

DATA REPOSITORY

METHODS

Field counting of K-feldspar megacrysts

In the field, quantitative data have been measured on outcrop surfaces at least 1 m² wide. The following parameters have been analysed: i) the number of K-feldspar megacrysts for the unit area; ii) the area of each megacryst (by measuring minimum and maximum edges); iii) the percentage of area occupied by the megacrysts in the rock (area%).

Slab counting of framework-matrix K-feldspars

Three slabs (approximately 15x15 cm) from Sant'Andrea and four slabs from San Piero were cut out from samples in type localities. The slabs were sawn, polished, stained and optically scanned to form a digital image. The staining process involves the use of three chemicals reagents. First, Hydrofluoric Acid (HF) is used to etch the polished surface. After that Amaranth ($C_{20}H_{11}N_2Na_3O_{10}S_3$) is used to stain the plagioclase on that surface a red color. Then Cobaltinitrite ($Na_3CO(NO_2)_6$) is used to stain any K-feldspar on that surface a yellow color. Although different colors allows a better recognition of different phases, the difficulty of separating touching crystals of same phase is not solved, resulting in a possible bias towards larger size in CSD analysis. To minimize the bias the stained slab has been optically scanned at high resolution and the contrast of image modified in order to show up the yellow K-feldspar more than the other colours. Then, with Photoshop code, a colour threshold has been chosen to select only the K-feldspar and a black and white image has been produced. Finally, to separate touching crystal and to eliminate the image noise, the black and white image has been superimposed to the scanned stained slab and manually adjusted. Using ImageJ code K-feldspars have been counted and every single crystal measured. Minimum measurable crystal size was about 0.6 mm².

Analytical methods

Major elements were determined by X-Ray Fluorescence (ARL 9400 XP⁺ operating at Dipartimento di Scienze della Terra, Università di Pisa) on glass beads following the procedure of Tamponi et al. (2003). Fused beads were prepared after ignited powders in order to avoid sulfide minerals leading to the corrosion of the platinum crucible during the flux melting. Loss On Ignition (LOI) was determined by gravimetry at 1000 °C in a microwave oven (MAS 300) after pre-heating at 110°C. Relative standard deviation is about 1% for SiO₂ and 2% for the other major elements excepts for low values (<0.50% oxide) for which the absolute standard deviation is 0.01%.

Trace elements were determined by ICP-MS (Fisons PQ2 Plus) at Dipartimento di Scienze della Terra, University of Pisa. Samples were dissolved in screw top PFA Savillex vessels on a hotplate at 120°C with HF-HNO₃ mixture and then analyzed following the method reported in D'Orazio (1995). External calibration was made by using the international standard BE-N (Govindaraju, 1994) as a composition- and matrix-matching calibration solution. The correction procedure includes (1) blank subtraction; (2) instrumental drift correction using Rh-Re-Bi internal standardization and repeated analysis of a drift monitor, (3) oxide-hydroxide interference correction. Precision, evaluated by replicate dissolutions and analyses of the in-house standard HE-1 (Mt.Etna hawaiite) is generally between 2 and 5 % RSD, except for Gd (6%), Tm (7%), Pb and Sc (8%). Detection limits at 6σ level are in the range 0.002-0.02 ng ml⁻¹ in the solution

(corresponding to 0.002-0.02 ppm for a 1000 fold sample dilution) for all the elements, except for Ba, Pb and Sr (0.1-0.2).

Sr and Nd isotopic compositions were determined using a Finnigan MAT 262V multicollector mass-spectrometer at the IGG-CNR-Pisa, after conventional ion-exchange procedures for Sr and Nd separation from the matrix. Sr total blank was better than 2 ng while Nd total blank was less than 1 ng during the period of measurement. Measured $^{87}\text{Sr}/^{86}\text{Sr}$ have been normalized to $^{86}\text{Sr}/^{88}\text{Sr} = 0.1194$; $^{143}\text{Nd}/^{144}\text{Nd}$ ratio to $^{146}\text{Nd}/^{144}\text{Nd} = 0.7219$. During collection of the isotopic data, 15 replicate analyses of SRM 987 (SrCO_3) standard gave an average value of 0.710200 ± 8 (2σ mean) and 14 measurement of standard JNd-1 gave an average $^{143}\text{Nd}/^{144}\text{Nd}$ of 0.512099.

Biotite analysis were performed with a JEOL JXA 8600 electron microprobe at the IGG-CNR-Florence, operating in the wavelength-dispersive mode. The operating conditions during analyses were an acceleration voltage of 15 kV, a beam current of 50 nA (measured on the Faraday cup) and a spot size of 5 μm .

References

D'Orazio, M., 1995, Trace elements determinations in igneous rocks by ICP-MS: results on ten international reference samples: Periodico di Mineralogia, v.64, p. 315-328.

Govindaraju, K., 1994, Compilation of working values and samples description for 328 geostandards. Geostandards Newsletter, v.18, p. 1-58.

Table Captions

Table DR1- GPS coordinates and megacryst content for the 392 stations.

Table DR2- Representative analyses of framework biotites (FW) and biotites included in K-feldspar megacrysts (IM) for the three intrusive facies.

TABLE DR1 - LIST OF THE 392 COUNTING STATIONS

GPS location		megacrysts/m ²	area %	average dimension	Facies
x	y				
1590610	4735560	30	2.29	7.6	SA
1590650	4734970	58	3.34	5.8	SA
1590860	4734890	53	4.41	8.3	SA
1590920	4737410	42	2.73	6.5	SA
1590950	4735850	34	1.78	5.2	SF
1591046	4737772	42	3.32	7.9	SA
1591080	4737550	47	2.58	5.5	SA
1591170	4738700	20	0.69	3.5	SP
1591210	4738550	42	1.31	3.1	SF
1591260	4737500	43	3.30	7.7	SA
1591267	4737973	47	3.51	7.5	SA
1591440	4738710	61	3.59	5.9	SA
1591440	4738960	89	4.92	5.5	SA
1591470	4737400	28	1.92	6.9	SF
1591494	4733881	39	2.77	7.1	SA
1591522	4733583	35	2.46	7.0	SA
1591560	4736330	31	1.94	6.3	SF
1591570	4733750	30	2.10	7.0	SF
1591660	4737310	3	0.15	5.0	SP
1591670	4739070	76	5.25	6.9	SA
1591670	4738340	32	1.70	5.3	SF
1591690	4739480	61	3.98	6.5	SA
1591702	4733730	39	3.98	10.2	SA
1591765	4738772	38	3.01	7.9	SA
1591771	4734833	24	1.89	7.9	SF
1591780	4738130	1	0.03	2.5	SP
1591780	4739300	93	7.14	7.7	SA
1591800	4739260	79	5.59	7.1	SA
1591860	4737320	5	0.25	5.0	SP
1591860	4739390	51	3.67	7.2	SA
1591920	4737300	20	1.35	6.8	SF
1592020	4738460	60	2.44	4.1	SA
1592030	473 5090	22	1.50	6.8	SF
1592077	4734734	13	0.83	6.4	SF
1592080	4734385	17	1.07	6.3	SF
1592180	4738990	21	0.91	4.3	SF
1592187	4733859	23	1.30	5.7	SF
1592250	4733778	15	1.08	7.2	SF
1592260	4737890	11	1.40	12.7	SP
1592295	4734028	19	1.40	7.4	SF
1592355	4734656	27	2.20	8.1	SF
1592413	4734584	15	1.15	7.7	SF
1592450	4739750	65	4.27	6.6	SA
1592457	4733782	9	0.66	7.3	SP
1592469	4734408	19	1.20	6.3	SF
1592480	4738540	37	2.40	6.5	SA
1592501	4736627	22	1.38	6.3	SF
1592550	4739660	27	1.68	6.2	SF
1592620	4739860	54	3.50	6.5	SA
1592650	4736890	20	1.24	6.2	SF
1592670	4732740	17	1.27	7.5	SF
1592680	4739330	48	3.31	6.9	SA

1592692	4734709	14	0.75	5.4	SF
1592730	4736740	25	1.58	6.3	SF
1592758	4736066	16	0.85	5.3	SF
1592808	4734625	17	0.90	5.3	SF
1592910	4737630	24	1.86	7.8	SF
1592943	4734757	18	1.10	6.1	SF
1592960	4732650	17	0.95	5.6	SF
1592960	4738220	36	0.13	0.4	SA
1593040	4738935	36	1.90	5.3	SF
1593090	4736500	28	1.73	6.2	SF
1593130	4732600	19	1.60	8.4	SF
1593136	4735062	15	0.75	5.0	SF
1593160	4737420	9	0.88	9.8	SF
1593160	4738160	32	1.95	6.1	SF
1593240	4739250	68	3.54	5.2	SA
1593260	4735567	13	0.63	4.8	SP
1593260	4740230	50.5	3.44	6.8	SA
1593330	4739740	47	2.97	6.3	SA
1593380	4732910	27	1.90	7.0	SF
1593464	4734041	14	1.17	8.4	SF
1593490	4740000	61	4.24	7.0	SA
1593500	4737800	22	1.21	5.5	SF
1593500	4732760	22	1.15	5.2	SF
1593551	4736796	13	0.71	5.5	SF
1593610	4737950	43	3.10	7.2	SA
1593610	4732410	19	1.46	7.7	SF
1593640	4732330	17	1.05	6.2	SF
1593770	4737830	45	2.77	6.2	SA
1593797	4733292	32	2.07	6.5	SF
1593830	4732760	18	0.85	4.7	SF
1593839	4737471	28	1.85	6.6	SF
1593840	4740090	77	3.87	5.0	SA
1593890	4739510	53	4.00	7.5	SA
1593991	4737179	11	0.70	6.4	SP
1594000	4738610	46	3.20	7.0	SA
1594000	4737970	38	3.30	8.7	SA
1594020	4732820	20	1.40	7.0	SF
1594050	4738230	27	1.63	6.0	SF
1594061	4734613	8	0.86	10.8	SF
1594145	4733450	20	1.26	6.3	SF
1594160	4732330	10	0.40	4.0	SP
1594160	4732330	10	0.50	5.0	SP
1594270	4732280	27	1.89	7.0	SF
1594320	4736776	23	1.48	6.4	SF
1594320	4737830	69	4.15	6.0	SA
1594320	4739520	40	2.70	6.8	SA
1594320	4739950	76	4.20	5.5	SA
1594330	4733225	34	2.41	7.1	SA
1594340	4736920	46	3.63	7.9	SA
1594350	4736420	31	2.86	9.2	SA
1594350	4732050	17	1.10	6.4	SF
1594370	4732335	16	1.12	7.0	SF
1594400	4737710	47	2.65	5.6	SA
1594417	4732107	18	0.71	3.9	SF
1594430	4737580	41	2.43	5.9	SA
1594430	4738290	46	2.87	6.2	SA

1594430	4732570	26	1.82	7.0	SF
1594440	4732740	21	1.47	7.0	SF
1594450	4732190	40	2.80	7.0	SA
1594480	4737140	27	1.45	5.4	SF
1594489	4734073	24	1.71	7.1	SF
1594544	4738160	62	5.25	8.5	SA
1594570	4738850	58	4.10	7.1	SA
1594580	4738740	68	5.60	8.2	SA
1594610	4738130	30	1.87	6.2	SF
1594638	4736392	24	1.88	7.8	SF
1594655	4734930	34	1.33	3.9	SF
1594770	4737230	14	1.10	7.9	SF
1594790	4731910	16	0.67	4.2	SP
1594800	4737400	19	1.14	6.0	SF
1594850	4738030	25	1.58	6.3	SF
1594860	4734370	20	1.45	7.3	SF
1594910	4733300	23	1.23	5.3	SF
1594940	4737610	22	1.22	5.5	SF
1594970	4731800	9	0.66	7.3	SP
1594988	4734627	22	1.03	4.7	SF
1595020	4733450	16	0.85	5.3	SF
1595030	4733510	30	1.28	4.3	SF
1595070	4733210	18	1.03	5.7	SF
1595110	4733240	21	1.05	5.0	SF
1595140	4738880	33	2.80	8.5	SA
1595160	4736380	47	3.05	6.5	SA
1595161	4734837	26	1.40	5.4	SF
1595180	4737900	16	1.26	7.9	SF
1595180	4738500	22	0.92	4.2	SF
1595180	4731790	12	0.56	4.7	SP
1595290	4737930	23	1.46	6.3	SF
1595310	4733580	19	0.87	4.6	SF
1595310	4731800	17	0.65	3.8	SP
1595340	4733760	28	1.23	4.4	SF
1595419	4736114	26	1.71	6.6	SF
1595430	4737610	14	0.92	6.6	SF
1595470	4737600	13	0.80	6.2	SF
1595500	4736980	23	1.63	7.1	SF
1595590	4737850	21	1.16	5.5	SF
1595590	4733390	24	1.38	5.8	SF
1595640	4736140	38	3.18	8.4	SA
1595640	4737980	29	1.56	5.4	SF
1595710	4737780	21	1.43	6.8	SF
1595770	4733730	28	1.62	5.8	SF
1595860	4737180	14	0.65	4.6	SP
1595880	4735880	20	1.10	5.5	SF
1595890	4737050	18	1.20	6.7	SF
1595890	4738150	20	1.06	5.3	SF
1595900	4731940	42	2.94	7.0	SA
1595910	4737240	12	0.75	6.3	SF
1595960	4737840	18	0.92	5.1	SF
1596035	4735690	21	1.21	5.8	SF
1596040	4737360	20	1.30	6.5	SF
1596080	4735170	24	1.11	4.6	SF
1596100	4732180	6	0.25	4.2	SP
1596120	4732880	7	0.20	2.9	SP

1596150	4732760	5	0.20	4.0	SP
1596180	4732050	12	0.90	7.5	SF
1596200	4736860	20	1.00	5.0	SF
1596230	4734725	18	1.16	6.5	SF
1596260	4736810	17	0.80	4.7	SF
1596270	4736500	16	1.00	6.3	SF
1596270	4738270	33	2.34	7.1	SA
1596300	4733290	11	0.50	4.5	SP
1596330	4736260	25	1.28	5.1	SF
1596330	4738300	19	1.25	6.6	SF
1596340	4736660	18	1.04	5.8	SF
1596350	4737430	16	1.07	6.7	SF
1596400	4736950	19	1.31	6.9	SF
1596410	4737650	19	1.10	5.8	SF
1596430	4737850	18	1.35	7.5	SF
1596430	4732210	24	1.68	7.0	SF
1596440	4737050	18	1.38	7.7	SF
1596480	4735670	33	2.06	6.2	SF
1596530	4737230	19	1.19	6.3	SF
1596540	4732160	14	0.40	2.9	SP
1596550	4738280	11	0.74	6.7	SF
1596550	4733550	26	1.34	5.2	SF
1596555	4735060	18	1.33	7.4	SF
1596560	4733770	41	2.87	7.0	SA
1596570	4734280	18	1.28	7.1	SF
1596632	4735725	18	1.26	7.0	SF
1596650	4732080	23	1.61	7.0	SF
1596660	4734240	40	2.80	7.0	SA
1596673	4735832	24	1.52	6.3	SF
1596680	4737370	29	1.96	6.8	SF
1596730	4736800	19	1.27	6.7	SF
1596730	4735085	29	1.98	6.8	SF
1596734	4735942	17	0.89	5.2	SF
1596760	4732090	11	0.40	3.6	SP
1596807	4736185	28	2.56	9.1	SA
1596830	4734960	13	0.63	4.8	SP
1596840	4733420	36	1.42	3.9	SF
1596845	4734405	15	2.61	17.4	SA
1596850	4737410	24	1.45	6.0	SF
1596850	4738150	21	1.64	7.8	SF
1596850	4734270	32	2.63	8.2	SA
1596870	4736650	19	1.08	5.7	SF
1596878	4735213	20	1.29	6.5	SF
1596900	4735700	24	1.55	6.5	SF
1596900	4736740	20	1.00	5.0	SF
1596900	4737750	29	1.60	5.5	SF
1596910	4734230	42	2.94	7.0	SA
1596960	4733660	30	2.10	7.0	SF
1596960	4734830	22	2.27	10.3	SF
1596980	4737750	15	0.80	5.3	SF
1596991	4736260	23	1.20	5.2	SF
1597045	4734990	42	1.99	4.7	SF
1597050	4735560	18	1.13	6.3	SF
1597050	4733370	17	0.94	5.5	SF
1597105	4734305	12	0.71	5.9	SF
1597115	4734500	26	1.20	4.6	SF

1597120	4733975	7	0.68	9.7	SP
1597170	4734860	14	1.88	13.4	SF
1597200	4736830	26	1.37	5.3	SF
1597210	4735460	17	0.91	5.4	SF
1597230	4737760	10	0.35	3.5	SP
1597250	4736960	19	0.86	4.5	SF
1597256	4736359	27	2.11	7.8	SF
1597260	4733440	15	0.60	4.0	SP
1597265	4734655	21	0.89	4.2	SF
1597270	4734720	26	1.28	4.9	SF
1597285	4734500	70	3.30	4.7	SA
1597300	4735125	38	2.08	5.5	SF
1597310	4736430	22	1.32	6.0	SF
1597340	4734500	45	3.15	7.0	SA
1597350	4732070	10	0.35	3.5	SP
1597350	4734240	11	0.33	3.0	SP
1597360	4734450	50	3.50	7.0	SA
1597380	4734275	64	2.54	4.0	SA
1597390	4732660	13	0.35	2.7	SP
1597400	4732060	21	1.47	7.0	SF
1597410	4734600	48	2.39	5.0	SA
1597420	4734005	6	0.30	5.0	SP
1597430	4732250	2	0.14	7.0	SP
1597450	4737060	19	0.69	3.6	SP
1597465	4734525	94	4.46	4.7	SA
1597470	4735820	28	1.52	5.4	SF
1597480	4732090	26	1.82	7.0	SF
1597500	4732495	10	0.50	5.0	SP
1597500	4732605	8	0.35	4.4	SP
1597530	4734465	94	3.85	4.1	SA
1597560	4736980	17	0.91	5.4	SF
1597560	4732300	1	0.06	6.0	SP
1597560	4734320	16	1.09	6.8	SF
1597565	4734415	37	1.70	4.6	SF
1597580	4734575	85	4.14	4.9	SA
1597600	4735660	18	0.64	3.6	SP
1597600	4734315	18	1.06	5.9	SF
1597605	4734345	5	0.17	3.4	SP
1597605	4734795	59	2.45	4.1	SA
1597655	4734540	105	4.84	4.6	SA
1597690	4734085	4	0.10	2.6	SP
1597695	4735410	28	1.30	4.6	SF
1597710	4734370	10	0.70	7.0	SP
1597735	4733710	9	0.50	5.6	SP
1597860	4734620	26	0.91	3.5	SF
1597870	4734400	7	0.25	3.6	SP
1597880	4733800	3	0.17	5.8	SP
1597880	4734860	64	3.38	5.3	SA
1597910	4732490	3	0.16	5.3	SP
1597915	4734220	8	0.36	4.6	SP
1597930	4733590	15	0.84	5.6	SP
1597940	4735160	44	2.07	4.7	SF
1597940	4733060	6	0.37	6.2	SP
1598030	4735030	39	2.02	5.2	SF
1598060	4735300	42	1.76	4.2	SF
1598060	4733460	6	0.24	3.9	SP

1598090	4733810	6	0.30	5.0	SP
1598090	4735410	13	0.66	5.1	SP
1598140	4734325	12	0.70	5.8	SP
1598210	4733790	5	0.40	8.0	SP
1598220	4734060	4	0.38	9.6	SP
1598280	4733680	8	0.38	4.8	SP
1598280	4735140	12	0.64	5.3	SP
1598300	4734840	3	0.08	2.7	SP
1598310	4734630	4	0.18	4.6	SP
1598345	4733870	2	0.10	5.0	SP
1598400	4733740	3	0.20	6.7	SP
1598410	4734310	10	0.50	5.0	SP
1598410	4735030	6	0.20	3.3	SP
1598420	4732820	4	0.24	6.0	SP
1598430	4733380	4	0.26	6.5	SP
1598490	4733890	5	0.25	5.0	SP
1598550	4733910	4	0.40	10.0	SP
1598560	4734310	12	0.40	3.3	SP
1598560	4732600	5	0.30	6.0	SP
1598595	4734855	5	0.19	3.7	SP
1598610	4734190	1	0.08	8.0	SP
1598620	4734040	8	0.60	7.5	SP
1598630	4736190	25	1.00	4.0	SF
1598640	4733210	5	0.31	6.3	SP
1598670	4735920	33	1.62	4.9	SF
1598685	4734430	13	0.80	6.2	SP
1598705	4734685	10	0.57	5.7	SP
1598710	4733960	3	0.20	6.7	SP
1598710	4732980	6	0.29	4.8	SP
1598710	4733510	8	0.37	4.6	SP
1598730	4732760	10	0.69	6.9	SP
1598735	4733345	4	0.15	3.7	SP
1598760	4734380	6	0.40	6.7	SP
1598760	4734190	14	0.68	4.9	SP
1598795	4733945	3	0.15	4.9	SP
1598830	4735060	5	0.15	3.0	SP
1598880	4733940	10	0.43	4.3	SP
1598890	4733730	2	0.12	6.0	SP
1598890	4733140	5	0.29	5.8	SP
1598910	4733270	4	0.25	6.3	SP
1598925	4734620	5	0.17	3.4	SP
1598940	4733680	4	0.24	6.0	SP
1598940	4733120	62	5.22	8.4	SA
1598940	4733235	74	6.95	9.4	SA
1598950	4733340	6	0.21	3.5	SP
1598980	4734420	86	5.14	6.0	SA
1598980	4735330	9	0.36	4.0	SP
1598980	4733420	3	0.17	5.7	SP
1598990	4733895	8	1.02	12.8	SF
1599000	4733330	52	2.70	5.2	SA
1599010	4733630	15	0.84	5.6	SF
1599030	4733570	5	0.60	12.0	SP
1599040	4733885	20	1.20	6.0	SF
1599050	4734530	0	0.00		SP
1599060	4734380	7	0.18	2.6	SP
1599090	4733495	59	2.88	4.9	SA

1599100	4734605	3	0.11	3.8	SP
1599125	4733810	50	4.14	8.3	SA
1599130	4736120	6	0.42	7.0	SP
1599155	4734450	18	1.11	6.2	SF
1599210	4735680	5	0.70	14.0	SP
1599225	4734475	43	3.44	8.0	SA
1599240	4734160	8	0.72	9.0	SP
1599250	4734820	16	0.60	3.8	SP
1599260	4735200	5	0.30	6.0	SP
1599265	4734605	3	0.17	5.7	SP
1599280	4735930	4	0.14	3.5	SP
1599300	4734710	17	1.28	7.5	SF
1599315	4734340	9	0.57	6.3	SP
1599320	4735100	52	2.01	3.9	SF
1599320	4733780	40	2.24	5.6	SF
1599350	4735500	63	2.23	3.5	SF
1599350	4735200	61	4.07	6.7	SA
1599360	4734095	62	2.77	4.5	SA
1599375	4734410	196	13.85	7.1	SA
1599380	4734930	33	2.59	7.8	SA
1599380	4734820	48	3.60	7.5	SA
1599410	4734650	48	2.48	5.2	SA
1599410	4733720	78	6.23	8.0	SA
1599420	4734230	88	7.33	8.3	SA
1599430	4734740	54	3.01	5.6	SA
1599430	4736280	5	0.30	6.0	SP
1599470	4734425	103	6.15	6.0	SA
1599500	4733660	95	7.26	7.6	SA
1599630	4735290	72	4.15	5.8	SA
1599640	4736600	9	0.31	3.4	SP
1599670	4736290	6	0.25	4.2	SP
1599670	4734930	64	5.91	9.2	SA
1599690	4736140	11	0.35	3.2	SP
1599690	4735690	8	0.62	7.8	SP
1599780	4735490	79	6.41	8.1	SA
1599830	4735030	77	5.36	7.0	SA
1599870	4734380	78	6.28	8.1	SA
1599870	4734680	87	7.11	8.2	SA
1599890	4735620	7	0.81	11.6	SP
1599930	4736000	5	0.15	3.0	SP
1600020	4738370	9	0.41	4.6	SP
1600190	4737780	13	0.43	3.3	SP
1600220	4736010	5	0.65	13.0	SP
1600290	4737930	5	0.23	4.6	SP
1600300	4736560	6	0.40	6.7	SP
1600310	4737320	15	0.52	3.5	SP
1600340	4737100	8	0.25	3.1	SP
1600510	4736380	4	0.32	8.0	SP
1600730	4736980	7	0.21	3.0	SP
1600840	4736950	9	0.38	4.2	SP
1600850	4737310	28	0.80	2.9	SP
1601010	4736860	13	0.40	3.1	SP
1601170	4736980	23	0.86	3.7	SP
1601320	4737090	15	0.56	3.7	SP
1601530	4737050	12	0.47	3.9	SP
1601590	4737080	7	0.20	2.9	SP

1601590	4736820	17	0.86	5.1	SP
1601800	4736760	13	0.43	3.3	SP
1601860	4737000	20	0.87	4.4	SP
1602000	4736000	8	0.53	6.7	SP

Abbreviations: SA - Sant'Andrea facies, SF - San Francesco facies, SP - San Piero facies, area% is the K-feldspar megacryst modal content, averag.D is the megacryst average

TABLE DR2 - SELECTED MAJOR ELEMENT ANALYSES OF BIOTITES

facies	Sample	Type	Si	Aliv	Al vi	Mn	Mg	Ca	Na	K	Sr	Ba	F	Cl	Fe#
SA	PP331-1	FW	5.334	2.666	0.342	0.426	2.385	0.025	2.077	0.000	0.057	2.080	0.000	0.706	0.535
SA	PP331-2	FW	5.331	2.669	0.441	0.383	2.304	0.019	2.109	0.000	0.023	2.103	0.000	0.697	0.522
SA	FF04 1-8	FW	5.346	2.654	0.288	0.452	2.593	0.030	2.113	0.000	0.052	1.910	0.000	0.007	0.551
SA	FF04 1-9	FW	5.260	2.740	0.381	0.426	2.573	0.036	2.067	0.000	0.060	1.914	0.000	0.005	0.555
SA	FF 105-2	FW	5.302	2.698	0.261	0.421	2.665	0.056	2.094	0.009	0.065	1.938	0.000	0.009	0.560
SA	FF 105-4	FW	5.286	2.714	0.434	0.453	2.459	0.058	2.000	0.011	0.034	1.998	0.000	0.007	0.551
SA	FF 105-5	FW	5.365	2.635	0.372	0.437	2.430	0.046	2.096	0.000	0.062	1.996	0.000	0.010	0.403
SA	FF 105-6	FW	5.376	2.624	0.318	0.418	2.600	0.049	2.124	0.013	0.045	1.919	0.000	0.002	0.282
SA	FF04-1-1	IM	5.417	2.583	0.406	0.415	2.558	0.034	2.209	0.003	0.056	1.705	0.000	0.004	0.193
SA	FF04-1-2	IM	5.270	2.730	0.278	0.437	2.613	0.065	2.114	0.003	0.117	1.904	0.000	0.008	0.387
SA	FF04-3	IM	5.284	2.716	0.259	0.436	2.613	0.060	2.154	0.008	0.025	1.996	0.000	0.004	0.345
SA	FF04-4	IM	5.456	2.544	0.262	0.432	2.593	0.070	2.111	0.000	0.067	1.999	0.000	0.010	0.254
SA	FF04-6	IM	5.354	2.646	0.256	0.416	2.591	0.049	2.143	0.000	0.050	1.987	0.056	0.002	0.328
SA	FF04-9	IM	5.370	2.630	0.273	0.406	2.602	0.045	2.163	0.014	0.070	1.987	0.000	0.002	0.311
SP	FF30-1	FW	5.438	2.562	0.276	0.399	2.259	0.045	2.467	0.000	0.057	2.070	0.000	0.000	0.379
SP	FF30-2	FW	5.490	2.510	0.323	0.401	2.239	0.032	2.415	0.000	0.042	2.075	0.000	0.000	0.346
SP	FF30-3	FW	5.461	2.539	0.300	0.393	2.256	0.038	2.379	0.000	0.071	2.148	0.000	0.000	0.402
SP	FF111-2	FW	5.481	2.519	0.269	0.401	2.326	0.055	2.487	0.008	0.000	1.902	0.017	0.003	0.324
SP	FF30-1	FW	5.400	2.600	0.216	0.415	2.350	0.043	2.557	0.014	0.058	1.913	0.000	0.002	0.297
SP	FF30-2	FW	5.360	2.640	0.201	0.386	2.423	0.038	2.498	0.000	0.037	1.940	0.157	0.009	0.171
SP	PP358-2	FW	5.424	2.576	0.244	0.382	2.298	0.037	2.479	0.000	0.017	1.940	0.114	0.008	0.378
SP	PP358-5	FW	5.560	2.440	0.247	0.385	2.243	0.043	2.506	0.014	0.031	1.939	0.000	0.019	0.401
SP	FF31-3	IM	5.457	2.543	0.332	0.437	2.420	0.037	2.367	0.000	0.032	1.803	0.034	0.005	0.129
SP	FF31-4	IM	5.477	2.523	0.374	0.419	2.395	0.034	2.313	0.000	0.026	1.793	0.000	0.002	0.289
SP	FF31-5	IM	5.483	2.517	0.375	0.431	2.373	0.047	2.333	0.002	0.061	1.743	0.017	0.003	0.214
SP	FF31-6	IM	5.482	2.518	0.277	0.442	2.388	0.052	2.362	0.005	0.067	1.748	0.000	0.012	0.368
SP	FF31-7	IM	5.479	2.521	0.331	0.434	2.339	0.034	2.386	0.000	0.038	1.811	0.042	0.008	0.231
SP	FF31-8	IM	5.480	2.520	0.424	0.429	2.333	0.040	2.335	0.002	0.023	1.826	0.000	0.012	0.138
SP	FF305-9	FW	5.383	2.617	0.220	0.374	2.532	0.052	2.468	0.003	0.035	1.773	0.051	0.008	0.320
SP	FF305-10	FW	5.400	2.600	0.176	0.384	2.515	0.047	2.509	0.014	0.093	1.768	0.000	0.016	0.366
SF	FF305-13	FW	5.416	2.584	0.353	0.368	2.415	0.032	2.341	0.008	0.072	1.787	0.051	0.004	0.368
SF	FF306-2	FW	5.490	2.510	0.292	0.372	2.459	0.031	2.329	0.010	0.049	1.765	0.109	0.006	0.309
SF	FF306-4	FW	5.354	2.646	0.190	0.375	2.547	0.041	2.473	0.005	0.062	1.802	0.000	0.007	0.453
SF	FF306-6	FW	5.438	2.562	0.250	0.349	2.549	0.043	2.467	0.008	0.055	1.780	0.051	0.006	0.232
SF	FF306-7	FW	5.401	2.599	0.223	0.384	2.529	0.041	2.444	0.030	0.061	1.722	0.051	0.002	0.275
SF	FF305-12	IM	5.374	2.626	0.252	0.373	2.565	0.040	2.494	0.018	0.035	1.625	0.000	0.010	0.296
SF	FF306-8	IM	5.445	2.555	0.204	0.378	2.449	0.049	2.489	0.013	0.055	1.744	0.000	0.004	0.472
SF	FF306-9	IM	5.378	2.622	0.280	0.383	2.594	0.035	2.283	0.019	0.000	1.760	0.000	0.005	0.457
SF	FF306-10	IM	5.415	2.585	0.341	0.375	2.453	0.041	2.389	0.008	0.079	1.826	0.000	0.011	0.209

Note: Abbreviations- SA - Sant'Andrea, SF - San Francesco, SP - San Piero, IM - biotites included in K-feldspar megacrysts, FW - framework biotites. Fe# = Fe/(Fe+Mg).