30 October 2019

QUARTERLY OPERATIONS REPORT TO 30 SEPTEMBER 2019
TITANIUM SAND LIMITED ("Company")

- **Technical due diligence on the proposed adjoining tenure acquisition at the Mannar Island Project defines a high-grade surface exposed heavy mineral sand resource of 31.92Mt at 7.45% Total Heavy Mineral (THM%)[1,2].**
- **RC aircore drilling below the existing above water table high grade Mannar Island resources commenced in August and 255 holes to a nominal depth of 12m (for 3,048m) have now been completed.**
- **Visual logging of the drill holes has found significant near continuous significant heavy mineral content down to 12m in 235 of the 255 drill holes.**
- **RC aircore drilling is on-going and the current program is for 550 to 600 to be completed by mid-December.**
- **Samples from the RC aircore drilling (to date 3,048) are being prepared and shipped to a mineral sands laboratory in South Africa, THM% results will be progressively received over the next 3 months.**
- **RC aircore drill hole logging (subject to confirmation from laboratory THM analyses) indicates the potential for a major resource beneath the above water table high grade inferred mineral resource of 85Mt at 6.9%THM[1,2,3].**

SRI LANKAN MINERAL SANDS PROJECT

Acquisition Additional Mannar Island Tenure

The Company announced[2] a proposed acquisition of tenure ('Acquisition Tenure') with high grade mineral sands adjoining and surrounded by the Company's existing Mannar Island tenure (Figure 1). The Acquisition Tenure adjoins the current tenure held by the Company on Mannar island (Figure 1) and contains high grade drilling results along strike from high grade resource zones defined on the Company tenure (Figure 2). This consolidation of tenure on Mannar Island is part of the Company's strategy to acquire highly prospective tenure to expand its core project. The proposed acquisition is subject to Titanium Sands Ltd shareholder approval.

Table 1 Acquisition tenure, exploration licenses.

	Status	Expiry	Area Km2
EL351	renewal pending	15/05/2019	15
EL352	renewal pending	15/05/2019	10
EL327	renewed for 2nd 2yr	13/12/2020	5
EL328	renewed for 2nd 2yr	13/12/2020	8

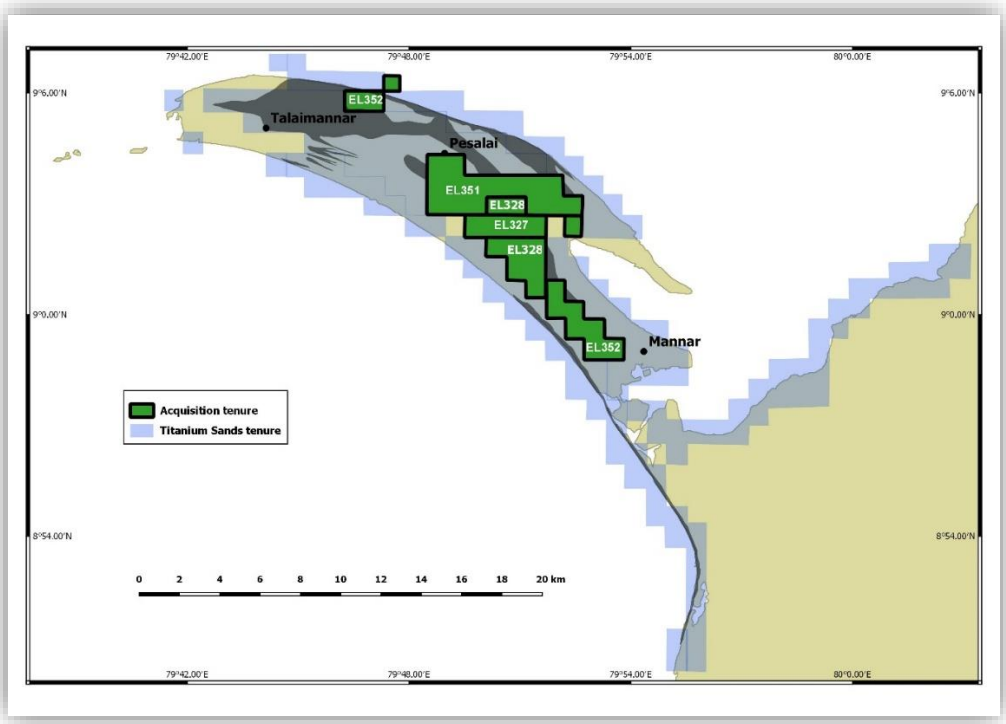


Figure 1 Proposed acquisition tenure.

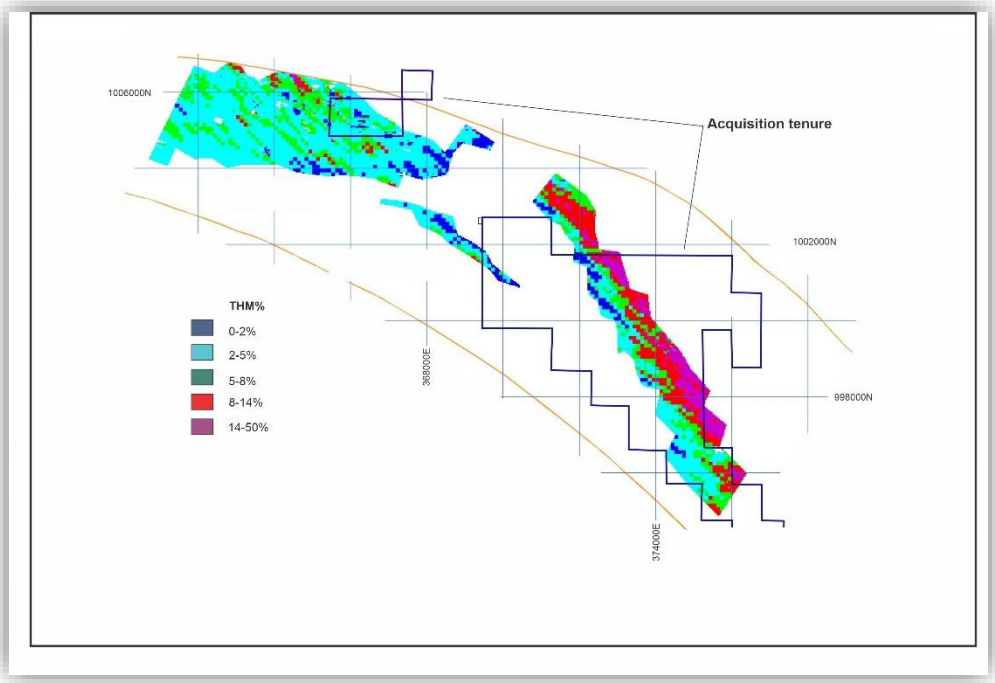


Figure 2 Inferred Resource blocks on Titanium Sands Ltd tenure and the proposed acquisition tenure [1].

Technical due diligence on the proposed tenure acquisition defined a high grade inferred mineral resource of 31.92Mt 7.45% THM[1] (Table 1).

Domain	Licence	Volume (Mm^3)	Tonnes (M)	THM %	Silt %	Oversize %	Ilm %	Leu %	Rut %	Zir %
1	EL352	1.83	3.21	4.04	0.62	2.40	2.03	0.30	0.10	0.09
	Sub Total	**1.83**	**3.21**	**4.04**	**0.62**	**2.40**	**2.03**	**0.30**	**0.10**	**0.09**
2	EL327	3.03	5.27	9.26	0.74	19.11	4.94	0.67	0.11	0.18
	EL328	7.91	13.77	7.59	0.80	16.41	3.53	0.58	0.10	0.13
	EL351	2.22	3.87	9.17	0.78	25.06	4.75	0.87	0.13	0.15
	EL352	3.01	5.24	6.37	0.61	14.87	1.99	0.37	0.07	0.07
	Sub Total	**16.18**	**28.15**	**7.89**	**0.75**	**17.82**	**3.67**	**0.60**	**0.10**	**0.13**
3	EL351	0.31	0.55	5.03	0.43	0.64	2.09	0.56	0.16	0.12
	Sub Total	**0.31**	**0.55**	**5.03**	**0.43**	**0.64**	**2.09**	**0.56**	**0.16**	**0.12**
Grand Total		**18.32**	**31.92**	**7.45**	**0.73**	**15.97**	**3.48**	**0.57**	**0.10**	**0.13**

Table 1 The Inferred mineral resource estimations for Bright Angel, Mannar, with a 2% lower THM cut-off[1].

The resource on the proposed acquisition tenure adjoins and complements the previously defined inferred mineral resource on the existing Company of 53.08Mt @ 6.66% THM[23]. This gives a combined resource for the Mannar Island Project of 85Mt @ 6.9% THM. In addition the highest-grade zone extends continuously for over 8km from the Company tenure through the proposed acquisition tenure. The combined resources form a 1m to 3m blanket from surface down to the water table at around 3m.

Upgrade of the Mannar island Project Mineral Resources

Further drilling of inferred mineral resource blanket on both the Company tenure and the acquisition tenure previously reported[5] has succeeded in reducing the nominal resource drilling pattern down from 400m by 50m to 200m by 50m over 90% of the resource envelope. This data is now being incorporated into and updated resource model that is intended to convert a significant portion of the inferred mineral resource to an indicated category. This should be complete within the December 2019 Quarter.

RC Aircore Drilling Below the Mannar Island Mineral Resources

In August the Company commenced a 550 to 600 hole RC aircore drilling program to test beneath the existing shallow high grade resources above the water table[3]. To date 255 RC aircore drill holes have been completed for a total of 3,048m. Nominal target depth for the program is 12m below surface, which equates to 9 to 10m below the water table and the overlying high-grade resource blanket. The planned program is scheduled for completion in mid-December. The holes completed to date are shown in Figures 4, 5 and 6. Appendix 1 tabulates the drill hole collars, depths, and visual THM assessment. The visual logging determination of THM as not significant, significant and very significant is illustrated in Figure 7. Related JORC compliance information tables are contained in Appendix 2.

Of the 255 RC aircore drill holes completed all but 22 were found to have significant to very significant THM concentration for essentially the entire 12m drill hole (Figure 4). This indicates there is the potential for a major resource underneath the already defined high grade resources above the water table. This is subject to the laboratory results confirming the visual logging of THM%.

Figure 3 The Company owned and operated RC aircore drilling rig in operation Mannar Island Project.

Scoping Study

The Mannar Island Scoping Study is progressing with work beginning on mining and treatment options. The mining options will consider not only dry mining the high-grade surface resource blanket but also the possibility of dredge mining. If dredge mining is shown to be feasible it would have a major positive effect on operating costs and the overall scale of the project.

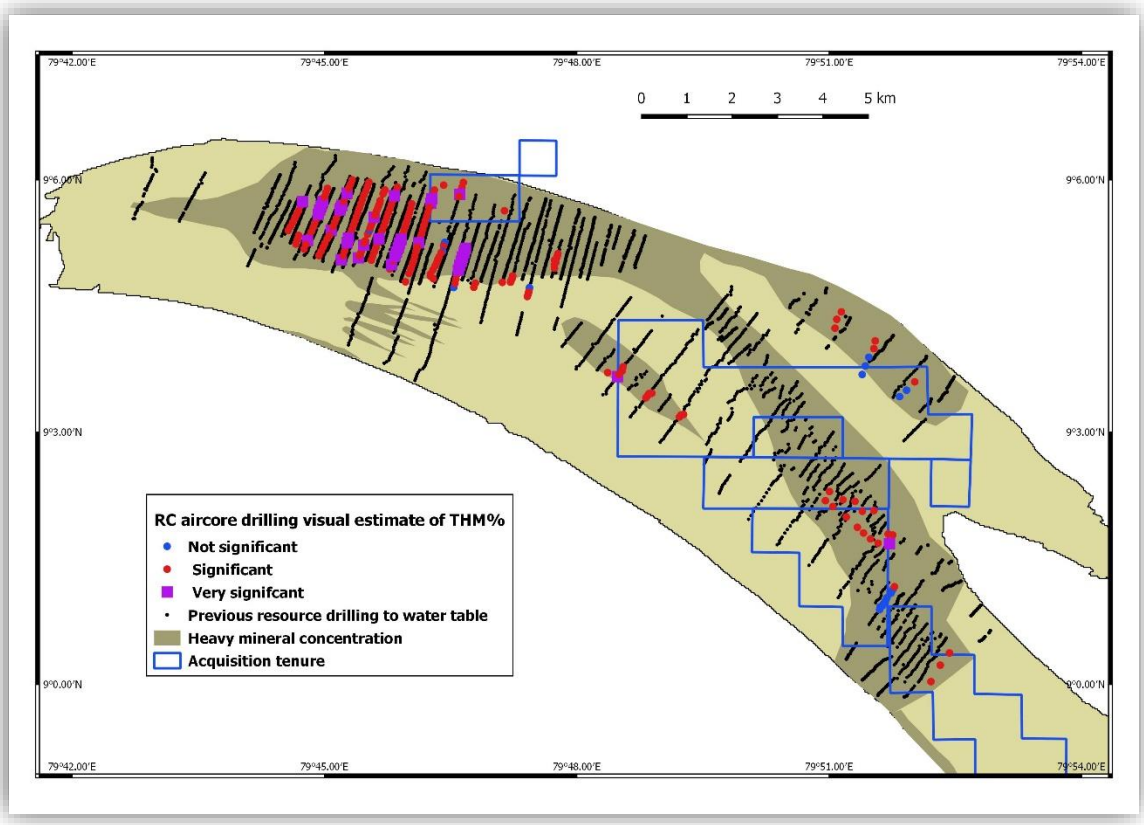


Figure 4 RC aircore drill holes, 255 holes for 3,048m drilled since commencement of the RC aircore drilling program in August. The logging visual assessment of not significant, significant and very significant is illustrated in Appendix 1. Note the visual THM estimates colour coding subject to confirmation by laboratory determinations.

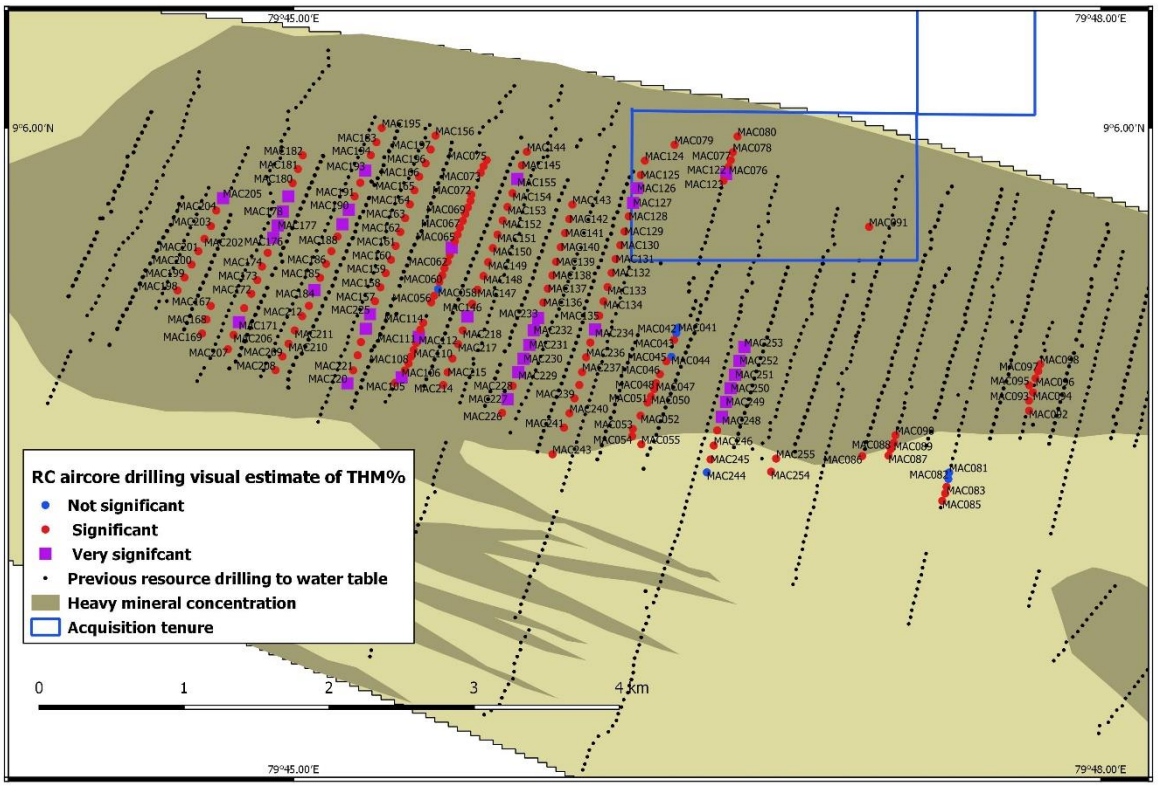


Figure 5 Detailed plan of collar positions in the western area of RC aircore drilling.

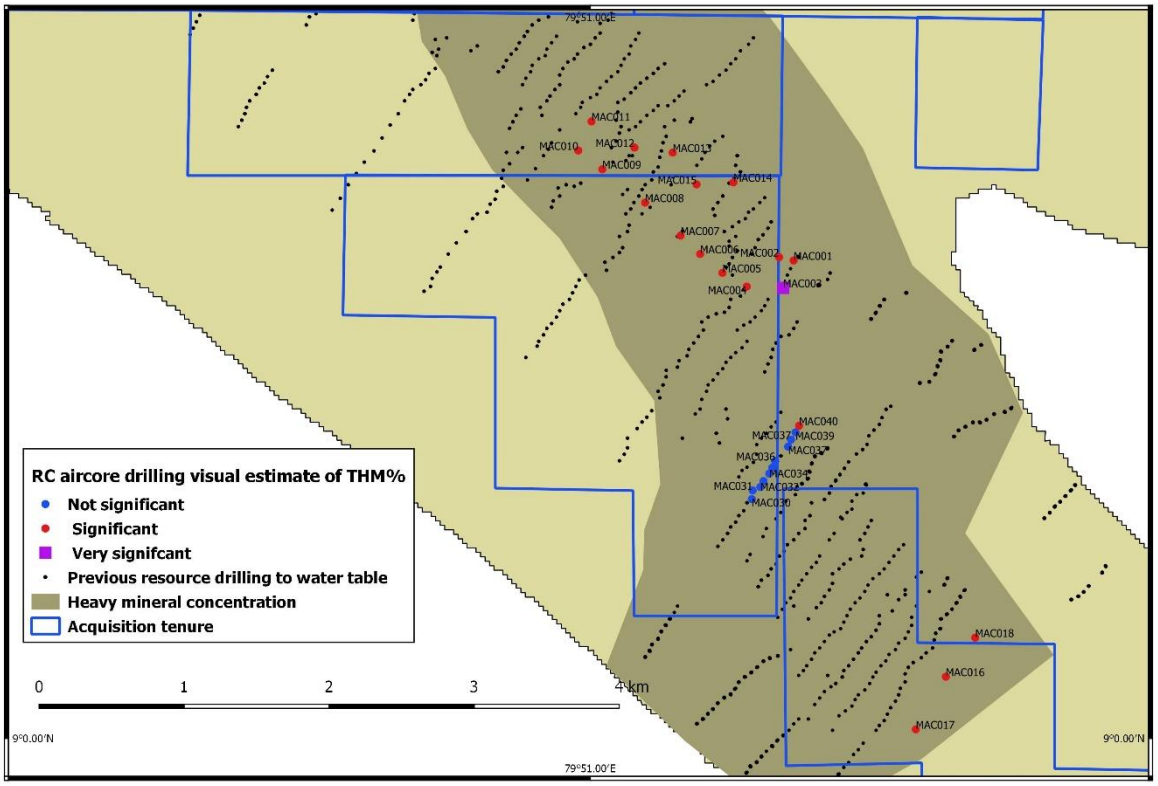


Figure 6 Detailed plan of collar positions in the eastern area of RC aircore drilling.

Figure 7 Visual logging of Total Heavy Mineral, left illustrates THM ''not significant, centre ''significant'' and right ''very significant''.

Tenure

The Company currently has 5 exploration licenses on Mannar Island and the adjacent mainland coast, covering an area of 166 square kilometres (Table 2).

Exploration License #	Location	Area	EL Validity		Interest at Quarter End	Change in Interest During Quarter
			From	To		
EL180/R/3	Mannar Island, Sri Lanka	45 Sq. Km	05.03.2019	04.03.2021	100%	-
EL182/R/3	Mannar Island, Sri Lanka	26 Sq. Km	05.03.2019	04.03.2021	100%	-
EL370	Mannar Island, Sri Lanka	40 Sq. Km	14.12.2017	13.12.2019	100%	-
EL371	Mannar Island, Sri Lanka	4 Sq. Km	26.02.2018	25.02.2020	100%	-
EL372	Mannar Island, Sri Lanka	51 Sq. Km	26.02.2018	25.02.2020	100%	-

Table 2 Current Titanium Sands Ltd tenure.

Competent Persons and Compliance Statements

Except where indicated, exploration and technical information above have been reviewed and compiled by James Searle BSc (hons), PhD, a Competent Person who is a Member of the Australian Institute of Mining and Metallurgy, with over 37 years of experience in metallic and energy minerals exploration and development, and as such has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr Searle is the Managing Director of Titanium Sands Limited and consents to the inclusion of this technical information in the format and context in which it appears.

Previously Reported Information Footnotes

This report includes information that relates to Exploration Results and Mineral Resources prepared and first disclosed under JORC Code 2012. The information was extracted from the Company's previous ASX announcements as follows:

[1] *ASX announcement on the 18 September 2019 of a mineral resource estimate in full compliance with JORC 2012 requirements titled ''High Grade Resource Defined on Proposed Tenure Acquisition.''*

[2] *An ASX announcement on 15 July 2019 titled "Proposed acquisition of tenure with high grade heavy mineral sands".*

[3] *An ASX announcement 27 September 2019 titled "Drilling at Depth Demonstrates Potential".*

[4] *An ASX announcement on11 February 2019 of a mineral resource estimate update in full compliance with JORC 2012 requirements titled "Titanium Sands Triples Heavy Mineral Sands JORC Resources" announced to the ASX.*

[5] *An ASX announcement on 2 April 2019 titled "Mannar Island Mineral Sands Project Drilling Update" announced to the ASX.*

These announcements are available to view on the Company's website www.titaniumsands.com.au

The Company confirms that it is not aware of any new information or data that materially affect the information included in the relevant market announcements and in the case of estimates of the Proposed Tenure Acquisition or the Company's existing Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply with respect to the resource block model and total heavy mineral content and have not materially changed. The Company confirms that the form and context in which the Competent Persons' findings are presented have not been materially modified from the relevant original market announcements.

Forward-Looking Statements

This document may include forward-looking statements. Forward-looking statements include, but are not limited to, statements concerning the Company's planned exploration program and other statements that are not historical facts. When used in this document, the words such as "could," "plan," "expect," "intend," "may", "potential," "should,", "further" and similar expressions are forward-looking statements. Although the Company believes that its expectations reflected in these forward- looking statements are reasonable, such statements involve risks and uncertainties and no assurance can be given that further exploration will result in additional Mineral Resources.

Appendix 1 Tabulation of RC aircore holes completed to date since commencement in early August 2019.

Drill hole no.	Northing degWGS84	Easting deg WGS84	Total depth	Visual THM concentration
MAC001	9.02961	79.86259	9.7	Significant
MAC002	9.02981	79.86169	12	Significant
MAC003	9.02791	79.86194	8.7	Very significant
MAC004	9.02799	79.85969	10	Significant
MAC005	9.02884	79.85818	12	Significant
MAC006	9.03001	79.8568	9	Significant
MAC007	9.03115	79.85559	12	Significant
MAC008	9.03319	79.85339	12	Significant
MAC009	9.03526	79.85074	12	Significant
MAC010	9.03642	79.84925	12	Significant
MAC011	9.03822	79.85007	12	Significant
MAC012	9.0366	79.85273	12	Significant
MAC013	9.03629	79.8551	12	Significant
MAC014	9.03445	79.85886	12	Significant
MAC015	9.03432	79.85658	11	Significant
MAC016	9.00382	79.87202	12	Significant
MAC017	9.00056	79.87016	12	Significant
MAC018	9.00624	79.87384	12	Significant
MAC019	9.05997	79.86695	12	Significant
MAC020	9.05831	79.86534	12	Very significant
MAC021	9.05704	79.86395	12	Very significant
MAC022	9.06809	79.85912	12	Significant
MAC023	9.06656	79.85886	12	Significant
MAC024	9.06484	79.85785	12	Not sig.
MAC025	9.06313	79.85716	12	Not sig.
MAC026	9.06143	79.85654	12	Not sig.
MAC027	9.07384	79.85241	12	Significant
MAC028	9.07236	79.8515	12	Significant
MAC029	9.07061	79.85116	12	Significant
MAC030	9.01482	79.86	12	Not sig.
MAC031	9.01536	79.86005	12	Not sig.
MAC032	9.01557	79.86053	12	Not sig.
MAC033	9.01594	79.86073	12	Not sig.
MAC034	9.0164	79.86108	12	Not sig.
MAC035	9.01677	79.86127	12	Not sig.
MAC036	9.01718	79.86145	12	Not sig.
MAC037	9.01807	79.86225	12	Not sig.
MAC037	9.01851	79.86243	12	Not sig.
MAC039	9.01896	79.86271	12	Not sig.
MAC040	9.01937	79.86293	12	Significant
MAC041	9.08763	79.77382	12	Not sig.
MAC042	9.0873	79.77371	12	Not sig.
MAC043	9.08688	79.77357	12	Significant

MAC044	9.08583	79.7734	12	Not sig.
MAC045	9.08555	79.77309	12	Significant
MAC046	9.08475	79.77269	12	Significant
MAC047	9.08419	79.77245	12	Significant
MAC048	9.08383	79.77234	12	Significant
MAC049	9.06297	79.80917	12	Significant
MAC050	9.08337	79.77214	12	Significant
MAC051	9.08299	79.77193	12	Significant
MAC052	9.08218	79.77149	12	Significant
MAC053	9.08136	79.77101	12	Significant
MAC054	9.08091	79.77097	12	Significant
MAC055	9.08041	79.77154	12	Significant
MAC056	9.0892	79.75852	12	Significant
MAC057	9.08961	79.75871	12	Significant
MAC058	9.09002	79.75895	12	Not sig.
MAC059	9.09047	79.75903	12	Significant
MAC060	9.09087	79.75921	12	Significant
MAC061	9.09131	79.75935	12	Significant
MAC062	9.09172	79.75954	12	Significant
MAC063	9.09213	79.75968	12	Significant
MAC064	9.09259	79.7598	12	Very significant
MAC065	9.09299	79.75999	12	Significant
MAC066	9.0934	79.76016	12	Significant
MAC067	9.09383	79.7603	12	Significant
MAC068	9.09425	79.76048	12	Significant
MAC069	9.09468	79.76064	12	Significant
MAC070	9.09508	79.7608	12	Significant
MAC071	9.09549	79.76096	12	Significant
MAC072	9.09588	79.76101	12	Significant
MAC073	9.09723	79.76159	12	Significant
MAC074	9.09763	79.76176	12	Significant
MAC075	9.09801	79.76196	12	Significant
MAC076	9.0976	79.77695	12	Significant
MAC077	9.09801	79.77708	12	Significant
MAC078	9.0985	79.77721	12	Significant
MAC079	9.09896	79.7736	12	Significant
MAC080	9.09948	79.7775	12	Significant
MAC081	9.07866	79.79061	12	Not sig.
MAC082	9.07826	79.79056	12	Not sig.
MAC083	9.07777	79.79045	12	Significant
MAC084	9.07736	79.79036	12	Significant
MAC085	9.0769	79.79018	12	Significant
MAC086	9.07968	79.78522	12	Significant
MAC087	9.07971	79.78685	12	Significant
MAC088	9.08011	79.78699	12	Significant
MAC089	9.0805	79.78718	12	Significant

MAC090	9.08097	79.78728	12	Significant
MAC091	9.09388	79.78565	12	Significant
MAC092	9.08249	79.79556	12	Significant
MAC093	9.08311	79.79555	12	Significant
MAC094	9.08362	79.7958	12	Significant
MAC095	9.08406	79.79557	12	Significant
MAC096	9.08449	79.79596	12	Significant
MAC097	9.08494	79.79613	12	Significant
MAC098	9.08537	79.79625	12	Significant
MAC099	9.06071	79.80778	12	Significant
MAC100	9.06102	79.80805	12	Very significant
MAC101	9.06144	79.8083	12	Significant
MAC102	9.0618	79.8061	12	Significant
MAC103	9.06213	79.80896	12	Significant
MAC104	9.06258	79.80904	12	Significant
MAC105	9.08422	79.7563	12	Significant
MAC106	9.08456	79.75669	12	Very significant
MAC107	9.08498	79.75689	12	Significant
MAC108	9.08541	79.75712	12	Significant
MAC109	9.08584	79.75727	12	Significant
MAC110	9.08625	79.75744	12	Significant
MAC111	9.08668	79.75759	12	Significant
MAC112	9.08707	79.75776	12	Very significant
MAC113	9.08751	79.75785	12	Significant
MAC114	9.08793	79.75803	12	Significant
MAC115	9.05771	79.81486	12	Significant
MAC116	9.05765	79.81428	12	Significant
MAC117	9.05718	79.81396	12	Significant
MAC118	9.05681	79.81367	12	Significant
MAC119	9.05338	79.8206	12	Significant
MAC120	9.05351	79.82115	12	Significant
MAC121	9.05302	79.82034	12	Significant
MAC122	9.09714	79.77679	12	Very significant
MAC123	9.09673	79.77663	12	Significant
MAC124	9.09798	79.77176	12	Significant
MAC125	9.09709	79.77151	12	Significant
MAC126	9.09627	79.77127	12	Very significant
MAC127	9.09536	79.77103	12	Very significant
MAC128	9.09453	79.77076	12	Significant
MAC129	9.09359	79.7705	12	Significant
MAC130	9.09274	79.77024	12	Significant
MAC131	9.09189	79.76995	12	Significant
MAC132	9.09103	79.7697	12	Significant
MAC133	9.09015	79.76945	12	Significant
MAC134	9.08926	79.7692	12	Significant
MAC135	9.08837	79.76893	12	Significant

MAC136	9.08919	79.76547	12	Significant
MAC137	9.09005	79.76575	12	Significant
MAC138	9.09087	79.76603	12	Significant
MAC139	9.09171	79.76626	12	Significant
MAC140	9.09262	79.76655	12	Significant
MAC141	9.09349	79.76682	12	Significant
MAC142	9.09436	79.76708	12	Significant
MAC143	9.09526	79.76727	12	Significant
MAC144	9.09853	79.76445	12	Significant
MAC145	9.09769	79.76414	12	Significant
MAC146	9.08911	79.76106	12	Significant
MAC147	9.08999	79.76139	12	Significant
MAC148	9.09083	79.76176	12	Significant
MAC149	9.09169	79.76205	12	Significant
MAC150	9.09256	79.76234	12	Significant
MAC151	9.0934	79.76263	12	Significant
MAC152	9.09427	79.76295	12	Significant
MAC153	9.09511	79.76325	12	Significant
MAC154	9.09596	79.76356	12	Significant
MAC155	9.09685	79.76386	12	Very significant
MAC156	9.09953	79.75879	12	Significant
MAC157	9.08927	79.75504	12	Significant
MAC158	9.09013	79.75538	12	Significant
MAC159	9.09101	79.75571	12	Significant
MAC160	9.09184	79.75603	12	Significant
MAC161	9.0927	79.75632	12	Significant
MAC162	9.09356	79.75661	12	Significant
MAC163	9.09442	79.75691	12	Significant
MAC164	9.09527	79.7572	12	Significant
MAC165	9.09614	79.75749	12	Significant
MAC166	9.09699	79.75778	12	Significant
MAC167	9.08898	79.74487	12	Significant
MAC168	9.08814	79.74461	12	Significant
MAC169	9.08727	79.74433	12	Significant
MAC170	9.08884	79.74694	12	Significant
MAC171	9.08798	79.74661	12	Very significant
MAC172	9.08973	79.74738	12	Significant
MAC173	9.09058	79.74775	12	Significant
MAC174	9.09142	79.74804	12	Significant
MAC175	9.09227	79.7484	12	Significant
MAC176	9.09319	79.74874	12	Very significant
MAC177	9.09396	79.74902	12	Very significant
MAC178	9.09483	79.74933	12	Very significant
MAC179	9.09577	79.74968	12	Very significant
MAC180	9.09659	79.74994	12	Significant
MAC181	9.09746	79.75027	12	Significant

MAC182	9.09831	79.75057	12	Significant
MAC183	9.09912	79.75513	12	Significant
MAC184	9.08996	79.75129	12	Very significant
MAC185	9.09072	79.75164	12	Significant
MAC186	9.09158	79.75201	12	Significant
MAC187	9.09237	79.75234	12	Significant
MAC188	9.09328	79.75272	12	Significant
MAC189	9.09404	79.75303	12	Very significant
MAC190	9.09494	79.75342	12	Very significant
MAC191	9.09577	79.75378	12	Significant
MAC192	9.09661	79.75413	12	Significant
MAC193	9.09736	79.75444	12	Very significant
MAC194	9.09832	79.75478	12	Significant
MAC195	9.10001	79.75546	12	Significant
MAC196	9.09781	79.75818	12	Significant
MAC197	9.09867	79.75849	12	Significant
MAC198	9.08994	79.74281	12	Significant
MAC199	9.09074	79.74324	12	Significant
MAC200	9.09154	79.74368	12	Significant
MAC201	9.09237	79.7441	12	Significant
MAC202	9.09314	79.74448	12	Significant
MAC203	9.09392	79.74488	12	Significant
MAC204	9.09489	79.74521	12	Significant
MAC205	9.09566	79.74563	12	Very significant
MAC206	9.08719	79.74628	12	Significant
MAC207	9.0863	79.74593	12	Significant
MAC208	9.085	79.74888	12	Significant
MAC209	9.08585	79.74931	12	Significant
MAC210	9.08664	79.74969	12	Significant
MAC211	9.08746	79.75007	12	Significant
MAC212	9.08834	79.75053	12	Significant
MAC213	9.08899	79.75095	12	Significant
MAC214	9.08408	79.75927	12	Significant
MAC215	9.08487	79.75954	12	Significant
MAC216	9.08572	79.75984	12	Significant
MAC217	9.08661	79.76019	12	Significant
MAC218	9.08746	79.76048	12	Significant
MAC219	9.08832	79.76077	12	Very significant
MAC220	9.08419	79.75333	12	Very significant
MAC221	9.08499	79.75369	12	Significant
MAC222	9.08592	79.75397	12	Significant
MAC223	9.08674	79.75417	12	Significant
MAC224	9.08756	79.75447	12	Very significant
MAC225	9.08847	79.75473	12	Very significant
MAC226	9.08235	79.76292	12	Significant
MAC227	9.0832	79.76325	12	Very significant

MAC228	9.08402	79.76357	12	Significant
MAC229	9.08488	79.76392	12	Very significant
MAC230	9.08571	79.76425	12	Very significant
MAC231	9.08657	79.7646	12	Very significant
MAC232	9.08747	79.76487	12	Very significant
MAC233	9.08823	79.76514	12	Very significant
MAC234	9.08752	79.76867	12	Very significant
MAC235	9.08671	79.76838	12	Significant
MAC236	9.0858	79.76812	12	Significant
MAC237	9.08488	79.76787	12	Significant
MAC238	9.08408	79.7677	12	Significant
MAC239	9.08325	79.7674	12	Significant
MAC240	9.08233	79.76709	12	Significant
MAC241	9.08144	79.76675	12	Significant
MAC242	9.76644	79.08065	12	Significant
MAC243	9.07979	79.76604	12	Significant
MAC244	9.07867	79.7756	12	Not sig.
MAC245	9.07947	79.77583	12	Significant
MAC246	9.08033	79.77603	12	Significant
MAC247	9.08127	79.77624	12	Significant
MAC248	9.0821	79.77653	12	Very significant
MAC249	9.08303	79.77678	12	Very significant
MAC250	9.08388	79.77707	12	Very significant
MAC251	9.08471	79.77735	12	Very significant
MAC252	9.08558	79.77762	12	Very significant
MAC253	9.08643	79.77792	12	Very significant
MAC254	9.07871	79.77958	12	Significant
MAC255	9.07952	79.77989	12	Significant

Appendix 2

JORC TABLES sections 1 and 2

The drilling was undertaken by Sri Lankan and South African geologists and a drilling team directed by Dr James Searle Managing Director of The Company, BSc (hons), PhD, a Member of the Australian Institute of Mining and Metallurgy. Dr Searle is responsible for the compiled JORC compliance tabulated below as well as the technical summaries and descriptions contained in the body of this announcement. Dr Searle has over 37 years of experience in metallic and energy minerals exploration and development and has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Dr Searle consents to inclusion of this information in the format and context in which it appears.

Section 1 Sampling Techniques and Data

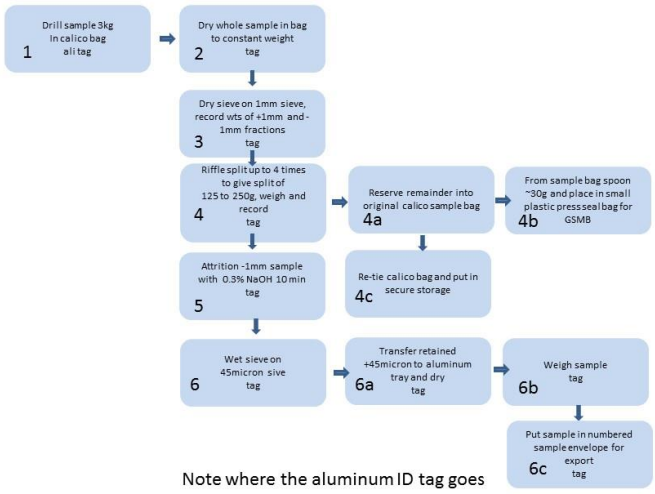
(Criteria in this section apply to all succeeding sections.)

Criteria	Explanation	Commentary
Sampling techniques	• Nature and quality of sampling (e.g. 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.	• 100% of recovered sample collected and bagged at drill site. • Sample interval down hole every 0.5m above the water table and every 1m below the water table or part interval. • No sampling below water table. • Visual logging of heavy mineral content supported by hand lenses, settling bottles and panning dish. • Previous experience indicates that the site geologist can with a high degree of certainty judge if the sample has significant heavy mineral concentration, which in this deposit is considered to be over 2% Total Heavy Mineral

Criteria	Explanation	Commentary
	• Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. • Aspects of the determination of mineralisation that are Material to the Public Report. In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.	

Criteria	Explanation	Commentary
Drilling techniques	• Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. 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.).	• Tractor mounted RC aircore running HQ rods and inner tubes. • Face sampling bit. • Cyclone outlet sample collection. • System air purged each sample interval. • Air supply kept to a minimum to ensure efficient removal of sample from the bit face with minimal surrounding draw. • Sample recoveries for each sample interval noted. • All holes vertical. • Material being drilled unconsolidated to lightly cemented.
Drill sample recovery	• Method of recording and assessing core and chip sample recoveries and results assessed. • Measures taken to maximise sample recovery and ensure representative nature of the samples. • 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.	• Weight of sample recovered logged against estimate of 100% recovery weight. •
Logging	• Whether core and chip samples have been	• Recovered samples logged in standardized format for all relevant visual parameters including sediment, rounding, sorting etc. • Logging of visual parameters qualitative but referenced to standard parameter sheets.

Criteria	Explanation	Commentary
	geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies. • Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. • The total length and percentage of the relevant intersections logged.	• All drill hole samples logged at drill site. • No sampling where water influx created slurrying of sample.
Sub-sampling techniques and sample preparation	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to*	Sample preparation procedures being undertaken: • Dried samples weighed and sieved to remove oversize (>1mm). • Oversize weighed. • Sub sample of 125 to 250g riffle split. • 12 chute riffle splitter. Sample loaded evenly into splitter on top of removable baffle to ensure optimal split across the splitter. • Sample deslimed (<45 micron). • Sample dried to constant weight and reweighed. • Custody chain of samples maintained from drill site to controlled storage.

Criteria	Explanation	Commentary
	maximise representivity of samples. • *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *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.*	The initial drying (at between 80 to 105 degrees C via gas oven), de-sliming and oversize removal was conducted at the site Prep Facility on Mannar Island. The procedures are shown below.  Analytical work on the tetra bromoethane (TBE) based THM determination and subsequent magnetic separation work will be done by Scientific Services C.C., Cape Town. XRF work was done on the fractions of the magnetic separation samples • The determination of THM % sample concentrate using TBE at a specific gravity (SG) of 2.95, are as follows: • TBE is placed into the glass flask up to the indicated mark. • Place approximate 1 scoop of sample into the flask.

Criteria	Explanation	Commentary
	• *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	• Wash down the sides of the flask and impeller with TBE to ensure all material is in the TBE. • Run the mixer for about 10 seconds. • Wash down again to ensure no material is 'hung'. • Run the impeller mixer repeatable in 10 second bursts until sure that all heavies have been liberated. • Allow to stand for 5-10 minutes or until no more material cascades to bottom. • Once the discharge pipe is clear of suspended material release the tube to allow the concentrate to be captured in the filter paper. Store this labeled filter paper. • Process any remaining sample as above ensuring no concentrate is lost. • Finally flush out the floats by opening the tube and allowing the floats to fall into filter paper – allow this to stand capturing all the TBE which will be reused at a later stage. • Wash all concentrates and floats thoroughly with acetone to reclaim as much TBE as possible. • After the concentrate filter is acetone rinsed and dried, transfer the concentrate very carefully into a bag by opening the filter paper ensuring nothing is lost. • Place the floats into the waste drums unless specified by the client to do otherwise. • Check the SG of the TBE with the density tracers provided and re-use as appropriate.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* • *Discuss any adjustment to assay data.*	Verification procedures to be undertaken. 1. Independently supervised repeat drilling will twin between 5 and 10% of holes showing significant heavy mineral mineralisation. 2. One in 20 duplicate samples from splitting and sample preparation submitted for separate analysis.

Criteria	Explanation	Commentary
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• Drill collars located using GPS WGD84 to an accuracy typically of better than + or- 5m • Topographic control to be determined from subsequent DTM tie in.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *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.* • *Whether sample compositing has been applied.*	• Drill hole spacing at this stage has been variable to give initial vectoring of areas of interest. Subsequent RC aircore drilling will be on 50m hole spacing on lines in between the existing shallow auger drilling at 400m and 200m line spacing.
Orientation of data in relation to	• *Whether the orientation of sampling achieves unbiased sampling of*	• Shoreline concentrated heavy minerals when preserved by net coastal progradation seaward form strands of mineralisation that can vary from 10s to hundreds of metres wide but many hundreds or metres and kilometres long. Drill lines are therefore optimally oriented across the trend direction of the

Criteria	Explanation	Commentary
geological structure	*possible structures and the extent to which this is known, considering the deposit type.* • *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.*	paleo shoreline positions. Drill hole spacing along the lines were designed to find HM strands as narrow as 25 to 50m wide. Separation of the drill lines along the paleo shoreline orientations reflects the much greater along shore dimensions of any potentially economic strands. • The RC aircore drilling below the dune and strand line deposit is intersecting near beach and nearshore shallow water current sorted and concentrated heavy mineral bearing sands.and silts.
Sample security	• *The measures taken to ensure sample security.*	• Custody of samples documented, and integrity of packaging monitored.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Duplicated sample splits and samples from twinned holes will be used to demonstrate QA/QC

Section 2 Reporting of Exploration Results

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

Criteria	Explanation	
Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.* • *The security of the tenure held at the time of reporting along with any*	• Granted exploration licenses. • 5% royalty to vendor. • 7% state royalty regime.

Criteria	Explanation	
	known impediments to obtaining a licence to operate in the area.	
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Acknowledged in referenced announcements.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• Holocene to Modern coastal sand deposit hosted heavy mineral sands

Drill hole Information	• *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:*
	  • *easting and northing of the drill hole collar*
	  • *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  • *dip and azimuth of the hole*
	  • *down hole length and interception depth*
	  • *hole length.*
	• *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.*
		• Tabulation of all drill hole information contained within Appendix 1 of the announcement above, with the exception of RL which will be provided later when a DTM is available. At this time collar elevation is considered not material due to the lack of significant elevation changes over the area.

Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* • *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.*	• Intercepts calculated on the basis of total heavy mineral grades greater than or equal to visually estimated 2% total heavy mineral. • No aggregation of sub grade results into reported intercepts.

Criteria	Explanation	
	• *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	• Heavy mineral zones in beach sediments are flat or only very shallowly dipping. All drill holes were vertical.
Diagrams	• *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.*	• Plans of drill hole locations historical and subject of this announcement are provided. • Sectional representations above showing the relationship of previously defined near surface resources and the current RC aircore drilling..
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced avoiding misleading reporting of Exploration Results.*	• All holes being reported on drilled on the stated tenure with locations shown in Figures 1 in the main text of the announcement. Collar positions and intercepts listed in Appendix 1
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey 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.*	• Not applicable.
Further work	• *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions,*	• Further drilling will test further lateral and depth extensions of the areas of mineralisation defined to date. • Shown in the figures and maps in the main body of the announcement

Criteria	Explanation	
	including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.	