

# Strategic Metals & Rare Earths Letter

## INTERNATIONAL

*the independent information and advisory publication on investing in Strategic Metals & Rare Earths*

**December 2017**

Heavy Rare Earths Oxides (HREO)		Light Rare Earth Oxides (LREO)	Critical Metals and Special Minerals	
europium (Eu)	erbium (Er)	lanthanum (La)	yttrium (Y)	lithium (Li)
gadolinium (Gd)	thulium (Tm)	cerium (Ce)	scandium (Sc)	cobalt (Co)
terbium (Tb)	ytterbium (Yb)	praseodymium (Pr)	niobium (Nb)	graphite (C)
dysprosium (Dy)	lutetium (Lu)	neodymium (Nd)	tantalum (Ta)	tungsten (W)
holmium (Ho)		promethium (Pm)	beryllium (Be)	titanium (Ti)
		samarium (Sm)	gallium (Ga)	zirconium (Zr)
			indium (In)	hafnium (Hf)
			germanium (Ge)	antimony (Sb)

### Overview of listed REE focused companies (by market capitalization)

29 December 2017	Trading symbol		Share price		Change in %	12 months prices		Total shares issued million	Market cap. million	
			Year-end 2017	Year-end 2016		H	L		local	US\$
<b>US:</b>			<b>US\$</b>	<b>US\$</b>		<b>US\$</b>	<b>US\$</b>		<b>US\$</b>	
Rare Element Resources	OTC US	REEMF	0.230	0.060	283	0.530	0.040	79.6	18.3	18.3
Texas Mineral Resources	OTC US	TMRC	0.210	0.110	91	0.390	0.100	44.9	9.4	9.4
			<b>C\$</b>	<b>C\$</b>		<b>C\$</b>	<b>C\$</b>		<b>C\$</b>	
Ucore Rare Metals	TSX.V	UCU	0.240	0.310	-23	0.365	0.220	270.2	64.8	51.2
<b>Canada:</b>			<b>C\$</b>	<b>C\$</b>		<b>C\$</b>	<b>C\$</b>		<b>C\$</b>	
Avalon Rare Metals	TSX	AVL	0.120	0.145	-17	0.225	0.110	208.5	25.0	19.8
Commerce Resources	TSX.V	CCE	0.075	0.050	50	0.110	0.050	309.6	23.2	18.3
Eagle Plains Resources	TSX.V	EPL	0.250	0.155	61	0.250	0.130	84.4	21.1	16.7
Appia Energy	CNSX	API	0.170	0.250	-32	0.465	0.100	52.3	8.9	7.0
Canada Rare Earth	1) TSX.V	LL	0.045	0.035	29	0.060	0.025	166.9	7.5	5.9
Search Minerals	TSX.V	SMY	0.045	0.060	-25	0.100	0.030	156.1	7.0	5.5
Matamec Explorations	2) TSX.V	MAT	0.030	0.045	-33	0.080	0.025	137.0	4.1	3.2
Medaillon Resources	3) TSX.V	MDL	0.145	0.080	81	0.280	0.080	25.2	3.7	2.9
Int. Montoro Resources	4) TSX.V	IMT	0.060	0.020	200	0.150	0.030	17.9	1.1	0.8
Quest Rare Minerals	5) OTC US	QRMLF	0.010	0.150	-93	0.225	0.001	94.6	0.9	0.7
Canadian Int. Minerals	6) TSX.V	CIN	0.275	0.500	-45	0.600	0.110	2.8	0.8	0.6
<b>Australia:</b>			<b>A\$</b>	<b>A\$</b>		<b>A\$</b>	<b>A\$</b>		<b>A\$</b>	
Lynas	7) ASX	LYC	2.180	1.120	95	2.300	0.700	563.7	1,228.9	957.3
Hastings Technology Metals	ASX	HAS	0.360	0.070	414	0.380	0.070	671.2	241.6	188.2
Alkane Resources	8) ASX	ALK	0.330	0.340	-3	0.450	0.210	506.1	167.0	130.1
Northern Minerals	ASX	NTU	0.080	0.120	-33	0.150	0.080	868.8	69.5	54.1
Arafura Resources	ASX	ARU	0.100	0.060	67	0.150	0.050	575.8	57.6	44.9
<b>Western Europe:</b>										
<b>Greenland:</b>			<b>A\$</b>	<b>A\$</b>		<b>A\$</b>	<b>A\$</b>		<b>A\$</b>	
Greenland Min. and Energy	9) ASX	GGG	0.100	0.090	11	0.200	0.060	1,110	111.0	86.5
<b>Sweden:</b>			<b>C\$</b>	<b>C\$</b>		<b>C\$</b>	<b>C\$</b>		<b>C\$</b>	
Leading Edge Materials	10) TSX.V	LEM	0.910	0.510	78	0.950	0.485	88.9	80.9	63.9

1) vertically integrated REE business  
2) also gold and base metal assets  
3) 1 for 4 share consolidation effective on 28 July 2017  
4) also uranium assets  
5) filed a notice of intention to make a proposal under the bankruptcy and insolvency act (Canada) on 5 July 2017; 4th extension until 4 Dec.2017  
6) share consolidation 20 for 1 effective November 15, 2017; private placement of up to 2.5 million flow-through common shares at a price of C\$ 0.20 up to total proceeds of C\$ 500,000  
7) share consolidation 1 for 10 effective November 29, 2017  
8) also gold producer  
9) world's largest undeveloped multi-element REE-uranium-zinc occurrence  
10) Plan of arrangement between Flinders Resources and Tasman Metals and name change effective 25 August 2016

29 December 2017

	Trading symbol		Share price		Change in %	12 months prices		Total shares issued million	Market cap.	
			Year-end 2017	Year-end 2016		H	L		million local	US\$
<b>Central Asia:</b>										
<b>Kyrgyzstan:</b>										
Stans Energy	TSX.V	HRE	C\$ 0.035 *	C\$ 0.050	-30	C\$ 0.080	C\$ 0.030	177.3	C\$ 6.2	4.9
<b>Africa:</b>										
<b>Tanzania:</b>										
Peak Resources	ASX	PEK	A\$ 0.050	A\$ 0.070	-29	A\$ 0.130	A\$ 0.030	615.9	A\$ 30.8	24.0
Montero Mining and Exploration	11) TSX.V	MON	C\$ 0.200	C\$ 0.200	-100	C\$ 0.485	C\$ 0.120	10.6	C\$ 0.0	0.0
<b>Burundi:</b>										
Rainbow Rare Earths	12) AIM	RBW	GBP 14.750	GBP 11.630	27	GBP 16.88	GBP 10.25	174.6	£ 25.8	34.5
<b>Kenya:</b>										
Pacific Wildcat Resources	13) TSX.V	PAW.H	C\$ 0.015	C\$ 0.015	0	C\$ 0.015	C\$ 0.005	295.1	C\$ 4.4	3.5
<b>Malawi:</b>										
Globe Metals and Mining	14) ASX	GBE	A\$ 0.020	A\$ 0.020	0	A\$ 0.020	A\$ 0.010	469.7	A\$ 9.4	7.3
Mkango Resources	TSX.V	MKA	C\$ 0.110	C\$ 0.060	83	C\$ 0.190	C\$ 0.040	102.7	C\$ 11.3	8.9
<b>Namibia:</b>										
Namibia Rare Earths	TSX.V	NRE	C\$ 0.040	C\$ 0.050	-20	C\$ 0.095	C\$ 0.040	83.7	C\$ 3.3	2.6

11) also phosphate assets South Africa

12) listed as at 30 January 2017

13) also tantalum mine in Mozambique and gold-silver project in Nevada

14) also graphite project

## Overview of listed LITHIUM focused companies (by market capitalization)

29 December 2017		Trading symbol		Share price		Change	12 months		Total shares	Market cap.	
				Current	Year-end	in %	prices		issued	million	
				2017	2016		H	L	million	local	US\$
				US\$	US\$		US\$	US\$		US\$	
Albemarle Corp.	1)	NYSE	ALB	127.890	86.080	49	144.99	85.60	110.5	14,131.8	14,131.8
FMC		NYSE	FMC	94.660	56.560	67	96.02	56.35	134.3	12,712.8	12,712.8
SQM		NYSE	SQM	59.370	28.650	107	63.80	28.36	120.4	7,148.1	7,148.1
Tianqi Lithium	2)	HKSE	002466	53.210	32.450	64	78.17	27.91	1.140	60.7	7.8
ERAMET		Paris	ERA:FP	99.03	56.74	75	99.81	36.43	26.6	2,634.2	3,134.7
				A\$	A\$		A\$	A\$		A\$	
Pilbara Minerals		ASX	PLS	1.110	0.500	122	1.25	0.31	1,640.0	1,820.4	1,419.9
Galaxy Resources	3)	ASX	GXY	3.830	2.630	46	4.08	1.52	405.	1,551.2	1,209.9
Orocobre		ASX	ORE	6.970	4.530	54	7.14	2.62	211.0	1,470.7	1,147.1
Altura Mining		ASX	AJM	0.400	0.140	186	0.47	0.13	1,810.0	724.0	564.7
Global Geoscience		ASX	GSC	0.350	0.070	400	0.38	0.07	1,310.0	458.5	357.6
Neometals		ASX	NMT	0.440	0.340	29	0.53	0.24	543.5	239.1	186.5
Tawana Resources		ASX	TAW	0.460	0.120	283	0.50	0.10	504.3	232.0	180.9
Lithium Power International		ASX	LPI	0.570	0.280	104	0.68	0.23	260.7	148.6	115.9
European Lithium		ASX	EUR	0.240	0.060	300	0.33	0.04	544.7	130.7	102.0
Lithium Australia		ASX	LIT	0.200	0.150	33	0.27	0.07	343.6	68.7	53.6
Liontown Resources		ASX	LTR	0.040	0.020	100	0.05	0.01	991.1	39.6	30.9
Core Exploration		ASX	CXO	0.080	0.070	14	0.11	0.03	496.3	39.7	31.0
PepinNini Lithium		ASX	PNN	0.080	0.020	300	0.09	0.01	484.0	38.7	30.2
Novo Lithio	4)	ASX	NLI	0.050	0.060	-17	0.10	0.04	370.4	18.5	14.4
				C\$	C\$		C\$	C\$		C\$	
Lithium Americas	5)	TSX	LAC	11.180	4.000	180	14.06	3.80	88.5	989.4	781.6
Nemaska Lithium		TSX	NMX	2.350	1.240	90	2.40	0.95	378.1	888.5	701.9
Neo Lithium		TSX	NLC	2.300	1.060	117	2.45	0.85	116.9	268.9	212.4
Millennial Lithium	6)	TSX	ML	3.660	1.470	149	4.38	1.20	71.2	260.6	205.9
Critical Elements		TSX.V	CRE	1.700	0.510	233	1.86	0.48	149.1	253.5	200.2
Bacanora Minerals		TSX.V	BCN	1.900	1.010	88	2.00	1.01	133.0	252.7	199.6
LSC Lithium	7)	TSX.V	LSC	1.640	0.422	289	1.77	1.02	140.3	230.1	181.8
Lithium X Energy		TSX.V	LIX	2.400	2.250	7	2.54	1.40	94.0	225.6	178.2
Wealth Minerals		TSX.V	WML	1.760	1.250	41	2.34	1.13	97.4	171.4	135.4
Advantage Lithium	8)	TSX.V	AAL	1.200	0.970	24	1.42	0.36	139.2	167.0	132.0
Standard Lithium		TSX.V	SLL	2.140	0.550	289	2.85	0.46	60.8	130.1	102.8
Frontier Lithium		TSX.V	FL	0.650	0.260	150	0.78	0.24	138.2	89.8	71.0
Power Metals		TSX.V	PWM	0.740	0.250	196	0.85	0.23	88.3	65.3	51.6
Pure Energy Minerals		TSX	PE	0.410	0.600	-32	0.70	0.38	131.8	54.0	42.7
Ultra Lithium		TSX.V	ULI	0.460	0.170	171	0.80	0.14	65.2	30.0	23.7
Dajin Resources		TSX.V	DJI	0.165	0.120	38	0.22	0.08	149.3	24.6	19.5
Argentina Lithium and Energy		TSX	LIT	0.360	0.370	-3	0.60	0.08	63.3	22.8	18.0
Aberdeen International		TSX	AAB	0.190	0.155	23	0.21	0.11	96.1	18.3	14.4
McArthur Minerals		TSX.V	MMS	0.065	0.075	-13	0.16	0.05	190.3	12.4	9.8
Southern Lithium	9)	TSX.V	SNL	0.340	0.230	48	3.80	0.32	5.9	2.0	1.6
				GBp	GBp		GBp	GBp		£	
European Metals Holdings		AIM	EMH	0.660	0.610	8	1.39	0.56	139.9	92.3	123.7

1) owns 51% of [Talisson Lithium](#)

2) owns 49% of [Talisson Lithium](#)

3) completed acquisition of [General Mining](#); 1.65 Galaxy share for 1 General Mining share) as at 16 August 2016

4) [Dakota Minerals](#), name change in [Novo Lito](#) effective June 5, 2017

5) formerly [Western Lithium USA](#), name change effective March 31, 2016

6) formerly [Redhill Resources](#), name change effective May 31, 2016

7) previously [Oakham Capital](#); closed three-cornered amalgamation transaction on February 22, 2017; [Enirgi Group](#) largest shareholder (18.19%)

8) bought portfolio of exploration projects in [Argentina](#) from [Orocobre](#) in consideration of US\$ 30.5 million in shares and warrants in [November 2016](#)

9) formerly [Signal Exploration](#) name change effective November 11, 2016; share consolidation of 1 for 10, effective December 11, 2017

## Overview of listed COBALT focused companies (by market capitalization)

29 December 2017	Trading symbol		Share price		Change in %	12 months prices		Total shares issued million	Market cap. million	
			Current 2017	Year-end 2016		H	L		local	US\$
	C\$	C\$	C\$	C\$	C\$	C\$				
Cobalt 27 Capital	1)	TSX.V KBLT	12.300	9.000	37	13.75	7.42	34.3	421.9	333.3
eCobalt Solutions		TSX.V ECS	1.950	0.540	261	2.08	0.50	131.6	256.6	202.7
First Cobalt	2)	TSX.V FCC	1.240	0.390	218	1.65	0.34	193.6	240.1	189.7
Fortune Minerals		TSX.V FT	0.295	0.125	136	0.34	0.12	331.5	97.8	77.3
Pacific Rim Cobalt		CNX BOLT	1.400	0.466 *	200	1.50	0.33	44.5	62.3	49.2
US Cobalt	3)	TSX.V USCO	0.600	0.200	200	0.99	0.45	54.2	32.5	25.7
Castle Silver Resources		TSX.V CSR	0.350	0.070	400	0.40	0.05	56.0	19.6	15.5
Cruz Cobalt		TSX.V CUZ	0.280	0.130	115	0.33	0.13	69.4	19.4	15.4
Lico Energy Metals		TSX.V LIC	0.115	0.135	-15	0.24	0.08	132.4	15.2	12.0
Global Energy Metals	4)	TSX.V GEMC	0.225	0.160	41	0.67	0.10	35.4	8.0	6.3
			A\$	A\$		A\$	A\$		A\$	
Ardea Resources	5)	ASX ARL	1.900	0.180	956	2.20	0.17	87.4	166.1	129.5
Cobalt Blue Holdings	6)	ASX COB	0.800	0.180	344	0.89	0.14	106.4	85.1	66.4

\* listed as at October 24, 2017

1) name change from Arak Resources - effective 10 April 2017; 1 for 20 shares consolidation as at 23 June 2017

2) completed merger with Cobaltech Mining and Cobalt One; number of issued shares increased from 58.8 million to 193.7 million shares

3) name change from Scientific Metals - effective May 25, 2017

4) announced on September 25, 2017 the acquired option from Hammer Metals for the Millennium cobalt-copper project in the heart of Mt. Isa, Queensland, Australia

5) subject to joint-venture agreement with Broken Hill Prospecting on Thackeranga cobalt project; closed IPO for more than A\$ 10 million on January 27, 2017; listed on January 31, 2017

6) recent spin-out of Broken Hill Prospecting

## Overview of listed GRAPHITE focused companies (by market capitalization)

29 December 2017	Trading symbol		Share price		Change in %	12 months prices		Total shares issued million	Market cap. million	
			Current 2017	Year-end 2016		H	L		local	US\$
	A\$	A\$	A\$	A\$	A\$	A\$				
Syrah Resources	ASX	SYR	4.510	3.050	48	4.64	2.21	297.0	1,339.5	1,044.8
Magnis Resources	ASX	MNS	0.460 *	0.760	-39	0.81	0.36	553.4	254.6	198.6
Kibaran Resources	ASX	KNL	0.140	0.190	-26	0.20	0.12	255.7	35.8	27.9
			C\$	C\$		C\$	C\$		C\$	
Nouveau Monde Graphite	TSX.V	NOU	0.445	0.235	89	0.54	0.22	134.7	59.9	47.4
Zenyatta Ventures	TSX.V	ZEN	0.670	0.850	-21	1.29	0.58	60.5	40.5	32.0
Northern Graphite	TSX.V	NGC	0.485	0.300	62	0.70	0.24	64.7	31.4	24.8
Focus Graphite	TSX.V	FMS	0.075	0.065	15	0.15	0.06	308.4	23.1	18.3
Graphite One Resources	TSX	GPH	0.085	0.080	6	0.13	0.04	264.9	22.5	17.8
Alabama Graphite	TSX.V	CSPG	0.090	0.150	-40	0.22	0.08	145.3	13.1	10.3
Canada Strategic Metals	TSX.V	CJC	0.105	0.115	-9	0.16	0.09	102.9	10.8	8.5
Canada Carbon	TSX.V	CCB	0.090	0.260	-65	0.28	0.08	103.3	9.3	7.3
Eagle Graphite	TSX.V	EGA	0.030	0.030	0	0.05	0.02	278.0	8.3	6.6
Great Lakes Graphite	TSX.V	GLK	0.060	0.070	-14	0.11	0.03	125.7	7.5	6.0
Lomiko Metals	TSX.V	LMR	0.130	0.215	-40	0.35	0.09	32.0	4.2	3.3
CKR Carbon	1)	CNX CKR	0.090	0.080	13	0.19	0.05	54.8	4.9	3.9
			US\$	US\$		US\$	US\$		US\$	
Next Graphite	2)	OTC GPNE	0.030	0.030	0	0.08	0.01	51.4	1.5	1.5

\* suspended at July 2, 2017 as a result of changed Tanzania mining frame work

1) name change from Caribou King Resources; earned 63% interest in the Aukam Graphite Project in Namibia from Next Graphite in January 2017

2) sold 63% interest in the Aukam Graphite Project in Namibia to CKR Carbon in January 2017

## Overview of listed TUNGSTEN focused companies (by market capitalization)

29 December 2017	Trading symbol		Share price		Change in %	12 months prices		Total shares issued million	Market cap. million	
			Current 2017	Year-end 2016		H	L		local	US\$
			<b>C\$</b>	<b>C\$</b>		<b>C\$</b>	<b>C\$</b>		<b>C\$</b>	
Almonty Industries	TSX.V	All	0.550	0.270	104	0.69	0.20	170.6	93.8	74.1
			<b>A\$</b>	<b>A\$</b>		<b>A\$</b>	<b>A\$</b>		<b>A\$</b>	
Wolf Minerals	ASX	WLF	0.050	0.080	-38	0.15	0.05	1,090.0	54.5	42.5
Specialty Metals Int. 1)	ASX	SEI	0.020	0.020	0	0.03	0.01	482.9	9.7	7.5

1) name change from Cabine Tungsten effective 11 December 2017

## Overview of listed TITANIUM focused companies (by market capitalization)

29 December 2017	Trading symbol		Share price		Change in %	12 months prices		Total shares issued million	Market cap. million	
			Current 2017	Year-end 2016		H	L		local	US\$
			<b>US\$</b>	<b>US\$</b>		<b>US\$</b>	<b>US\$</b>		<b>US\$</b>	
Kronos Worldwide	NYSE	KRO	25.77	6.78	280	29.49	11.88	115.9	2,986.7	2,986.7
Tronox	NYSE	TROX	20.51	10.31	99	28.40	10.20	91.1	1,868.5	1,868.5
			<b>C\$</b>	<b>C\$</b>		<b>C\$</b>	<b>C\$</b>		<b>C\$</b>	
Argex Titanium	TSX	RGX	0.05	0.06	-25	0.10	0.04	314.1	14.1	11.2
			<b>A\$</b>	<b>A\$</b>		<b>A\$</b>	<b>A\$</b>		<b>A\$</b>	
Iluka Resources	ASX	ILU	10.17	7.27	40	10.29	6.50	418.7	4,258.2	3,321.4
Mineral Deposits 1)	ASX	MDL	1.03	0.49	110	1.09	0.4	197.0	202.9	158.3
TNG	ASX	TNG	0.14	0.14	0	0.18	0.11	804.5	112.6	87.9
			<b>GBp</b>	<b>GBp</b>		<b>GBp</b>	<b>GBp</b>		<b>£</b>	
BlueJay Mining 2)	AIM	JAY	22.75	6.78	236	25.75	6.65	771.4	175.5	235.2

1) owns 50% of the TiZr joint venture in partnership with ERAMET of France

2) name change from FinnAust Mining Plc, effective March 13, 2017