

TABLE 1. EXAMPLES OF THORIUM RESOURCES AS A BY-PRODUCT IN PRIMARY DEPOSITS

Country	Type	Major commodities	Th resources (t)	Average Th grade in ore (%)
Australia				
Mt Weld [28]	Carbonatite	REE, Y, Th	~24 000	0.04–0.06
Toongi [37]	Alkaline trachyte	REE, U, Th	35 000	0.048
Nolans Bore [37]	Vein	REE, P, U, Th	53 000	0.286
Western Australia, various [3]	Various	REE, Nb, Ta, U, Zr	30 000	0.03–0.5
Brazil				
Araxá [29]	Carbonatite	Nb, Th	>400 000	0.09–0.13
Morro dos Seis Lagos [3]	Carbonatite	Nb, REE	?	?
Morro do Ferro (Pocos de Caldas) [3]	Peralkaline intrusion	U, REE	17 500 (30 700)	1–2 (0.44)
Pitinga [3]	Granitic intrusion	Nb, Ta, Sn	251 000	0.05–0.07
Catalão [29]	Alkaline intrusion	Nb	12 000	?
Canada				
Elliot Lake area [3]	Quartz pebble conglomerate	U, REE, Th	80 000 in existing tails	0.05
Thor Lake/Nechalacho [35]	Peralkaline intrusion	REE, Nb, Ta,	22 000	<0.020
Others [3]	Various	Various	Unknown	Unknown
China				
Bayan Obo [51]	Polygenic	Fe, REE, Nb, F, Th	?	0.26% in monazite 0.02–0.2% in bastnäsite
Greenland (Denmark)				
Illimaussaq [36]	Peralkaline intrusion	REE, F, Zn, U, Th	86 000– 93 000	<0.1
Norway				
Fen [3]	Carbonatite	Nb, Th	~87 000	0.5–2
Russian Federation Lovozero and others [8]	Peralkaline intrusions/carbonatites	REE, Nb, Ta, others	Unknown	Unknown
South Africa				
Steenkampskraal [12]	Dyke in charnockite	REE, Th	10 282 (measured and indicated)	1.88
Turkey				
Kizilcaören/Eskisehir [3]	Vein	F, Ba, Th	380 000	0.2
USA				
Lemhi Pass [49]	Vein	REE, Th	160 000	~0.4
Wet Mountains [26]	Vein	REE, Th	179 000	0.46
Iron Hill [50]	Carbonatite	REE, Th	24 800	0.003–0.004