



12 August 2021

98 Hole Drilling Program & Bathymetric Survey Study successfully completed for Cape Flattery Silica Sands Project

Key highlights

- Approximately 1,700m of drilling completed
- 1,610 drill samples sent to ALS laboratory in Townsville with assay results expected in Q4 2021
- Further metallurgical studies on the silica sand samples to commence in Q4 2021
- Bathymetric survey work completed to understand water depth levels and locations for potential jetty and swing basins for loading of large ships
- Detailed LiDAR topographic survey completed on project area

Metallica Minerals Limited (**Metallica**, ASX: MLM) is pleased to announce that it has successfully completed a ninety-eight (98) hole infill and step-out drilling program on the 100% owned subsidiary Cape Flattery Silica Pty Ltd (CFS) project. These holes were drilled within the CFS Eastern Target Area using a vacuum-based drill rig (see figure 4 on page 3). The combined database for the CFS Project now comprises 120 drill holes. The drilling was undertaken following signing of Aboriginal Cultural Heritage Agreements (see ASX release: 31 March 2021 “Key Cultural Heritage Agreements signed with Traditional Land Owners of Cape Flattery Silica Sand Project”).

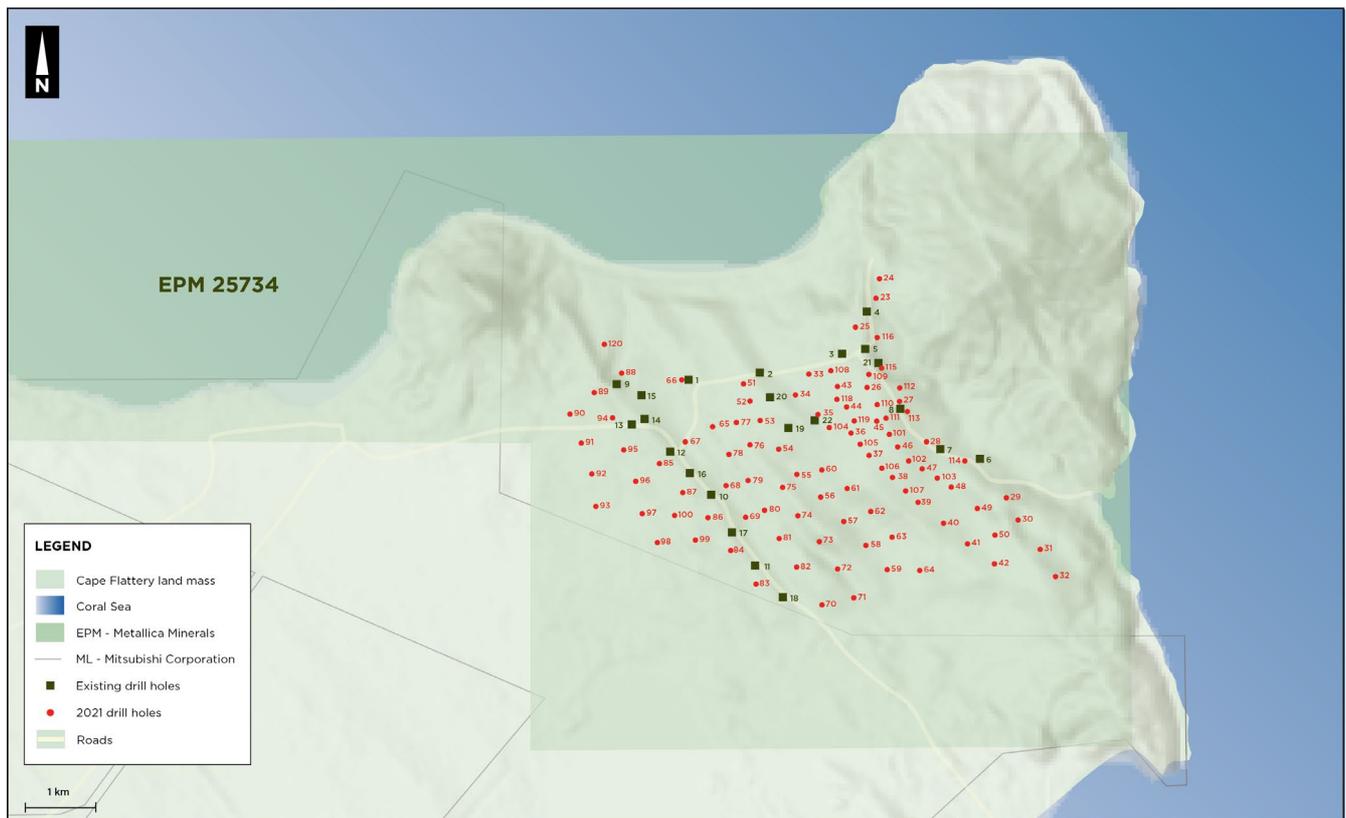


Figure 1: Drill hole location map in the Project's resource area, with Metallica's December 2020 drill holes shown in dark green and the July/August 2021 program drill holes shown in red

Metallica Executive Chairman, Theo Psaros said “our initial plan was to drill up to eighty-four (84) holes. We are very pleased that our team, including representatives from Hopevale Congress and Walmbaar Aboriginal Corporation worked very efficiently to support the completion of the additional holes. The combination of infill and step out drilling will give us significantly more understanding of the silica sand resource. We continue to be encouraged from the visual inspection of the samples extracted showing a high proportion of clean white sand.”

A number of chip tray samples are shown in Figure 2 below. These three (3) samples from the 98 hole program show a high proportion of clean white sand.

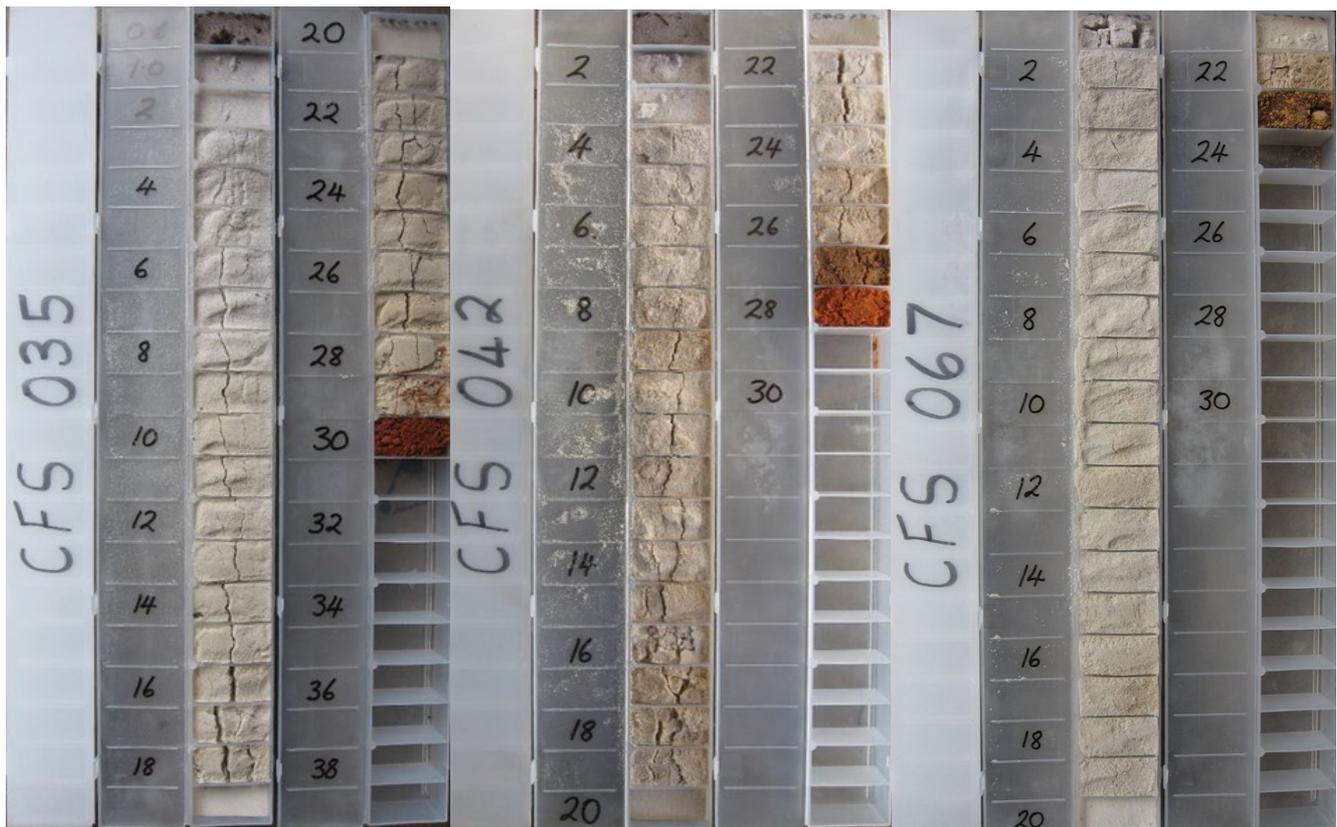


Figure 2: Photos of Chip tray samples from 3 drill holes with white sand (one metre intervals) from July/August 2021 drilling program

Mr Psaros added “we now turn our attention to non-field activities while the drilling samples are being assessed by ALS. We are very keen to progress our planning for the environmental studies and will resume discussions with the Traditional Land Owners to complete further cultural heritage and other Native Title agreements.”

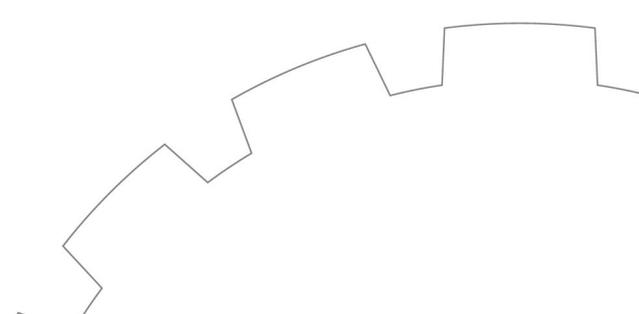
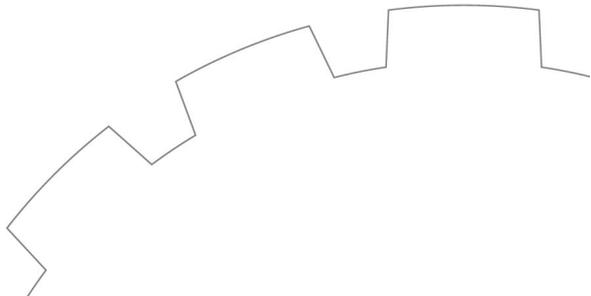




Figure 3: Sample bags with white sand collected from drilling during the July/August 2020 Cape Flattery drill program



Figure 4: Aerial photo of Yearlong Contractors vacuum-based drill rig working at CFS project with Mitsubishi silica sand operations in the background



Bathymetry Survey studies completed

Metallica has also joined Ports North in a study of the water depth levels at the potential locations of the jetty and swing basins within the designated Port area of Cape Flattery. The water depth level near the planned jetty location (see map below) will help determine the potential length and location of this proposed jetty. The survey work further out within the port boundary will assist in identifying the likely location of a swing basin for the loading of larger ships for export.



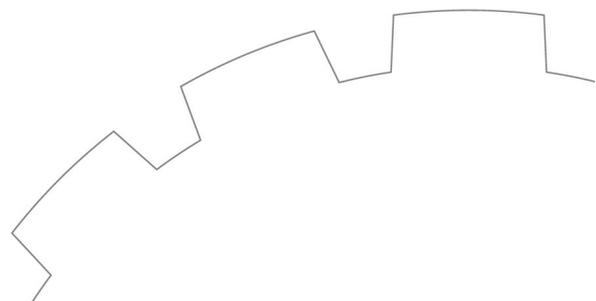
Figure 5: Metallica's EPM 25734 location and orientation at Cape Flattery and within the Cape Flattery Port limit

LiDAR Detailed Topographic Survey

The LiDAR topographic survey for the Cape Flattery Silica Project was completed over two days on the 30th and 31st of July. It involved a combination of aerial capture (via aeroplane) by Aerometrex with ground control (survey team on the ground) carried out by Brazier Motti. Processing for this data is set for completion within the next week.

The data collected from the LiDAR survey will be used to create a highly accurate Digital Elevation Model (DEM) that will be used for planning precise engineering and infrastructure arrangements e.g., road/conveyor placement, culvert crossings, jetty placement and camp location. The DEM will also help to increase accuracy and confidence of the Mineral Resource Model.

This survey also included photogrammetry capture that, when paired with the DEM, will provide an up-to-date draped photo view of the lease that is in high resolution.



About the Cape Flattery Silica Sand (CFS) Project

Metallica’s 100% owned Cape Flattery Silica Sands (CFS) project is adjacent to the world class Cape Flattery Silica Sand mining and shipping operation owned by Mitsubishi. Exploration drilling to date has now confirmed that the sand dunes within EPM 25734 contain high purity silica sands with an in-situ quality which is understood to be comparable to Mitsubishi’s Cape Flattery Silica Mine.

On 2 March 2021, the Company released an upgraded resource in the CFS Eastern Resource Area estimated and summarised in Table 1, as follows (see ASX Release: 2 March 2021 titled “38 Mt of High Purity Silica Sand Resource at Cape Flattery Silica Sands Project”).

Classification	Silica Sand (Mt)	Silica Sand (Mm ³)	Density (t/m ³)	SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	TiO ₂ %	LOI %
Indicated Resource	5.4	3.4	1.6	99.1	0.04	0.09	0.13	0.13
Inferred Resource	32.9	20.5	1.6	99.0	0.07	0.12	0.15	0.11
Total	38.3	23.9	1.6	99.0	0.06	0.12	0.15	0.12

¹ Table 1 – EASTERN RESOURCE Area Cape Flattery Silica Project

The Resource has been prepared in accordance with the JORC Code 2012 – A cut-off grade 98.5% has been defined based on the surrounding data. These results show there is good potential to produce a premium grade silica product using standard processing techniques.

On 15 June 2021 the Company announced that it had lodged a Mine Lease Application (MLA) for the project (see map below and ASX release MLA lodged for Cape Flattery Silica).

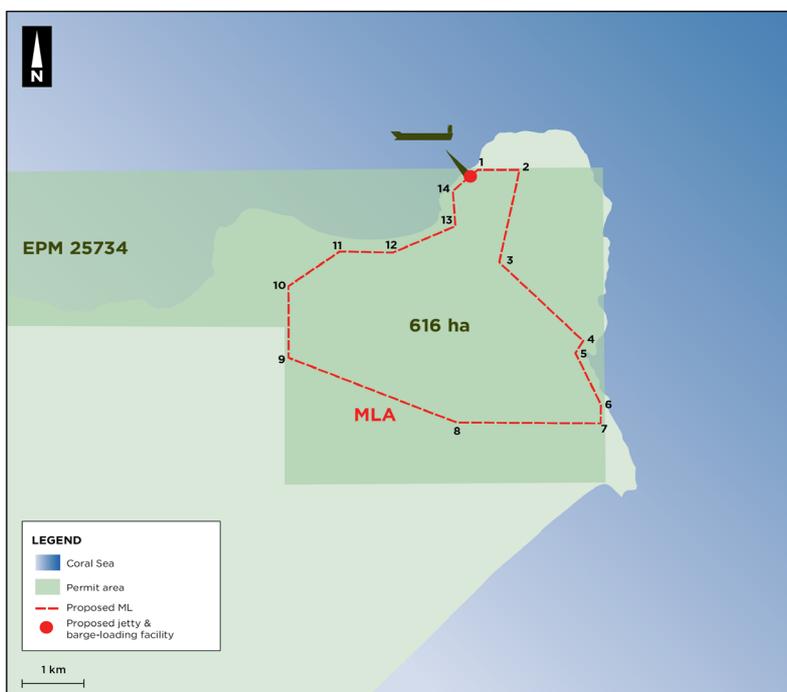


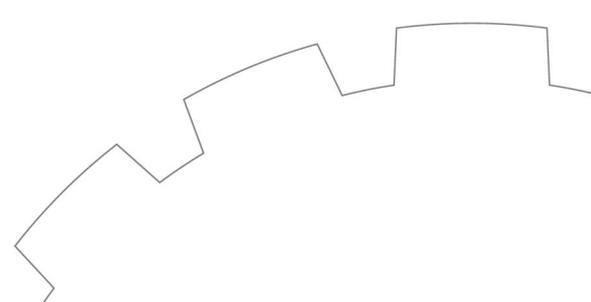
Figure 6: Cape Flattery Silica Sand project MLA area boundary and EPM

On 22 June 2021 the Company released the first metallurgy test results on samples taken from the December 2020 drilling program. The bulk sample metallurgical testing confirmed high quality silica sand product and demonstrated a low contaminant product with an attractive narrow particle size distribution can be produced at a high yield. The test work produced a product with 99.8% SiO₂, 170ppm Fe₂O₃ and 450ppm Al₂O₃ and further work included successful test of process to reduce Fe₂O₃ from 170ppm to 70ppm Fe₂O₃ (see ASX release: “Excellent Metallurgical Test Results on Cape Flattery Silica”).

Table 1: July/August Drilling Collar Details

	<u>Hole ID</u>	<u>Northing</u>	<u>Easting</u>	<u>Relative Level</u>	<u>Total Depth</u>	<u>Project Area</u>
1	CFS023	8345671	321127	95	14	Eastern Target Area
2	CFS024	8345790	321147	96	17	Eastern Target Area
3	CFS025	8345441	320898	78	19	Eastern Target Area
4	CFS026	8345131	321077	94	21	Eastern Target Area
5	CFS027	8345048	321274	95	20	Eastern Target Area
6	CFS028	8344804	321439	70	30	Eastern Target Area
7	CFS029	8344469	321925	75	19	Eastern Target Area
8	CFS030	8344335	321997	76	29	Eastern Target Area
9	CFS031	8344158	322132	88	28	Eastern Target Area
10	CFS032	8343994	322226	97	30	Eastern Target Area
11	CFS033	8345209	320724	71	11	Eastern Target Area
12	CFS034	8345082	320644	100	20	Eastern Target Area
13	CFS035	8344965	320781	101	30	Eastern Target Area
14	CFS036	8344854	320982	83	12	Eastern Target Area
15	CFS037	8344719	321092	78	13	Eastern Target Area
16	CFS038	8344587	321235	80	14	Eastern Target Area
17	CFS039	8344438	321391	66	23	Eastern Target Area
18	CFS040	8344312	321546	64	18	Eastern Target Area
19	CFS041	8344188	321692	58	13	Eastern Target Area
20	CFS042	8344069	321856	68	28	Eastern Target Area
21	CFS043	8345135	320898	55	12	Eastern Target Area
22	CFS044	8345012	320954	93	10	Eastern Target Area
23	CFS045	8344926	321137	90	14	Eastern Target Area
24	CFS046	8344774	321265	89	26	Eastern Target Area
25	CFS047	8344641	321414	70	21	Eastern Target Area
26	CFS048	8344532	321591	51	11	Eastern Target Area
27	CFS049	8344403	321750	34	10	Eastern Target Area
28	CFS050	8344241	321858	49	24	Eastern Target Area
29	CFS051	8345146	320329	66	9	Eastern Target Area
30	CFS052	8345043	320369	68	6	Eastern Target Area
31	CFS053	8344926	320432	76	11	Eastern Target Area
32	CFS054	8344753	320545	75	17	Eastern Target Area
33	CFS055	8344601	320656	71	17	Eastern Target Area
34	CFS056	8344465	320801	76	14	Eastern Target Area
35	CFS057	8344318	320942	73	15	Eastern Target Area
36	CFS058	8344174	321077	52	35	Eastern Target Area
37	CFS059	8344027	321207	41	20	Eastern Target Area
38	CFS060	8344629	320807	56	19	Eastern Target Area
39	CFS061	8344518	320961	44	13	Eastern Target Area
40	CFS062	8344380	321105	36	22	Eastern Target Area
41	CFS063	8344225	321235	31	11	Eastern Target Area
42	CFS064	8344025	321404	25	11	Eastern Target Area
43	CFS065	8344886	320144	54	8	Eastern Target Area
44	CFS066	8345169	319955	55	17	Eastern Target Area
45	CFS067	8344793	319980	78	23	Eastern Target Area
46	CFS068	8344530	320228	61	14	Eastern Target Area

	Hole ID	Northing	Easting	RL	TD	Project Area
47	CFS069	8344339	320348	51	15	Eastern Target Area
48	CFS070	8343812	320815	22	5	Eastern Target Area
49	CFS071	8343856	321006	24	8.5	Eastern Target Area
50	CFS072	8344030	320907	51	14	Eastern Target Area
51	CFS073	8344195	320795	47	32.5	Eastern Target Area
52	CFS074	8344351	320664	56	30	Eastern Target Area
53	CFS075	8344522	320570	51	19	Eastern Target Area
54	CFS076	8344778	320371	61	14	Eastern Target Area
55	CFS077	8344913	320287	60	15	Eastern Target Area
56	CFS078	8344719	320244	63	16.5	Eastern Target Area
57	CFS079	8344562	320361	43	12	Eastern Target Area
58	CFS080	8344384	320462	40	13	Eastern Target Area
59	CFS081	8344212	320552	27	11	Eastern Target Area
60	CFS082	8344040	320659	24	10	Eastern Target Area
61	CFS083	8343935	320414	29	4	Eastern Target Area
62	CFS084	8344137	320259	41	11	Eastern Target Area
63	CFS085	8344660	319824	56	18	Eastern Target Area
64	CFS086	8344335	320120	48	12	Eastern Target Area
65	CFS087	8344486	319966	55	35.5	Eastern Target Area
66	CFS088	8345206	319591	93	19	Eastern Target Area
67	CFS089	8345087	319426	67	9	Eastern Target Area
68	CFS090	8344956	319280	54	27	Eastern Target Area
69	CFS091	8344781	319350	45	15	Eastern Target Area
70	CFS092	8344594	319415	38	23	Eastern Target Area
71	CFS093	8344398	319441	34	11	Eastern Target Area
72	CFS094	8344932	319538	61	14	Eastern Target Area
73	CFS095	8344741	319607	55	8	Eastern Target Area
74	CFS096	8344552	319681	42	8	Eastern Target Area
75	CFS097	8344356	319722	33	8	Eastern Target Area
76	CFS098	8344181	319815	30	9	Eastern Target Area
77	CFS099	8344199	320045	45	15	Eastern Target Area
78	CFS100	8344347	319918	43	11	Eastern Target Area
79	CFS101	8344848	321214	83	16	Eastern Target Area
80	CFS102	8344688	321332	69	14	Eastern Target Area
81	CFS103	8344584	321506	48	27	Eastern Target Area
82	CFS104	8344886	320850	92	28	Eastern Target Area
83	CFS105	8344787	321038	80	18	Eastern Target Area
84	CFS106	8344642	321170	81	22	Eastern Target Area
85	CFS107	8344506	321315	73	10	Eastern Target Area
86	CFS108	8345229	320857	85	11	Eastern Target Area
87	CFS109	8345210	321087	93	26	Eastern Target Area
88	CFS110	8345027	321139	88	16	Eastern Target Area
89	CFS111	8344945	321193	91	18	Eastern Target Area
90	CFS112	8345130	321275	96	20	Eastern Target Area
91	CFS113	8344987	321322	91	16	Eastern Target Area
92	CFS114	8344690	321672	53	11	Eastern Target Area
93	CFS115	8345250	321164	100	26	Eastern Target Area
94	CFS116	8345434	321136	92	10	Eastern Target Area
95	CFS117	8345494	321004	88	9	Eastern Target Area
96	CFS118	8345057	320895	93	12	Eastern Target Area
97	CFS119	8344926	321001	89	14	Eastern Target Area
98	CFS120	8345380	319485	74	19	Eastern Target Area



Competent Person Statements

The information in this announcement that relates to the Cape Flattery Silica Sand Project-Eastern Exploration Target and this Resource Estimation was based on results and data collected and compiled by Mr Neil Mackenzie-Forbes, who is a Member of the Institute of Geoscientists and is a Consulting Geologist employed by Sebrof Projects Pty Ltd and engaged by Metallica Minerals Ltd. Mr Mackenzie-Forbes has more than 20 years mining and exploration experience in Australia with major mining and junior exploration companies. Mr Neil Mackenzie-Forbes consents to the inclusion of this information in the form and context in which it appears in this release/report.

The information in this announcement that relates to the Cape Flattery Silica Sand Project - Eastern Resource Area is based on information and modeling undertaken by Mr Chris Ainslie, Geotechnical Engineer, who is a full-time employee of Ausrocks Pty Ltd and a Member of the Australasian Institute of Mining & Metallurgy. The work was supervised by Mr Carl Morandy, Mining Engineer who is Managing Director of Ausrocks Pty Ltd and a Member of the Australasian Institute of Mining & Metallurgy and also by Mr Brice Mutton who is a Senior Associate Geologist for Ausrocks Pty Ltd. Mr Mutton is a Fellow of the Australasian Institute of Mining & Metallurgy and a Fellow of the Australian Institute of Geoscientists. Mr Morandy and Mr Ainslie and Mr Mutton are employed by Ausrocks Pty Ltd who have been engaged by Metallica Minerals Ltd to prepare this independent report, there is no conflict of interest between the parties. Mr Morandy, Mr Ainslie and Mr Mutton consent to the disclosure of information in the form and context in which it appears in this release/report.

The overall resource work for the Cape Flattery Silica Sand Project - Eastern Resource Area is based on the direction and supervision of Mr Mutton who has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves".

The technical information in this report that relates to process metallurgy is based on information reviewed by Arno Kruger (MAusIMM) and work completed by IHC Mining. Mr Kruger is a metallurgical consultant and an employee of IHC Mining. Mr Kruger has sufficient experience that is relevant to the type of processing under consideration and to the activity being undertaken to qualify as a Competent Person as defined by the JORC Code 2012. Mr Kruger consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Forward-looking statements

Forward-looking statements are based on assumptions regarding Metallica, business strategies, plans and objectives of the Company for future operations and development and the environment in which Metallica may operate.

Forward-looking statements are based on current views, expectations and beliefs as at the date they are expressed and which are subject to various risks and uncertainties. Actual results, performance or achievements of Metallica could be materially different from those expressed in, or implied by, these forward-looking statements. The forward-looking statements contained in this presentation are not guarantees or assurances of future performance and involve known and unknown risks, uncertainties and other factors, many of which are beyond the control of Metallica, which may cause the actual results, performance or achievements of Metallica to differ materially from those expressed or implied by the forward-looking statements. For example, the factors that are likely to affect the results of Metallica include general economic conditions in Australia and globally; ability for Metallica to fund its activities; exchange rates; production levels or rates; demand for Metallica's products, competition in the markets in which Metallica does and will operate; and the inherent regulatory risks in the businesses of Metallica. Given these uncertainties, readers are cautioned to not place undue reliance on such forward-looking statements.