



Lv 11, London House 216 St. Georges Terrace, Perth WA, Australia 6000

**T.** +61 (08) 9481 0389 **E.** locke@ktaresources.com

9 October 2020

# Krakatoa Significantly Expands Rare Earth Acreage and Broadens Commodity Scope at Mt Clere, Gascoyne Region, Western Australia

- New Exploration Licence Applications have significantly expanded the Company's Mt Clere Project to 1,780km<sup>2</sup>
- Mt Clere is prospective for:
  - Rare Earth Elements;
  - Heavy Mineral Sands; and
  - Intrusion hosted Ni-Cu-PGEs
- The Project is considered prospective for three Rare Earth Elements (REE) deposit styles:
  - Monazite sands in vast alluvial terraces;
  - o Chinese-type ion adsorption clays in extensive laterite areas; and
  - Carbonatite dyke swarms e.g. Hasting's Yangibana Project
- The Project covers extensive, enriched monazite sands identified by BHP almost 30 years ago (monazite abundance over 50% in >20% of the heavy-mineral concentrate samples)
- Substantial monazite (up to 48%) in heavy-mineral concentrates from drainages was confirmed by Astro Mining NL roughly a decade later
- Considerable ilmenite (up to 29%) and zircon (up to 60%), with lesser rutile, leucoxene and xenotime are historically located within the Project
- All tenements, including those originally pegged for their rare earth's potential, to also be explored for magmatic nickel-copper-PGE discoveries like the recent Julimar discovery by Chalice Gold Mines

Krakatoa Resources Limited ("Krakatoa" or the "Company") (ASX: KTA) is pleased to announce it has substantially expanded its size and scope at its Mt Clere Project, located in the Gascoyne Region of Western Australia. The new exploration licence applications cover regions of structural complexity within dense rocks of the Narryer Terrane thought to represent reworked remnants of greenstone sequences that are prospective for intrusion-hosted Ni-Cu-(Co)-(PGE's). Krakatoa initially applied for Mt Clere based on the tenure containing significant Rare Earth Element (REE) geochemical anomalies originally delineated by BHP Minerals and subsequently confirmed by Astro Mining in the 1990s.

The new tenement applications (Table 1) increase the Company's total holdings over the prospective geology in the Gascoyne Region of Western Australia to approximately 1,780 km<sup>2</sup>.







Table 1 Krakatoa Resources Mt Clere Project (100% subject to grant)

TENID	STATUS	HOLDER	AREA	UNIT	Area (km²)
E 09/2357	PENDING	KRAKATOA RESOURCES LIMITED	107	BL.	330.53
E 52/3730	PENDING	KRAKATOA RESOURCES LIMITED	97	BL.	299.97
E 52/3731	PENDING	KRAKATOA RESOURCES LIMITED	145	BL.	448.78
E 52/3836	PENDING	KRAKATOA RESOURCES LIMITED	24	BL.	74.07
E 51/1994	PENDING	KRAKATOA RESOURCES LIMITED	31	BL.	95.43
E 52/3873	PENDING	KRAKATOA RESOURCES LIMITED	23	BL.	71.03
E 52/3876	PENDING	KRAKATOA RESOURCES LIMITED	135	BL.	416.64
E 52/3877	PENDING	KRAKATOA RESOURCES LIMITED	14	BL.	43.27

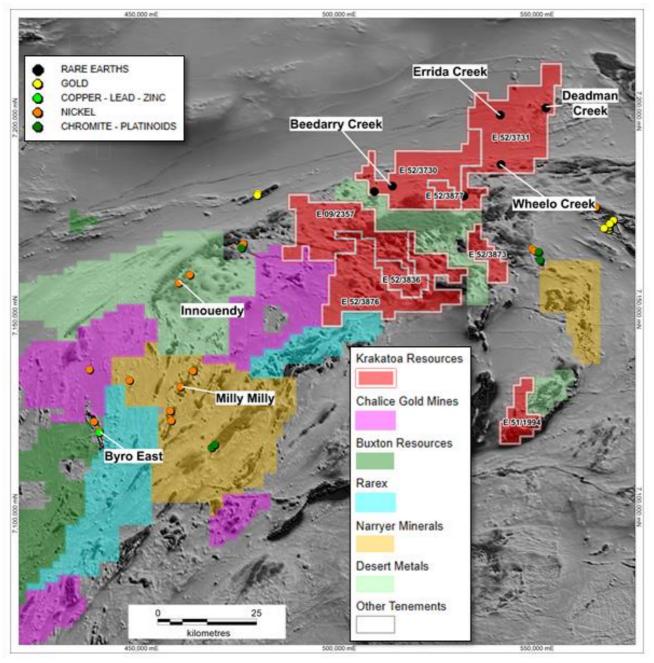


Figure 1 - Krakatoa applications and recent competitor pegging activity in the Narryer Terrane





#### RARE EARTH AND HEAVY MINERAL MINERALISATION

As previously announced on 19 June 2019, the Project contains significant opportunities related to rare earth elements, in particular across the widespread monazite sands concentrated within drainage networks of the northern applications. Previous work by BHP and Astro Mining NL confirmed the ample presence of monazite<sup>1</sup> in pan concentrates, with grades exceeding 50% in a large number of samples resulting in an anomaly exceeding 100km<sup>2</sup> (refer to Appendix 1 and Figure 2).

The source of the monazite is postulated as coming from REE ion adsorption on clays within the widely preserved, deeply weathered, lateritic profiles developed in gneissic rocks. Monazite-rich carbonatites in the adjacent Mt Gould Alkaline Province could also provide a source. Hasting's (ASX: HAS) emerging Yangibana REE project to Krakatoa's northwest displays a similar geological environment.

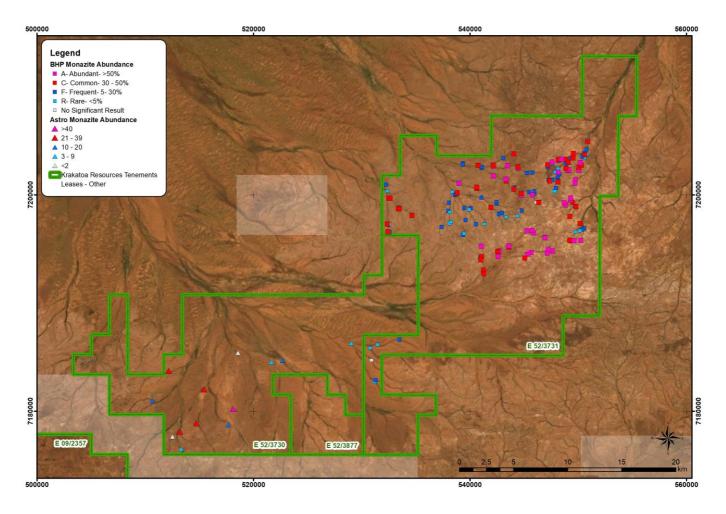


Figure 2 - BHP and Astro sampling - monazite heavy mineral concentrate results

\_

<sup>&</sup>lt;sup>1</sup> Importantly, monazite concentrates can contain up to 70% REE after physical upgrading, primarily cerium (Ce) and lanthanum (La) as well as significant concentrations of neodymium (Nd), praseodymium (Pr), and samarium (Sm).







The Mt Clere applications include several extraordinarily, high tenor thorium radiometric anomalies which cover vast areas. Some anomalies correspond with alluvial/colluvial/sheetwash areas, where Astro pan concentrates returned remarkably high percentages of monazite, up to 48% (Appendix 1). Thus, at least several thorium anomalies appear to be caused by substantial placer concentrations of monazite. Others correspond with the incised remnants of laterite widely preserved in the project area.

The GSWA stream sediments capture distinct carbonatite signatures (Nb-Ce-Y-Th anomalies) in drainages adjacent to where Astro identified three lamprophyres. The signatures may be genetically related to a hidden carbonatite, obscured by the extensive laterite cover in the anomaly hinterland.

Other valuable heavy minerals such as zircon (to 60%), ilmenite (to 29%) and leucoxene were recovered in samples from the same area, favorable for large placer resources of easily recoverable material.

The ultimate bedrock source of the thorium and REE remains unknown. Swarms of alkaline ultramafic dykes (lamprophyres/carbonatites), mostly obscured by laterite, are a potential source. Alternatively, a pegmatite-rich granite gneiss such as that identified at Mt Clere may be the source. Each forms an exploration target, in addition to the more widespread placer and lateritic concentrations.

#### **BASE METAL MINERALISATION**

Chalice Gold Mines (ASX: CHN) recent Ni-Cu-PGE Julimar discovery, located near Perth in the similarly aged Southwest terrane, has renewed exploration interest in the Narryer terrane. Like the former, the Narryer terrane, which forms the northwest margin of the Yilgarn Craton, consists of relatively high-grade granitic gneisses interlayered with metasedimentary rocks that are intruded by granite and pegmatite. Thus, the Narryer terrane is prospective for similar mineralisation-styles including Ni-Cu-PGE (e.g. Julimar) and orogenic style veining (e.g. Boddington). This renewed interest has seen ASX listed companies such as Chalice, Rarex, and Buxton Resources peg near and adjacent to Krakatoa's applications.

The Errabiddy Shear Zone, a 5km to 20km wide major crustal suture that binds the accreted Palaeoproterozoic Glenburgh terrane to the Archaean Yilgarn Craton is partly captured within Krakatoa's applications. Such reworked craton margins are a favourable setting for many large-scale gold and base metal deposits, where long-lived crustal-scale structures can act as conduits for the transfer of heat and mineralising fluids from the upper mantle. The structural corridor associated with the Errabiddy Shear Zone offers the Company further significant gold exploration opportunities.

#### **NATIVE TITLE**

The Company has been negotiating heritage agreements with respective Native Title Parties, since making the initial applications in 2019. Agreement negotiations are nearing finalisation and, subject to successful finalisation of the heritage agreements, the Company anticipates commencement of field activities near-term.







Authorised for release by the Board.

FOR FURTHER INFORMATION:

Colin Locke
Executive Chairman
+61 457 289 582
locke@ktaresources.com

#### **Disclaimer**

Forward-looking statements are statements that are not historical facts. Words such as "expect(s)", "feel(s)", "believe(s)", "will", "may", "anticipate(s)" and similar expressions are intended to identify forward-looking statements. These statements include, but are not limited to statements regarding future production, resources or reserves and exploration results. All of such statements are subject to certain risks and uncertainties, many of which are difficult to predict and generally beyond the control of the Company, that could cause actual results to differ materially from those expressed in, or implied or projected by, the forwardlooking information and statements. These risks and uncertainties include, but are not limited to: (i) those relating to the interpretation of drill results, the geology, grade and continuity of mineral deposits and conclusions of economic evaluations, (ii) risks relating to possible variations in reserves, grade, planned mining dilution and ore loss, or recovery rates and changes in project parameters as plans continue to be refined, (iii) the potential for delays in exploration or development activities or the completion of feasibility studies, (iv) risks related to commodity price and foreign exchange rate fluctuations, (v) risks related to failure to obtain adequate financing on a timely basis and on acceptable terms or delays in obtaining governmental approvals or in the completion of development or construction activities, and (vi) other risks and uncertainties related to the Company's prospects, properties and business strategy. Our audience is cautioned not to place undue reliance on these forward-looking statements that speak only as of the date hereof, and we do not undertake any obligation to revise and disseminate forwardlooking statements to reflect events or circumstances after the date hereof, or to reflect the occurrence of or non-occurrence of any events.

#### **Competent Persons Statement**

The information in this announcement is based on and fairly represents information compiled by Mr Jonathan King, consultant geologist, who is a Member of the Australian Institute of Geoscientists and employed by Collective Prosperity Pty Ltd, and is an accurate representation of the available data and studies for the Project. Mr King has sufficient experience relevant to the style of mineralisation and type of deposit under consideration, and to the activity which he has undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr King consents to the inclusion in this announcement of the matters based on this information in the form and context in which it appears.

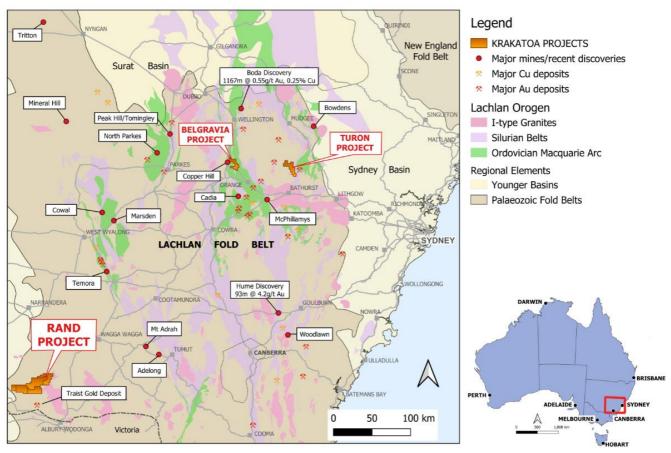






#### **ABOUT KRAKATOA:**

Krakatoa is an ASX listed public Company predominately focused on gold exploration in the world class Lachlan Fold Belt, NSW across three projects: Belgravia, Turon and Rand.



#### Belgravia Project (Krakatoa 100%):

The Belgravia Project covers an area of 80km² and is located in the central part of the Molong Volcanic Belt (MVB), East Lachlan province, between Newcrest Mining's Cadia Operations and Alkane Resources Boda Discovery. The Project has six initial target areas considered highly prospective for porphyry Cu-Au and associated skarn Cu-Au, with Bell Valley and Sugarloaf representing the two most advanced target areas. Bell Valley contains a considerable portion of the Copper Hill Intrusive Complex, the interpreted porphyry complex which hosts the Copper Hill deposit (890koz Au & 310kt Cu) and has highly prospective magnetic low features spanning 6km. Sugarloaf contains a 900m Deep Ground Penetrating Radar anomaly located within a distinctive magnetic low feature considered characteristic of a porphyry-style deposit and co-incident with anomalous rock chips including 5.19g/t Au and 1.73% Cu.

#### Turon Project (Krakatoa 100%):

The Turon Project covers 120km² and is located within the Lachlan Fold Belt's Hill End Trough, a north-trending elongated pull-apart basin containing sedimentary and volcanic rocks of Silurian and Devonian age. The Project contains two separate north-trending reef systems, the Quartz Ridge and Box Ridge, comprising shafts, adits and drifts that strike over 1.6km and 2.4km respectively. Both reef systems have demonstrated high grade gold anomalism (up to 1,535g/t Au in rock chips) and shallow gold targets (up to 10m @ 1.64g/t Au from surface to end of hole) that warrant detailed investigation.

#### Rand Project (100%)

The Rand Project covers an area of 580km², located approximately 60km NNW of Albury in southern NSW. The Project has a SW-trending shear zone that transects the entire tenement package forming a distinct structural corridor some 40 km in length. The historical Bulgandra Goldfield, which is captured by the Project, demonstrates the project area is prospective for shear-hosted and intrusion-hosted gold. Historical production records show substantial gold grades, including up to 265g/t Au from the exposed quartz veins in the Show Day Reef.





#### **APPENDIX 1**

## BHP HEAVY MINERAL CONCENTRATES

SampNum	Code	HMA_grains_Code	East_MGA	North_MGA
2001	С	C- Common- 30 - 50%	532372.7	7197290
2002	F	F- Frequent- 5- 30%	532452.1	7197216
2003	R	R- Rare- <5%	532536.1	7197253
2004	С	C- Common- 30 - 50%	533362.9	7198734
2005	С	C- Common- 30 - 50%	533484.4	7198678
2006	R	R- Rare- <5%	533503.1	7198818
2007	С	C- Common- 30 - 50%	532438.1	7196552
2008	F	F- Frequent- 5- 30%	532564.2	7196538
2009	С	C- Common- 30 - 50%	532508.1	7199668
2010	С	C- Common- 30 - 50%	532629.6	7199682
2011	С	C- Common- 30 - 50%	534642.8	7198094
2012	R	R- Rare- <5%	532354	7200331
2013	F	F- Frequent- 5- 30%	532260.6	7200925
2014	F	F- Frequent- 5- 30%	531466.5	7202172
2015	R	R- Rare- <5%	531517.9	7202896
2016	R	R- Rare- <5%	531144.2	7203886
2017	R	R- Rare- <5%	538384.3	7200266
2018	F	F- Frequent- 5- 30%	538599.2	7199972
2019	F	F- Frequent- 5- 30%	547641.1	7201389
2019	F	F- Frequent- 5- 30%	538748.7	7200046
2020	С	C- Common- 30 - 50%	538828.1	7200182
2021	F	F- Frequent- 5- 30%	537982.6	7198500
2022	R	R- Rare- <5%	538150.8	7198398
2023	R	R- Rare- <5%	538108.7	7197337
2024	R	R- Rare- <5%	538230.2	7197473
2025	F	F- Frequent- 5- 30%	540070.6	7198757
2026	R	R- Rare- <5%	539925.8	7198617
2027	F	F- Frequent- 5- 30%	537361.4	7197015
2028	F	F- Frequent- 5- 30%	539472.7	7198781
2029	F	F- Frequent- 5- 30%	538052.7	7199257
2030	Α	A- Abundant- >50%	538959	7201074
2031	F	F- Frequent- 5- 30%	539594.2	7197655
2032	F	F- Frequent- 5- 30%	539332.6	7196286
2033	R	R- Rare- <5%	539444.7	7196398
2034	F	F- Frequent- 5- 30%	540565.7	7197267
2035	R	R- Rare- <5%	541359.8	7197295
2036	F	F- Frequent- 5- 30%	542681.7	7198201
2037	R	R- Rare- <5%	542920	7198206
2038	F	F- Frequent- 5- 30%	542957.3	7198332
2039	F	F- Frequent- 5- 30%	542443.5	7199178
2040	F	F- Frequent- 5- 30%	542443.5	7199304







2041	С	C- Common- 30 - 50%	540635.8	7200584	
2042	С	C- Common- 30 - 50%	540640.5	7200710	
2043	R	R- Rare- <5%	543349.7	7197930	
2044	F	F- Frequent- 5- 30%	541060.9	7199729	
2045	R	R- Rare- <5%	544377.3	7198038	
2046	С	C- Common- 30 - 50%	541939	7198818	
2047	F	F- Frequent- 5- 30%	544774.4	7198538	
2048	Α	A- Abundant- >50%	545282.9	7196663	
2049	Α	A- Abundant- >50%	545888.1	7196483	
2050	Α	A- Abundant- >50%	545728.1	7196698	
2051	F	F- Frequent- 5- 30%	539337.2	7202886	
2052	F	F- Frequent- 5- 30%	539337.2	7202774	
2053	С	C- Common- 30 - 50%	540761.9	7202709	
2054	Α	A- Abundant- >50%	542154.3	7202620	
2055	С	C- Common- 30 - 50%	542149.2	7202732	
2056	F	F- Frequent- 5- 30%	541070.2	7202475	
2057	F	F- Frequent- 5- 30%	541102.9	7202583	
2058	F	F- Frequent- 5- 30%	543053.4	7203364	
2059	С	C- Common- 30 - 50%	544070.6	7203794	
2060	Α	A- Abundant- >50%	542175.1	7201724	
2061	Α	A- Abundant- >50%	543480.9	7202695	
2062	Α	A- Abundant- >50%	544434	7202461	
2063	С	C- Common- 30 - 50%	544447.5	7202573	
2064	С	C- Common- 30 - 50%	543363.7	7201266	
2065	Α	A- Abundant- >50%	543338.3	7201428	
2066	Α	A- Abundant- >50%	544755.8	7199973	
2067	С	C- Common- 30 - 50%	544727.7	7200102	
2068	С	C- Common- 30 - 50%	544064.4	7200518	
2069	F	F- Frequent- 5- 30%	544111.1	7200644	
2070	А	A- Abundant- >50%	545761.5	7199981	
2071	F	F- Frequent- 5- 30%	545948.4	7200072	
2072	F	F- Frequent- 5- 30%	545950.1	7200302	
2073	NSR	No Significant Result	546118.5	7199278	
2073	С	C- Common- 30 - 50%	546345.3	7199291	
2075	F	F- Frequent- 5- 30%	547938	7200619	
2076	R	R- Rare- <5%	547747.9	7200318	
2077	R	R- Rare- <5%	547867.9	7200312	
2078	F	F- Frequent- 5- 30%	548084.7	7201602	
2080	R	R- Rare- <5%	548018	7201109	
2081	С	C- Common- 30 - 50%	548124.8	7201179	
2082	F	F- Frequent- 5- 30%	548121.4	7201349	
2083	Α	A- Abundant- >50%	549735.5	7201352	
2084	Α	A- Abundant- >50%	549708.8	7201056	
2085	С	C- Common- 30 - 50%	549487.2	7199308	







2086	Α	A- Abundant- >50%	549293.6	7199538
2087	Α	A- Abundant- >50%	549293.6	7199683
2088	С	C- Common- 30 - 50%	549794.1	7198888
2089	F	F- Frequent- 5- 30%	549690.7	7198974
2090	A	A- Abundant- >50%	548841.6	7199060
2091	A	A- Abundant- >50%	548704.9	7199260
2092	С	C- Common- 30 - 50%	549233.8	7197977
2093	С	C- Common- 30 - 50%	550167.7	7197330
2094	F	F- Frequent- 5- 30%	550537.9	7196890
2095	R	R- Rare- <5%	549747.4	7196566
2096	F	F- Frequent- 5- 30%	550381.1	7196770
2097	C	C- Common- 30 - 50%	549340.5	7195732
2098	С	C- Common- 30 - 50%	549220.4	7195802
2099	R	R- Rare- <5%	550161	7196683
2100	A	A- Abundant- >50%	550244.2	7195789
2101	A	A- Abundant- >50%	549630.5	7195749
2102	C	C- Common- 30 - 50%	547351	7201276
2103	F	F- Frequent- 5- 30%	547247.6	7201276
2104	F	F- Frequent- 5- 30%	548264.8	7201883
2105	A	A- Abundant- >50%	548156.2	7201003
2106	R	R- Rare- <5%	548144.8	7202001
2107	R	R- Rare- <5%	547954.7	7202413
2108	R	R- Rare- <5%	547877.9	7202013
2109	F	F- Frequent- 5- 30%	547164.2	7202120
2110	C	C- Common- 30 - 50%	547180.9	7202330
2111	A	A- Abundant- >50%	548134.6	7202760
2112	C	C- Common- 30 - 50%	548191.5	7203104
2112	R	R- Rare- <5%	547587.8	7203237
2114	A	A- Abundant- >50%	547595.9	7203030
2115	A	A- Abundant- >50%	548471.4	7203030
2116	F	F- Frequent- 5- 30%	548915.2	7203272
2117	С	C- Common- 30 - 50%	548915.2	7203170
2118	A	A- Abundant- >50%	549019.3	7203200
2119	A	A- Abundant- >50%	549132.7	7202224
2120	C	C- Common- 30 - 50%	549098.7	7202294
2120	С	C- Common- 30 - 50%	548858.5	7202977
	F	F- Frequent- 5- 30%		7202430
2122 2123	F	F- Frequent- 5- 30%	549322.1 548865.2	7203374
2123	R	R- Rare- <5%	550828.1	7202633
2124	C	C- Common- 30 - 50%	550624.6	7203735
2125	F	F- Frequent- 5- 30%	550539.5	7203692
2127	A	A- Abundant- >50%	550039.5	7203632
	C	A- Abundant- >50%  C- Common- 30 - 50%		7202543
2128	С		550075.9	
2129	C	C- Common- 30 - 50%	550312.7	7202743







2130	R	R- Rare- <5%	550584.6	7203379
2131	Α	A- Abundant- >50%	550205.8	7202969
2132	F	F- Frequent- 5- 30%	550376.1	7203539
2133	С	C- Common- 30 - 50%	549532.3	7203394
2134	F	F- Frequent- 5- 30%	550764.7	7204179
2135	С	C- Common- 30 - 50%	549552.3	7203800
2136	С	C- Common- 30 - 50%	550884.8	7204956
2137	R	R- Rare- <5%	550856.4	7205138
2138	Α	A- Abundant- >50%	546946.3	7196044
2139	Α	A- Abundant- >50%	547635.1	7194789
2140	Α	A- Abundant- >50%	547144.8	7194600
2141	Α	A- Abundant- >50%	545665.6	7194667
2142	Α	A- Abundant- >50%	547248.2	7194964
2143	Α	A- Abundant- >50%	545332	7194485
2144	С	C- Common- 30 - 50%	545073.3	7194152
2145	С	C- Common- 30 - 50%	543597.3	7195151
2146	Α	A- Abundant- >50%	543606	7195266
2147	Α	A- Abundant- >50%	542687.1	7194774
2148	С	C- Common- 30 - 50%	542569.6	7194768
2149	Α	A- Abundant- >50%	542598.7	7194272
2150	А	A- Abundant- >50%	541041.1	7195235
2151	С	C- Common- 30 - 50%	541098.2	7194273
2152	F	F- Frequent- 5- 30%	540962.8	7194217
2153	С	C- Common- 30 - 50%	540995.5	7193969
2154	С	C- Common- 30 - 50%	541247.7	7193040
2155	С	C- Common- 30 - 50%	541271.1	7192703
2156	R	R- Rare- <5%	533708.6	7185057
2157	R	R- Rare- <5%	533661.9	7184968
2158	F	F- Frequent- 5- 30%	533475	7186608
2159	NSR	No Significant Result	535002.5	7183763
2160	NSR	No Significant Result	534890.4	7183632
2161	R	R- Rare- <5%	535306.1	7181815
2162	F	F- Frequent- 5- 30%	535394.8	7181722
2163	R	R- Rare- <5%	533064	7183002
2164	R	R- Rare- <5%	533078	7182838
2165	NSR	No Significant Result	532059.7	7184440
2166	R	R- Rare- <5%	531204.9	7182670
2167	F	F- Frequent- 5- 30%	531293.6	7182857
2168	R	R- Rare- <5%	531471.1	7186136
2169	NSR	No Significant Result	530910.6	7184702
2170	R	R- Rare- <5%	530789.2	7185814
2171	F	F- Frequent- 5- 30%	545763.3	7202056
2172	F	F- Frequent- 5- 30%	545303	7202003
2173	F	F- Frequent- 5- 30%	545453.1	7200242







## ASTRO PAN CONCENTRATE RESULTS

Sample	EastMGA50	NorthMGA50	AMG_N	AMG_E	Monazite	Zircon	Ilmenite
YS10671	538630.4	7178359	7178206	538491	23	11	3
YS10673	537389.4	7182553	7182400	537250	30	30	2
YS10661	521677.3	7184523	7184370	521538	9	12	0
YS10662	522691.3	7184673	7184520	522552	12	38	10
YS13561	531840.3	7182622	7182469	531701	0	3	0
YS13669	526156.4	7194082	7193929	526017	30	15	3
YS13744	529039.3	7186273	7186120	528900	5	60	0
YS10609	505644.3	7176127	7175974	505505	2	30	0
YS10610	510653.3	7180948	7180795	510514	20	15	2
YS10616	507144.3	7177777	7177624	507005	2	10	0
YS10617	506892.3	7177582	7177429	506753	5	5	0
YS10619	510597.3	7177794	7177641	510458	0	3	0
YS10621	511409.3	7175663	7175510	511270	0	10	5
YS10623	508395.3	7174831	7174678	508256	0	2	0
YS10624	508786.3	7174061	7173908	508647	0	2	0
YS10658	518584.3	7185379	7185226	518445	0	10	0
YS13510	512529.3	7177637	7177484	512390	0	15	10
YS13511	513219.3	7178103	7177950	513080	30	26	5
YS13512	513323.3	7176503	7176350	513184	5	47	0
YS13513	514749.3	7178869	7178716	514610	25	7	0
YS13514	515459.3	7181995	7181842	515320	30	7	0
YS13519	511394.4	7189552	7189399	511255	21	31	29
YS13520	511802.3	7186625	7186472	511663	0	20	8
YS13521	510432.4	7186477	7186324	510293	0	6	4
YS13522	512172.3	7183719	7183566	512033	39	26	15
YS13530	517694.3	7178738	7178585	517555	20	30	2
YS13532	518145.3	7180196	7180043	518006	48	30	8

### **ANNEXURE 1: SURFACE SAMPLING DETAILS**

# **JORC Code, 2012 Edition – Table 1 report template**

## **Section 1 Sampling Techniques and Data**

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg' reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul> <li>Sampling by the primary explorers of the region (BHP and Astro) was for Pb-Zn-Ag mineralisation and diamonds. Little consideration was given to the reporting levels for the monazite and other "accessory" minerals to support future exploration on the property, as these were not the target commodity.</li> <li>Panned heavy mineral concentrates derived from stream sediment sampling and collected from heavy mineral trap sites within the alluvial channel were the main tool adopted for use in exploration by all companies.</li> <li>Recovered bag weights varied significantly between trap sites depending on size and how effectively they were cleaned of their heavy mineral content.</li> <li>It is unknown how much fine fraction was removed from the sample before the final concentrate was taken</li> <li>The pan concentrates were reviewed and analysed by various parties and relative abundance estimates made relative to the total weight of the con.</li> <li>Qualified mineral observers provided the grain counts and estimates.</li> <li>This is the standard procedure for diamond exploration.</li> <li>Additional stream sediments were taken in base metal exploration and assayed for Cu, Pb, Zn producing no significant results (and are not relevant to this report).</li> <li>No QAQC procedures were discussed in the body of any report.</li> </ul>
Drilling techniques	<ul> <li>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</li> </ul>	No drilling discussed within this report

Criteria	JORC Code explanation	Commentary
Drill sample recovery	<ul> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</li> </ul>	No drilling discussed within this report
Logging	<ul> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>	No drilling discussed within this report
Sub-sampling techniques and sample preparation	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/secondhalf sampling.</li> <li>Whether sample sizes are appropriate to the grain size of the material being sampled.</li> </ul>	<ul> <li>The exact procedure was not explained. However, panned concentrates are processed through a panning dish to remove the lighter fractions, including quartz and mica, etc.</li> <li>The heavy mineral fraction accumulates beneath the lighter mineral fraction which is removed.</li> <li>The heavier fraction is collected and dried before further cleaning occurs.</li> <li>The balance of the process before observation occurs was not explained.</li> <li>This is the standard approach for the collection of heavy minerals in stream environments during early stage exploration.</li> </ul>
Quality of assay data and laboratory tests	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</li> <li>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</li> </ul>	Mineral identification and counting processes was completed by inhouse mineralogists and mineral observers for BHP and Astro
Verification of sampling and assaying	<ul> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> </ul>	No drilling discussed within this report

Criteria	JORC Code explanation	Commentary
	<ul> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	
Location of data points	<ul> <li>Accuracy and quality of surveys used to locate drill holes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>	<ul> <li>Most the early stream sediment/pan concentrate data by BHP was collected using WGS84 Lats and Longs with sample sites chosen where a suitable trap was identified.</li> <li>Later pan cons/stream sediments were collected by Astro using MGA94 Z50.</li> <li>All locations will be within 5 m of their true location</li> <li>No formal grids were established.</li> <li>No resource work was completed</li> </ul>
Data spacing and distribution	<ul> <li>Data spacing for reporting of Exploration Results.</li> <li>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>Whether sample compositing has been applied.</li> </ul>	<ul> <li>Data spacing is suitable for the exploration stage, which is mostly at the reconnaissance level</li> <li>All completed exploration work targeted commodities (diamonds – Astro and Lead-Zinc – BHP) other than those under consideration in this announcement</li> <li>No resource is currently identified</li> <li>No sample compositing was used</li> </ul>
Orientation of data in relation to geological structure	<ul> <li>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul> <li>No bias introduced.</li> <li>Sample sizes reflect the size of the heavy mineral trap site being exploited</li> </ul>
Sample security	The measures taken to ensure sample security.	Historical reports did not document the chain of custody to ensure sample security
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	No reviews or audits of sampling techniques was undertaken. The data collated was reviewed respective to each generation of work undertaken and

## **Section 2 Reporting of Exploration Results**

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary					
	Type, reference name/number, location and ownership including	Krakatoa has m	nade applicat	ion for the	following	Explora	tion licenses
	agreements or material issues with third parties such as joint ventures,	TENID	STATUS	HOLDER	AREA	UNIT	Area (km²)
	partnerships, overriding royalties, native title interests, historical sites,	E 09/2357	PENDING	KTA	107	BL.	330.53
	<ul> <li>wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any</li> </ul>	E 52/3730	PENDING	KTA	97	BL.	299.97
	known impediments to obtaining a licence to operate in the area.  Mineral nement and	E 52/3731	PENDING	KTA	145	BL.	448.78
Mineral		E 52/3836	PENDING	KTA	24	BL.	74.07
tenement and		E 51/1994	PENDING	KTA	31	BL.	95.43
land tenure		E 52/3873	PENDING	KTA	23	BL.	71.02599
status		E 52/3876	PENDING	KTA	135	BL.	416.64
		E 52/3877	PENDING	KTA	14	BL.	43.27
		<ul> <li>KTA is not in partnership or any joint venture with respect to the tenement.</li> <li>Krakatoa does not perceive any impediments that would prevent grant of title</li> </ul>					l prevent
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	<ul> <li>The Project are NL respectively</li> <li>Neither party s announcement revilement con</li> </ul>	for Pb-Zn-Ag ort the comn t, though bot	g mineralisa nodities un h acknowle	ation and der discusedge the s	diamono ssion in t ignifican	ds :his :ce of
Geology	Deposit type, geological setting and style of mineralisation.	<ul> <li>The Project is f and thorium in rocks, REE ion a deeply weathe plausible carbo</li> <li>Other targets of and orogenic g</li> </ul>	ocused on meniched mo adsorption or red lateritic per anatites associated iscussed incl	ultiple REE onazite sand on clays with orofiles and ciated with ude Intrusi	opportur ds release in the wid lastly RE alkaline n	nities, inc ed from g dely pres E occurri nagmatis	cluding REE gneissic served ing in sm.
Drill hole Information	<ul> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</li> <li>easting and northing of the drill hole collar</li> </ul>	No drilling disc	ussed within	this report			

Criteria	JORC Code explanation	Commentary
	<ul> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> <li>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</li> <li>In reporting Exploration Results, weighting averaging techniques, maximum</li> </ul>	Heavy mineral concentrates were produced from the various sample
Data aggregation methods	<ul> <li>and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>locations</li> <li>The relationship between the cons and the parent sample were not defined in any report.</li> <li>Relative mineral abundance numbers were either binned or subject to rounding</li> <li>No metal equivalents were used or calculated</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</li> </ul>	<ul> <li>Too early for any relationship to be determined.</li> <li>Exploration originally targeted base metals (specifically gahnite) and diamonds.</li> <li>The completed work is relevant and appropriate for monazite and REE exploration even though these formed the accessory and not the primary target minerals.</li> </ul>
Diagrams	<ul> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul> <li>The pertinent maps for this stage of Project are included in the release.</li> <li>Co-ordinates in MGA94Z50 are shown on all maps</li> </ul>
Balanced reporting	<ul> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul> <li>The report has relied on the information in the public records released by the previous explorers (see WAMEX reports).</li> <li>No interpretation has been made.</li> <li>Mineral abundance estimates have been reviewed for all pan concentrate samples. The presented result are factual and drawn directly from the WAMEX reports.</li> </ul>
Other substantive	Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey	Other geophysical data sets for the project area are available in the public domain. This will be recovered and reprocessed prior to

Criteria	JORC Code explanation	Commentary
exploration data	results; geochemical survey results; bulk samples — size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.	reinterpretation to support future exploration.  • Thorough compilation of the historical results is necessary
Further work	<ul> <li>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul> <li>Some of the recommended program is outlined in the preceding response.</li> <li>Geological mapping and site visit to review the targets is necessary before commencing any field work.</li> <li>This work along with a site visit will commence imminently.</li> </ul>