

Table DR1. New whole-rock (and one feldspar) Pb isotopic data from undeformed rhyolites, granophyres and cross-cutting mafic dikes from the Coats Land nunataks and diabases from the Umkondo Province.

	$^{206}\text{Pb}/^{204}\text{Pb}$	$^{207}\text{Pb}/^{204}\text{Pb}$	$^{208}\text{Pb}/^{204}\text{Pb}$	location	rock type, countries
Coats Land Nunataks					
Bertrab Nunataks					
BB 1	18.503	15.513	37.104	S 77° 52.60', W 34° 38.02'	chilled margin green basic dike
BB 4A	18.504	15.506	37.450	S 77° 52.46', W 34° 37.70'	flow-banded rhyolite
BB 5A	19.330	15.556	37.841	S 77° 52.45', W 34° 38.08'	medium-grained oligoclase-phyric granophyre
BNSPD wr	18.249	15.492	37.208	S 77° 55.78', W 34° 36.10'	porphyritic mafic dike
BNSPD feldspar	17.898	15.469	37.116	S 77° 55.78', W 34° 36.10'	porphyritic mafic dike
BNS 6	21.267	15.705	39.035	S 77° 55.70', W 34° 36.20'	microgranite similar to BB5A
BNS 7 M	18.201	15.495	37.129	S 77° 55.78', W 34° 36.10'	hornblende-rich granophyre
Littlewood Nunataks					
LN 2	22.322	15.766	40.306	S 77° 52.96', W 34° 19.50'	red rhyolite
LN 3A	19.855	15.585	38.905	S 77° 52.96', W 34° 19.30'	red rhyolite
Umkondo					
DB01-6	18.023	15.705	38.492	S 023° 37' 41", E 028° 46' 44"	diabase sill, South Africa
DB01-25	18.496	15.712	38.940	S 023° 49' 03", E 028° 44' 30"	diabase sill, South Africa
DB01-54	17.369	15.624	37.821	S 024° 17' 40", E 028° 42' 47"	diabase sill, South Africa
DB01-47	16.845	15.628	37.003	S 024° 04' 56", E 028° 38' 31"	diabase sill, South Africa
DB01-53	17.781	15.667	38.323	S 024° 13' 28", E 028° 43' 48"	diabase sill, South Africa
DB01-62	18.052	15.714	38.525	S 023° 40' 51", E 028° 23' 46"	diabase sill, South Africa
DB01-132	18.650	15.733	38.802	S 022° 55' 30", E 029° 55' 49"	diabase sill, South Africa
JP-18	18.297	15.716	38.710	S 024° 13' 35", E 025° 38' 59"	diabase sill, Botswana
JP-26A	18.160	15.705	38.716	S 023° 06' 30", E 026° 40' 14"	diabase sill, Botswana
JP-30A	18.671	15.755	38.639	S 022° 42' 25", E 026° 36' 42"	diabase sill, Botswana
JP-31	18.220	15.699	38.837	S 023° 00' 20", E 026° 29' 02"	diabase sill, Botswana

Ratios have been corrected for analytical fractionation, but are not age-corrected. Based on measured fractionation of replicate analyses of NBS981, Coats Land data are corrected by 0.12%/amu and Umkondo data are corrected by 0.11%/amu. Lower precision (+/- 100 meters) Coats Land sample locations were made by hand-held GPS in 1993. Analyses for Coats Land and Umkondo samples (DR Table 1) were conducted using a Finnegan Mat 261 TIMS at UT Austin using methods outlined in Loewy et al. 2004.

Table DR2. Selected ~ 1110-1105 Ma and ~ 1000 Ma paleomagnetic poles from Laurentia, Kalahari and Coats Land.
The first 6 entries are extracted from Table S3 of Swanson-Hysell et al., 2009.

Object		Pole (°N)	Pole (°E)	A ₉₅ (°)	Age (Ma)	Reference
LAURENTIA						
DCr	Duluth Complex R	33	214	9	1106.9±0.6; 1107.0±1.1	Beck, 1970; Davis and Green, 1997; Paces et al., 1993
LSr	Logan Sills R	49	220	4	1108.2±0.9	Halls and Pesonen, 1982; Davis and Green, 1997
NSr	L. North Shore Volcanics R	50	198	11	1107.9±1.8; 1107.7±1.9	Davis and Green, 1997
PMr	Powder Mill Volcanics R	38	217	9	1107.3±1.6	Davis and Green, 1997
CCr1	Coldwell Complex R1	54	217	5	1108±1	Heaman and Machado, 1992
OVR	Osler Volcanics R	46	198	8	1107.5+4/-2; 1105.3±2.1	Palmer, 1970; Davis and Green, 1997; Davis and Sutcliffe, 1985
FM	Franklin Mountains	28	200	5	1110±19	Li et al. 2007
L	Llanite	38.5	176	7	1092±3	Helper et al. 1996
CQ	Chequamegon Sandstone	-12	178	5	1020±30	McCabe and Van der Voo, 1983; Wingate et al., 2002
JV	Jacobsville Sandstone	-9	183	5	1020±30	Roy and Robertson, 1978; Wingate et al., 2002
H	Haliburton Intrusions	-33	142	6	1015±15	Warnock et al., 2000
KALAHARI						
PE	Port Edward Pluton	-7	328	4	1004±5	Gose et al., 2004
COATS LAND						
C	Coats Land Nunataks	23	80	7	1106±3	Gose et al., 1997

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