Table 13. Major (wt.%) and trace element (ppm) composition of metabasic rocks from the Mbé – Sassa-Mbersi area.

Sample NB14 NB14 ML14 NB14 NB14 NB14 NB14 ML14 ML14

05 44 08 07a 11c 11d 11b 01a 04

Type hbd hbd hbd mga mga amp amp amp amp

SiO2 46.57 49.20 51.64 47.28 50.45 41.21 42.15 42.86 50.17

Al2O3 11.28 4.12 4.01 16.14 6.16 14.90 15.53 12.23 14.27

Fe2O3tot 12.24 13.49 10.59 10.49 9.99 14.64 14.47 13.50 12.19

MnO 0.21 0.25 0.20 0.14 0.19 0.17 0.22 0.12 0.20

MgO 11.95 16.00 17.82 9.50 15.21 9.54 8.38 11.76 7.25

CaO 12.01 12.75 12.27 10.09 11.91 9.61 9.71 12.43 10.39

Na2O 1.63 0.50 0.46 3.04 1.19 2.01 1.96 1.37 3.06

K2O 1.39 0.31 0.38 1.09 0.65 1.65 2.11 1.26 1.03

TiO2 1.16 0.61 0.53 1.22 0.55 2.62 2.23 1.30 1.19

P2O5 0.16 0.06 ld ld 0.11 0.31 0.48 0.89 0.25

LOI 2.25 2.68 2.33 2.08 3.21 2.73 2.75 1.79 0.71

Total 100.84 99.96 100.24 101.07 99.61 99.38 99.99 99.51 100.71

Ba 296 39 60 335 157 924 1269 258 321

Co 56 64 67 51 66 54 51 51 40

Cr 155 1147 691 254 1457 104 118 523 225

Ga 16.4 12.6 9.9 19.8 11.1 23.0 26.1 28.4 22.2

Hf 3.1 2.1 2.4 1.2 2.3 2.8 3.1 6.0 2.5

Nb 4.1 1.1 0.8 3.0 2.9 8.3 9.9 8.3 10.8

Ni 50 309 341 97 230 30 65 172 96

Rb 28 5 9 19 11 37 47 22 11

Sc 56 42 55 51 43 43 39 33 35

Sn 1.5 1.7 1.3 1.3 1.1 2.4 3.2 3.4 3.0

Sr 210 114 84 709 92 543 671 137 873

Ta 0.3 0.1 0.1 0.2 0.2 0.4 0.4 0.4 0.6

Th 1.8 0.1 0.6 0.1 0.6 0.4 0.5 5.8 0.4

U 0.3 0.1 0.2 0.1 0.3 0.1 0.1 0.9 0.1

V 366 218 178 298 189 331 289 243 297

W 0.3 0.3 0.6 0.5 - 0.5 0.3 0.5 -

Y 33.8 17.1 16.9 23.4 16.9 39.9 47.0 13.0 32.5

Zn 101 175 104 99 89 139 184 253 137

Zr 107 49 61 27 71 69 91 219 74

La 15.21 8.52 7.70 6.02 11.03 18.21 24.08 50.87 30.61

Ce 37.58 29.01 26.13 22.35 29.51 54.63 72.78 109.10 86.47

Pr 5.29 4.95 4.18 4.32 4.31 8.66 11.58 12.81 12.30

Nd 23.82 24.76 19.62 23.74 19.19 42.53 54.41 49.68 52.37

Sm 6.03 6.35 4.85 6.46 4.52 10.86 13.11 8.45 10.87

Eu 1.65 1.53 1.00 1.67 1.12 2.88 3.37 1.85 2.64

Gd 5.79 4.76 3.91 5.27 3.90 9.46 11.17 6.25 7.95

Tb 0.93 0.66 0.57 0.78 0.57 1.35 1.58 0.74 1.12

Dy 6.09 3.64 3.39 4.60 3.33 7.96 9.32 3.42 6.20

Ho 1.33 0.69 0.66 0.91 0.66 1.59 1.84 0.53 1.20

Er 3.57 1.67 1.70 2.33 1.71 3.97 4.59 1.15 3.07

Tm 0.53 0.23 0.24 0.32 0.24 0.53 0.61 0.12 0.43

Yb 3.64 1.48 1.56 2.12 1.56 3.24 3.78 0.72 2.79

Lu 0.56 0.22 0.23 0.31 0.23 0.47 0.56 0.10 0.42

Table 13. (Continued)

Sample NB14 NB14 NB14 NB14 N14 NB14 N14

11a 08c 11e 08b 01a-2 10 01a-1

Type grt amp grt amp amp grt amp amp grt amp amp

SiO2 45.22 46.45 47.35 51.43 51.59 52.37 53.87

Al2O3 19.78 15.05 17.85 13.29 16.24 13.55 17.14

Fe2O3tot 11.90 16.57 10.34 16.06 9.38 16.83 8.40

MnO 0.14 0.19 0.15 0.23 0.15 0.20 0.13

MgO 3.97 7.72 4.90 3.70 3.93 4.92 3.45

CaO 9.18 7.53 7.77 9.60 6.55 8.61 5.40

Na2O 3.82 2.61 3.65 1.39 3.94 0.84 4.41

K2O 1.31 0.75 2.27 0.25 3.38 0.27 3.62

TiO2 1.67 1.72 1.44 2.45 1.45 1.66 1.33

P2O5 1.17 0.22 0.64 0.25 0.95 0.18 0.77

LOI 2.49 2.04 2.24 1.15 1.42 0.76 1.50

Total 100.65 100.82 98.61 99.78 98.99 100.18 100.02

Ba 932 280 1181 69 2988 38 3173

Co 29 55 30 52 28 55 27

Cr 17 157 40 75 592 194 690

Ga 26.5 19.9 26.4 20.7 25.6 17.1 26.3

Hf 4.2 3.0 6.8 4.6 8.3 3.0 8.5

Nb 7.4 7.9 12.2 12.3 12.1 8.7 12.1

Ni 7.8 102 19 58 357 131 415

Rb 32 18 70 6 55 6 55

Sc 16 49.8 23.5 40.6 18.0 46.2 13.6

Sn 2.0 4.6 3.3 3.5 4.1 1.8 3.7

Sr 1318 206 954 290 1691 140 1597

Ta 0.3 0.6 1.0 1.1 0.6 0.7 0.6

Th 0.5 0.6 3.9 1.0 5.6 0.4 4.2

U 0.1 0.2 0.6 0.4 0.9 0.3 0.8

V 165 302 212 303 161 311 144

W - 0.7 ld 1.4 1.6 1.1 1.9

Y 32.1 22.8 30.0 35.1 34.8 27.1 26.4

Zn 135 181 141 132 156 147 137

Zr 187 103 293 175 395 108 376

Sample NB14 NB14 NB14 NB14 N14 NB14 N14

11a 08c 11e 08b 01a-2 10 01a-1

La 35.27 9.98 59.91 13.73 90.21 9.72 65.76

Ce 91.73 25.76 128.40 34.46 199.90 24.77 147.60

Pr 12.42 3.56 15.37 5.02 24.82 3.52 18.13

Nd 54.45 15.77 59.84 22.90 98.10 16.37 72.20

Sm 11.04 3.98 11.46 6.27 17.62 4.40 12.80

Eu 2.94 1.27 2.82 1.98 4.28 1.62 3.04

Gd 8.63 4.00 8.32 6.55 11.71 4.70 8.65

Tb 1.18 0.67 1.13 1.06 1.47 0.77 1.09

Dy 6.48 4.36 6.12 6.69 7.44 4.93 5.60

Ho 1.24 0.93 1.16 1.40 1.35 1.04 1.01

Er 3.06 2.44 2.91 3.57 3.34 2.70 2.57

Tm 0.40 0.35 0.39 0.50 0.43 0.39 0.33

Yb 2.48 2.37 2.57 3.35 2.78 2.55 2.15

Lu 0.37 0.35 0.37 0.49 0.42 0.40 0.33

hbd = hornblendite; mga = metagabbro; amp = amphibolite; grt = garnet.