

## Electronic Supplementary Materials

**Table A4** - Summary of the data on hornblende-biotite granodiorite (HBGd) and magnetite-rich syenogranite (SnG) samples.

Sample	Modal Classification	Modal opaques Vol%	Log MS (K)	SM population	Opaque phases in decreasing relative abundance from the left to the right			(FeO)/(FeO + MgO) in whole rock	Fe/(Fe + Mg) in amphibole vs fO <sub>2</sub> **	Fe/(Fe + Mg) in biotite vs granitic series*
MDP-14C	HBGd	0.20	-2,67	Subpopulation B3	Py → Gth	Mag→(Mrt)	Ilm (Exs Hem) +Ttn	0.78	Intermediate	Magnetite series
MDP-14E	HBGd	0.60	-2.60	Subpopulation B3	Mag→(Mrt)	(Py)→ Gth	Ilm (Exs Hem) +Ttn	0.8	Low/Intermediate	Magnetite series
MDP-06A	HBGd	0.28	-2.54	Subpopulation B3	Mag→(Mrt)	(Py)→ Gth	Ilm (Exs Hem) +Ttn		Intermediate	Magnetite series
AFD-11A**	HBGd	0.60	-2.39	Subpopulation B3	Py → Gth	Mag→(Mrt)		0.76	<b>Intermediate</b>	<b>Magnetite series</b>
AFD-16A	HBGd	0.28	-2.11	Subpopulation C1	Mag→(Mrt)	(Py)→ Gth		0.81	Low/Intermediate	Magnetite series
ADE-01D***	HBGd	0.60	-2.10	Subpopulation C1	Mag→(Mrt)	(Py)→ Gth		0.76	<b>Intermediate</b>	<b>Magnetite series</b>
MDP-12A	HBMzG	0.40	-2.03	Subpopulation C1	Mag→(Mrt)	Py→ Gth	Ilm (Exs Hem) +Ttn		Intermediate	Magnetite series
MDP-02D	HBGd	0.60	-1.91	Subpopulation C2	Mag→(Mrt)	Py→ Gth		0.80	Intermediate/High	Magnetite series
AFD-08***	BHGd	0.60	-1.85	Subpopulation C2	Mag→(Mrt)	Py→ Gth		0.80	<b>Intermediate/High</b>	<b>Magnetite series</b>
MDP-14A	HBGd	1.30	-1.66	Subpopulation C2	Mag→(Mrt)	Py→ Gth		0.83	Intermediate	Magnetite series
PFR-14	BHMzG	1.10	-2.02	Subpopulation C1	Mag→(Mrt)			0.94		
MAR-119***	BHSnG	1.50	-1.52	Subpopulation C2	Mag→(Mrt)			0.99	<b>Low</b>	<b>Ilmenite series</b>

Abbreviations (according to Whitney and Evans 2010): Mag→(Mrt) = Magnetite partially altered to martite; Py→ Gth = Pyrite partial or intensely altered to goethite; Ilm (Exs Hem) + Ttn = ilmenite crystals with fine hematite-exsolution lamellae and associated titanite. HBGd = hornblende-biotite granodiorite; BHGd = biotite-hornblende granodiorite; BHSnG = biotite-hornblende syenogranite; HBMzG = hornblende-biotite monzogranite; BHMzG = biotite-hornblende monzogranite. \*[Ilmenite series and Magnetite series according to Anderson et al. (2008) and Dall'Agnol et al. (2017)]. Oxygen Fugacity: \*\*Low, Intermediate and High according to Anderson and Smith (1995). Semiquantitative analyses by EDS under a scanning electron microscope (SEM) or \*\*\*quantitative chemical analyses by **WDS** in electron microprobe