

**Table 7** Comparison of geochemical data for average Oenpelli Dolerite in west Arnhem region and undivided dolerite from China Block drilling. BD=below detection

Formation_element	Average Oenpelli Dolerite	Average Undivided dolerite in China block drillcore	Comments
U_ppm	0.53	1.06	
Th_ppm	1.50	1.79	
UtoTh	0.33	0.55	
Au_ppb	BD	4.14	significantly elevated
Pt_ppb	BD	9.71	significantly elevated
Pd_ppb	BD	10.43	significantly elevated
Ag_ppm	0.040	0.087	
SiO2_%_calc	49.0	43.6	lower; primitive; picritic compn
TiO2_%	1.45	2.85	higher; plume signature
Al2O3_%	14.2	14.3	
Fe2O3_%	12.3	15.5	
MnO_%	0.060	0.165	higher
MgO_%	8.0	9.1	
CaO_%	8.2	7.3	
Na2O_%	2.0	1.4	
K2O_%	0.9	1.0	
P2O5_%	0.1	0.3	
LOI_%	2.3	4.4	higher; altered; olivine present?
S_ppm	700	867	
Cu_ppm	76	181	higher
Co_ppm	50	40	
Ni_ppm	90	68	
Pb_ppm	10	6	
Zn_ppm	85	97	
Cr_ppm	130	91	
V_ppm	260	405	higher
Mo_ppm	0.50	0.95	higher
Li_ppm	50	67	
As_ppm	1.5	1.2	
Ba_ppm	190	233	
Be_ppm	1	2	
B_ppm	40	16	
Se_ppm	BD	BD	
Rb_ppm	30	18	
Sr_ppm	250	176	
Zr_ppm	105	203	higher; refractory
Nb_ppm	8	22	higher; refractory
Sn_ppm	1.10	1.87	higher; refractory
Ta_ppm	0.50	1.38	higher; refractory
W_ppm	1.00	1.10	
Bi_ppm	0.10	0.13	
La_ppm	10	17	
Ce_ppm	23	40	
Pr_ppm	3.10	5.14	
Nd_ppm	14	23	
Sm_ppm	3.4	6.0	
Eu_ppm	1.10	1.90	
Gd_ppm	3.9	7.1	
Tb_ppm	0.60	1.17	
Dy_ppm	3.6	7.2	
Ho_ppm	0.70	1.52	
Er_ppm	2.1	4.4	
Tm_ppm	0.28	0.59	
Lu_ppm	0.28	0.58	
Y_ppm	19	38	
Hf_ppm	3.3	5.4	higher; refractory
TOTAL REE (inc Y & Hf)	87	159	higher
La/Lu (LREE vs HREE)	37	29	
Sm/Eu (Eu anom)	2.8	3.2	
Gd/La (Mid REE)	0.33	0.43	higher; garnet in source
Fe2O3+MgO	20.0	24.7	higher; primitive
Fe2O3+MgO/K2O	20.0	53.7	
Fe2O3+MgO/Al2O3	1.40	1.72	
MgO/Fe2O3	0.50	0.63	higher; primitive
K2O+Na2O+CaO	12.5	9.7	lower; primitive
K2O/Na2O+CaO	0.1	0.5	
Al2O3/K2O+Na2O+CaO	1.2	4.2	higher; primitive