99.4	98.2
Usp	4.7	14.3	18.5	13.7	23.6	8.1	21.3	13.9	17.4	16.2		14.9	14.4	18.5	19.4	34.2
Mt	95.3	85.7	81.5	86.3	76.4	91.9	78.7	86.1	82.6	83.8		85.1	85.6	81.5	80.6	65.8
Ilm											67.8					
Hem											32.2					
Cr#																

bdl: values below detection limit; Core: phenocryst core; Rim: phenocryst rim; Micro core: micro-phenocryst core; Micro rim: micro-phenocryst rim; Agg core: Mineral of glomeroporphyritic aggregate core; Agg rim: Mineral of glomeroporphyritic aggregate rim; Gdm: mineral in the groundmass. Ulvöspinel (Usp) end-member is calculated following the scheme of Spencer and Lindsley (1981); Mt: magnetite; Ilm: ilmenite; Hem: hematite; Cr# = [Cr/(Cr+Al)]. Compositions of major mineral phases were performed at the Dipartimento di Scienze della Terra of the Università degli Studi di Firenze using a JEOL JXA-8600 microprobe operating at 15 kV and 10 nA. Matrix effect were corrected following the Bence and Albee (1968) method. Accuracy and precision estimates are given in Vaggelli et al. (1999).

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Table 8 - Continue

Sample	SPC 132				SPC 130				SPC 109				SPC 111				SPC120A/B
Period	First Amphibole-bearing				First Amphibole-bearing				Second Mafic		Second Amphibole-free			Second			
Group					Core	Core	Gdm	Core	Gdm	Micro core	Micro core	Gdm	Agg core	Gdm	Amph-bear.	Agg Core	
Texture (wt%)	Micro core	Micro core	Micro core	Micro core	Core	Core	Gdm	Core	Gdm	Micro core	Micro core	Gdm	Agg core	Gdm	Second	Amph-bear.	
SiO ₂	bdl	0.03	0.07	bdl	0.06	0.06	0.24	0.10	0.11	0.02	0.17	0.15	0.06	0.13	bdl		
TiO ₂	2.78	11.61	9.32	8.33	7.68	7.82	13.38	13.15	21.42	11.55	7.16	14.90	8.56	12.53	6.12		
Al ₂ O ₃	7.64	1.61	2.30	3.16	3.19	3.32	1.41	2.18	1.46	7.89	1.75	1.31	1.83	1.36	2.42		
Cr ₂ O ₃	0.07	0.30	0.33	0.05	bdl	0.06	bdl	bdl	0.59	16.56	0.02	bdl	0.03	bdl	0.03		
Fe ₂ O ₃	58.1	44.4	49.5	50.5	52.0	51.5	41.5	42.8	25.1	22.4	53.9	38.9	49.5	43.5	55.5		
FeO	25.2	39.3	37.9	36.6	36.2	36.4	39.7	40.4	47.6	36.3	36.1	42.1	36.3	40.0	34.2		
MnO	0.36	0.34	0.36	0.31	0.40	0.33	0.55	0.48	0.59	0.36	0.44	0.65	0.44	0.59	0.54		
MgO	6.12	1.43	1.53	1.68	1.64	1.68	1.63	2.15	1.76	4.29	1.24	1.58	1.25	1.47	1.65		
CaO	0.10	0.04	bdl	0.04	0.07	bdl	0.88	bdl	0.04	0.00	0.04	0.02	0.08	0.10	0.02		
Total	100.4	99.1	101.3	100.6	101.2	101.1	99.2	101.2	98.7	99.4	100.8	99.5	98.1	99.7	100.5		
Usp	8.1	33.9	26.9	24.4	22.3	22.9	38.7	37.5	62.6	50.3	20.4	42.8	25.1	35.9	17.3		
Mt	91.9	66.1	73.1	75.6	77.7	77.1	61.3	62.5	37.4	49.7	79.6	57.2	74.9	64.1	82.7		
Ilm																	
Hem																	
Cr#									0.6								

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Table 8 - Continue

Table 9 - Microprobe analyses of olivine from San Pedro-Cerro Grande Volcanic Complex rocks

Sample	SPC 109						
	Second Mafic						
Period	Agg rim	Core	Rim	Agg core	Agg rim	Micro core	Gdm
Group							
Type (wt%)							
SiO ₂	38.5	38.4	37.8	38.8	38.0	36.5	34.3
TiO ₂	bdl	0.03	bdl	0.02	0.02	0.07	0.16
Al ₂ O ₃	0.04	bdl	0.04	0.02	bdl	0.05	2.09
Cr ₂ O ₃	bdl	bdl	bdl	0.02	bdl	0.08	bdl
Fe ₂ O ₃	1.45	1.78	2.05	0.85	1.66	1.48	bdl
FeO	20.4	20.5	21.7	19.5	21.2	31.5	37.4
MnO	0.33	0.36	0.44	0.27	0.38	0.55	0.77
NiO	0.14	0.17	0.15	0.18	0.14	bdl	0.07
MgO	40.2	40.1	38.6	41.0	39.1	31.3	25.0
CaO	0.18	0.19	0.21	0.15	0.17	0.32	0.39
Total	101.2	101.5	101.0	100.9	100.7	101.9	100.2
Fo %	76.2	75.9	73.9	77.9	74.9	62.2	53.6

bdl: values below detection limit; Core: phenocryst core; Rim: phenocryst rim; Micro core: micro-phenocryst core; Micro rim: micro-phenocryst rim; Agg core: Mineral of glomeroporphyritic aggregate core; Agg rim: Mineral of glomeroporphyritic aggregate rim; Gdm: mineral in the groundmass. Compositions of major mineral phases were performed at the Dipartimento di Scienze della Terra of the Università degli Studi di Firenze using a JEOL JXA-8600 microprobe operating at 15 kv and 10 nA. Matrix effect were corrected following the Bence and Albee (1968) method. Accuracy and precision estimates are given in Vaggelli et al. (1999).