

## Appendix 1 - LIST OF SAMPLES

**Table 1.1:** Samples location and details

<i>n.</i>	<i>Sample</i>	<i>Locality and dyke body</i>	<i>Dyke thickness (m)</i> <sup>1</sup>	<i>T.S.</i> <sup>2</sup>	<i>XRF</i> <sup>3</sup>	<i>ICP-MS</i> <sup>4</sup>
1	ST 1	San Todaro (Central Serre Massif) dyke I	2,00	X	X	
2	ST 2	San Todaro (Central Serre Massif) dyke I	2,00	X	X	X
3	ST 3	San Todaro (Central Serre Massif) dyke I	0,30	X	X	
4	ST 4	San Todaro (Central Serre Massif) dyke I	1,50	X	X	X
5	ST 5	San Todaro (Central Serre Massif) dyke I	1,30	X	X	X
6	ST 6	San Todaro (Central Serre Massif) dyke II	0,60	X	X	X
7	ST 7	San Todaro (Central Serre Massif) dyke II	0,80		X	X
8	ST 8	San Todaro (Central Serre Massif) dyke III	0,80	X	X	
9	ST 9	San Todaro (Central Serre Massif) dyke III	0,80	X	X	X
10	ST10	San Todaro (Central Serre Massif) dyke III	0,40	X	X	X
11	ST 11	San Todaro (Central Serre Massif) dyke IV	6,00	X	X	X
12	ST 12	San Todaro (Central Serre Massif) dyke IV	6,00	X	X	X
13	ST 13	San Todaro (Central Serre Massif) dyke IV	6,00	X	X	X
14	ST 14	San Todaro (Central Serre Massif) dyke IV	6,00		X	
15	ST 15	San Todaro (Central Serre Massif) dyke IV	6,00	X	X	
16	ST 16	San Todaro (Central Serre Massif) dyke IV	5,00	X	X	X
17	ST 17	San Todaro (Central Serre Massif) dyke IV	5,00	X	X	X
18	ST 18	San Todaro (Central Serre Massif) dyke IV	5,00	X	X	
19	ST 19	San Todaro (Central Serre Massif) dyke V	2,00		X	X
20	ST 20	San Todaro (Central Serre Massif) dyke V	2,00	X	X	X
21	ST 21	San Todaro (Central Serre Massif) dyke V	2,00	X	X	X
22	ST 22	San Todaro (Central Serre Massif) dyke V	2,00		X	
23	ST 23	San Todaro (Central Serre Massif) dyke VI	2,00	X	X	X
24	ST 24	San Todaro (Central Serre Massif) dyke VI	2,00	X	X	X
25	ST 25	San Todaro (Central Serre Massif) dyke VI	2,00	X	X	
26	ST 26	San Todaro (Central Serre Massif) dyke VII	1,00	X	X	X
27	ST 27	San Todaro (Central Serre Massif) dyke I	2,00		X	X
28	ST 28	San Todaro (Central Serre Massif) dyke I	2,50		X	X
29	ST 29	San Todaro (Central Serre Massif) dyke I	2,00		X	
30	ST 30	San Todaro (Central Serre Massif) dyke I	0,30		X	X
31	ST 31	San Todaro (Central Serre Massif) dyke I	0,30			
32	ST 32	San Todaro (Central Serre Massif) dyke I	0,30			
33	ST 33	San Todaro (Central Serre Massif) dyke I-A	4,00		X	X

<sup>1</sup> Thickness of the sampled body;<sup>2</sup> Thin section;<sup>3</sup> X-ray fluorescence analyses;<sup>4</sup> Inductively Couple Plasma - Mass Spectrometry analyses.

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34	ST 34	San Todaro (Central Serre Massif) dyke I-wallrock	4,00	X		
35	ST 35	San Todaro (Central Serre Massif) dyke I-A	4,00			
36	ST 36	San Todaro (Central Serre Massif) dyke I-A	4,00		X	X
37	ST 37	San Todaro (Central Serre Massif) dyke I-A	4,00		X	X
38	ST 38	San Todaro (Central Serre Massif) dyke III_contact	0,80	X		
39	ST39	San Todaro (Central Serre Massif) dyke VII	1,00	X	X	
40	ST40	San Todaro (Central Serre Massif) dyke V	2,00	X	X	
41	VZ 1	Villaggio Zomaro (Southern Serre Massif)	4,00		X	
42	VZ 2	Villaggio Zomaro (Southern Serre Massif)	4,00	X	X	
43	VZ 3	Villaggio Zomaro (Southern Serre Massif)	4,00		X	X
44	VZ 4	Villaggio Zomaro (Southern Serre Massif)	4,00	X	X	X
45	A1A	Antonimina (Southern Serre Massif) dyke1	2,00	X	X	X
46	A1B	Antonimina (Southern Serre Massif) dyke1	2,00	X	X	X
47	A1C	Antonimina (Southern Serre Massif) dyke1	2,00	X	X	X
48	A1D	Antonimina (Southern Serre Massif) dyke1	2,00		X	
49	A1E	Antonimina (Southern Serre Massif) dyke1	2,00	X	X	
50	A2A	Antonimina (Southern Serre Massif) dyke2	3,00	X	X	
51	A2B	Antonimina (Southern Serre Massif) dyke2	3,00	X	X	X
52	A2C	Antonimina (Southern Serre Massif) dyke2	3,00		X	X
53	A3A	Antonimina (Southern Serre Massif) dyke3	3,00		X	X
54	A3B	Antonimina (Southern Serre Massif) dyke3	3,00	X	X	X
55	A3C	Antonimina (Southern Serre Massif) dyke3	3,00	X	X	X
56	A3D1	Antonimina (Southern Serre Massif) dyke3	3,00	X	X	
57	A3D2	Antonimina (Southern Serre Massif) dyke3	3,00		X	X
58	F1	Fosso Foletti (Southern Serre Massif) dyke 1	4,00	X	X	X
59	F2	Fosso Foletti (Southern Serre Massif) dyke 1	4,00		X	X
60	F3	Fosso Foletti (Southern Serre Massif) dyke 2	8,00		X	X
61	F4	Fosso Foletti (Southern Serre Massif) dyke 2	8,00		X	X
62	F5	Fosso Foletti (Southern Serre Massif) dyke 2	8,00	X	X	X
63	F6	Fosso Foletti (Southern Serre Massif) dyke 2	5,00	X	X	
64	F7	Fosso Foletti (Southern Serre Massif) dyke 2	5,00		X	
65	F8	Fosso Foletti (Southern Serre Massif) dyke 2	8,00	X	X	X
66	F9	Fosso Foletti (Southern Serre Massif) dyke 2	8,00		X	X
67	LMA1	Mammola (Southern Serre Massif) dyke 1	0.50	X	X	X
68	LMA2	Mammola (Southern Serre Massif) dyke 1	0.80	X	X	
69	LMA3	Mammola (Southern Serre Massif) dyke 1	1.10	X	X	X
70	LMA4	Mammola (Southern Serre Massif) dyke 1	0,40		X	X
71	LMA5	Mammola (Southern Serre Massif) dyke 1_wallrock	n.d.			
72	LMA6	Mammola (Southern Serre Massif) dyke 2	0.70	X	X	X
73	LMA7	Mammola (Southern Serre Massif) dyke 3_ wallrock	n.d.	X		
74	LMA8	Mammola (Southern Serre Massif) dyke 3_ wallrock	n.d.			
75	LMA9	Mammola (Southern Serre Massif) dyke 3_ wallrock	n.d.			
76	PDL1	Mammola (Southern Serre Massif) dyke 4	0.30		X	X
77	PDL2	Mammola (Southern Serre Massif) dyke 4	0.30		X	
78	PDL3	Mammola (Southern Serre Massif) dyke 4	0.30	X	X	X
79	PDL4	Mammola (Southern Serre Massif) dyke 4	0.30		X	

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80	PDL5A	Mammola (Southern Serre Massif) dyke 4	0.30		X	
81	PDL5B	Mammola (Southern Serre Massif) dyke 4	0.30		X	X
82	PDL6	Mammola (Southern Serre Massif) dyke 4	0.30	X	X	
83	PDL7	Mammola (Southern Serre Massif) dyke 4	0.30	X	X	X
84	PDL8	Mammola (Southern Serre Massif) dyke 4	0.30	X	X	
85	PDL9	Mammola (Southern Serre Massif) dyke 4	0.30		X	
86	PDL10	Mammola (Southern Serre Massif) dyke 4	0.30	X	X	
87	PDL11	Mammola (Southern Serre Massif) dyke 4	0.30	X	X	X
88	PDL12	Mammola (Southern Serre Massif) dyke 4	0.30	X	X	X
89	PDL13	Mammola (Southern Serre Massif) dyke 4	0.30	X	X	X
90	PDL14	Mammola (Southern Serre Massif) dyke 4	0.30		X	
91	PDL15	Mammola (Southern Serre Massif) dyke 4	0.30	X	X	X
92	PDL16	Mammola (Southern Serre Massif) dyke 4	0.30		X	
93	VG1	C.daVignale(M.Altolina, Leonforte, Sicily)	2.0	X	X	X
94	VG2	C.daVignale(M.Altolina, Leonforte, Sicily)	4.0	X	X	
95	VG3	C.daVignale(M.Altolina, Leonforte, Sicily)	5.0	X	X	X
96	VG4	C.daVignale(M.Altolina, Leonforte, Sicily)	5.0	X	X	
97	VG5	C.daVignale(M.Altolina, Leonforte, Sicily)	10.0	X	X	
98	VG6	C.daVignale(M.Altolina, Leonforte, Sicily)	10.0	X	X	X
99	VG7	C.daVignale(M.Altolina, Leonforte, Sicily)	10.0	X	X	X
100	VG8	C.daVignale(M.Altolina, Leonforte, Sicily)	12.0	X	X	
101	VG9	C.daVignale(M.Altolina, Leonforte, Sicily)	15.0	X	X	
102	VG10	C.daVignale(M.Altolina, Leonforte, Sicily)	15.0	X	X	
103	VG11	C.daVignale(M.Altolina, Leonforte, Sicily)	15.0	X	X	X
104	BM1	Bivio Manganaro (Roccapalumba, Sicily)	2.00	X	X	
105	BM2	Bivio Manganaro (Roccapalumba, Sicily)	2.50	X	X	X
106	BM3	Bivio Manganaro (Roccapalumba, Sicily)	1.20			
107	BM4	Bivio Manganaro (Roccapalumba, Sicily)	1.00	X	X	
108	MA1	C.da Margana (Lercara area, Sicily) dyke 1	10.00	X	X	
109	MA2	C.da Margana (Lercara area, Sicily) dyke 1	10.00			
110	MA3	C.da Margana (Lercara area, Sicily) dyke 1	3.00	X	X	X
111	MA4	C.da Margana (Lercara area, Sicily) dyke 1	1.50	X	X	
112	MA5	C.da Margana (Lercara area, Sicily) dyke 1_red dyke	0.30	X	X	X
113	MA6	C.da Margana (Lercara area, Sicily) dyke 1	4.00		X	
114	MA7	C.da Margana (Lercara area, Sicily) dyke 1	5.00	X	X	X
115	MA8	C.da Margana (Lercara area, Sicily) dyke 1	7.00		X	
116	MA9	C.da Margana (Lercara area, Sicily) dyke 3	1.00	X	X	
117	MA10	C.da Margana (Lercara area, Sicily) dyke 3_red dyke	0.05		X	
118	MA11	C.da Margana (Lercara area, Sicily) dyke 3	1.80	X	X	
119	MA12	C.da Margana (Lercara area, Sicily) dyke 3	5.00	X	X	X
120	MA13	C.da Margana (Lercara area, Sicily) dyke 3	5.00		X	
121	MA14	C.da Margana (Lercara area, Sicily) dyke 3	2.00	X	X	X
122	MA15	C.da Margana (Lercara area, Sicily) dyke 3	2.00			
123	MA16	C.da Margana (Lercara area, Sicily) dyke 3	4.00		X	

**Table 1.2:** Analyses and groups classification.

<i>N</i>	<i>Group Name</i>	<i>N. samples</i>	<i>T.S</i>	<i>XRF/ICPMS</i>	<i>Isotope (Sr-Nd)</i>	<i>Composition (TAS)</i>	<i>Composition (Winchester &amp; Floyd, 1977)</i>	<i>Geochemical affinity</i>
1	San Todaro (ST)	40	26	35/24	2	Dacite-rhyodacites	Dacite-rhyodacites	CA
2	Villaggio Zomaro (VZ)	4	2	4/4		Dacites	Dacite-rhyodacites	CA
3	Antonimina (A)	13	9	13/8	2	Andesite-dacite-trachydacites	Andesites	CA
4	Fosso Foletti (F)	9	4	9/7		Andesite-dacites	Andesites	CA
5	Mammola (LMA-PDL)	26	14	22/12	2	Basaltic trachyandesites	Sub-alkaline basalts	TH
6	Leonforte (VG)	11	11	11/5	2	Basalt	Alkali basalts	ALK
7	Roccapalumba (BM-MA)	20	14	17/6	2	Basalts	Sub-alkaline basalts	TH

**Table 1.3:** Geographic indications of outcrops

	<i>Toponym</i>	<i>Scale 1:10.000</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Tipology</i>	<i>Abbr.</i>
1	San Todaro	Sheet n°246, II NE, Sez. C “ <i>Carta d’Italia</i> ”	38° 26’ 45’’	16° 21’ 45.7’’	Sill	ST
			38° 26’ 33.6’’	16° 22’ 12.5’’	Dyke	ST
			38° 26’ 43.7’’	16° 22’ 13.8’’	Dyke	ST
			38° 26’ 43.1’’	16° 21’ 59.8’’	Dyke	ST
2	Villaggio Zòmaro	Sheet n°255, IV NE, Sez. D “ <i>Carta d’Italia</i> ”	38° 18’ 18.4’’	16°07’49.47’’	Dyke	VZ
			38° 18’3.6’’	16° 07’ 17,4’’	Dyke	P1
			38°17’ 51,20’’	16° 07’ 34,7’’	Dyke	P2
			38°17’34,57’’	16° 07’ 17,4’’	Dyke	P3
3	Piano Fossati (Foletti Valley)	Sheet n°246, III SE, Sez. B “ <i>Carta d’Italia</i> ”	38° 21’ 16.7’’	16° 11’ 27.1’’	Dyke	F
			38° 21’ 31.6’’	16° 11’ 46.4’’	Dyke	F
4	Monte Ferra	Sheet n° 246, IISO, Sez. D, “ <i>Carta d’Italia</i> ”	38° 22’ 37.1’’	16° 12’ 55.1’’	Dyke	LMA
			38° 22’ 40.6’’	16° 12’ 47.6’’	Dyke	LMA
5	Mammola (Piani di Limina)	Sheet n° 246, IISO, Sez. C “ <i>Carta d’Italia</i> ”	38°22’22.22’’	16° 13’ 3,22’’	Sill	PDL
6	Cozzo Mirio (C.da Vignale)	CTR <sup>5</sup> n. 622160	37° 38’ 25’’	14° 19’ 40’’	Sill	VG
7	Manganaro (Bivio Manganaro)	CTR n. 620040	37° 47’ 15,3’’	13° 36’ 21,8’’	Sill	BM
8	Pizzo Calandrella (C.da Margana)	CTR n. 620020	37° 45’ 32,1’’	13° 29’ 456’’	Laccolith	MA

<sup>5</sup> Cartografia Tecnica Regione Sicilia