BLACK CANYON

ASX Announcement

13 July 2022 ASX:BCA

Flanagan Bore Mineral Resource infill and extension drilling completed

HIGHLIGHTS

- **Reverse circulation (RC) drilling program completed at Flanagan Bore to infill and extend the existing Indicated Mineral Resource of 104Mt @ 10.5% (11Mt of contained manganese) at the FB3 and LR1 deposits**
- **The infill drilling targeted higher-grade zones at FB3 and LR1 deposits totalling 33Mt @ 12.8% Mn with the objective of upgrading current Indicated Mineral Resource to higher confidence Measured classification**
- **Extension drilling completed along strike between the FB3 and LR1 deposits, was successful in delineating additional manganese enriched shale hosted mineralisation**
- **Acid leaching testwork commenced on manganese enriched samples from Flanagan Bore to determine manganese solubility - a key step in the downstream generation of manganese sulphate and a precursor product for cathodes within Li ion batteries**

Australian manganese explorer, Black Canyon Limited (**Black Canyon** or the **Company**) (ASX:BCA), is pleased to announce it has completed drilling 7,534m of RC drilling as part of an infill and extensional drilling program across the previously announced Mineral Resource at Flanagan Bore comprising **104Mt @ 10.5% Mn (Indicated**) containing **11Mt of manganese** (Table 1).

The infill drill program was designed to focus on an outcropping high-grade manganese subset of the Mineral Resource estimate, comprising **33Mt @ 12.8% Mn** (Table 2) across the FB3 and LR1 deposits. The drill program also evaluated the potential of the strike between FB3 and LR1 deposits and yielded promising results as additional shale enriched manganese mineralisation was intersected. Assays are pending.

Black Canyon Executive Director, Brendan Cummins, said: *"The fast-tracked drill program completed at Flanagan Bore will provide additional tonnage potential from both the FB3 and LR1 deposits with manganese mineralisation now successfully identified between the two deposits. The infill drill results should also enable an upgrade in mineral resource confidence classification from the current Indicated to Measured status which can be used for detailed feasibility studies".*

"The Company is also advancing metallurgical studies with acid leaching testwork applied to manganese concentrates derived from the Flanagan Bore deposits. This initial leaching testwork is a crucial first step

for the Company as it embarks on a larger program of producing manganese sulphate – a critical precursor material for nickel-cobalt-manganese cathodes used in Li ion batteries".

Table 1. Global Mineral Resource estimate for the FB3 and LR1 deposits at Flanagan Bore April 2022*

Summary of Mineral Resources[1]								
Deposit	Mineral Resource Category	Material (Mt)	In Situ Mn (Mt)	BD (gcm3)	Mn (%)	Fe (%)	Si (%)	Al (%)
FB3	Indicated	67	7	2.4	10.4	10.3	17.6	4.5
LR1	Indicated	37	4	2.4	10.8	8.9	18.3	5.0
Grand Total		**104**	**11**	**2.4**	**10.5**	**9.8**	**17.9**	**4.7**
Notes:								
(1) Mineral resources reported at a cut-off grade of 7% Mn								

* refer to ASX Announcement 13 April 2022 for further details

Table 2. Higher-grade Zone Mineral Resource estimate from the FB3 and LR1 deposits at Flanagan Bore April 2022*

Summary of Mineral Resources[1]								
Deposit	Mineral Resource Category	Material (Mt)	In Situ Mn (Mt)	BD (gcm3)	Mn (%)	Fe (%)	Si (%)	Al (%)
FB3	Indicated	19	2	2.4	12.7	11.5	18.5	4.6
LR1	Indicated	15	2	2.4	12.9	9.9	18.4	4.9
Grand Total		**33**	**4**	**2.4**	**12.8**	**10.8**	**18.5**	**4.8**
Notes:								
(1) Mineral resources reported at a cut-off grade of 11% Mn								

* refer to ASX Announcement 13 April 2022 for further details

Flanagan Bore is part of the Company's Carawine JV and is subject to a farm-in and joint venture agreement with Carawine Resources Ltd (ASX:CWX). Having earned a 51% interest, Black Canyon is now earning up to 75% in the Carawine Project tenements by sole-funding an additional $2.5m of exploration expenditure. The Flanagan Bore Project is located approximately 400 km southeast of Port Hedland in the east Pilbara region of Western Australia.

As a result of the completed RC drill program (181 holes for 7,534m), the overall drill spacing at FB3 and LR1 has been reduced from 200m spaced lines and 100m centred holes to 100m spaced lines and 100m centred holes. Significantly, the doubling of the drill density should enable the current Indicated classified Mineral Resources to be upgraded to Measured, which is suitable for detailed feasibility and associated mining and processing studies. No further mineral resource drilling is required once Measured Mineral Resources have been estimated. In addition, all of the project drill collars have now been located using highly accurate differential global positioning system (DGPS) and the December 2021 drill holes have also been down-hole surveyed for density, gamma and magnetic susceptibility. The down-hole data will be used with more detailed geological domaining and interpretation.

Three additional manganese-enriched shale targets were also successfully drilled along 2km of strike connecting the FB3 and LR1 deposits, and mineralisation was confirmed at the FB2 and FB6 prospects (Figure 1).

Assays are pending and expected to be received over the next 2 to 3 months.

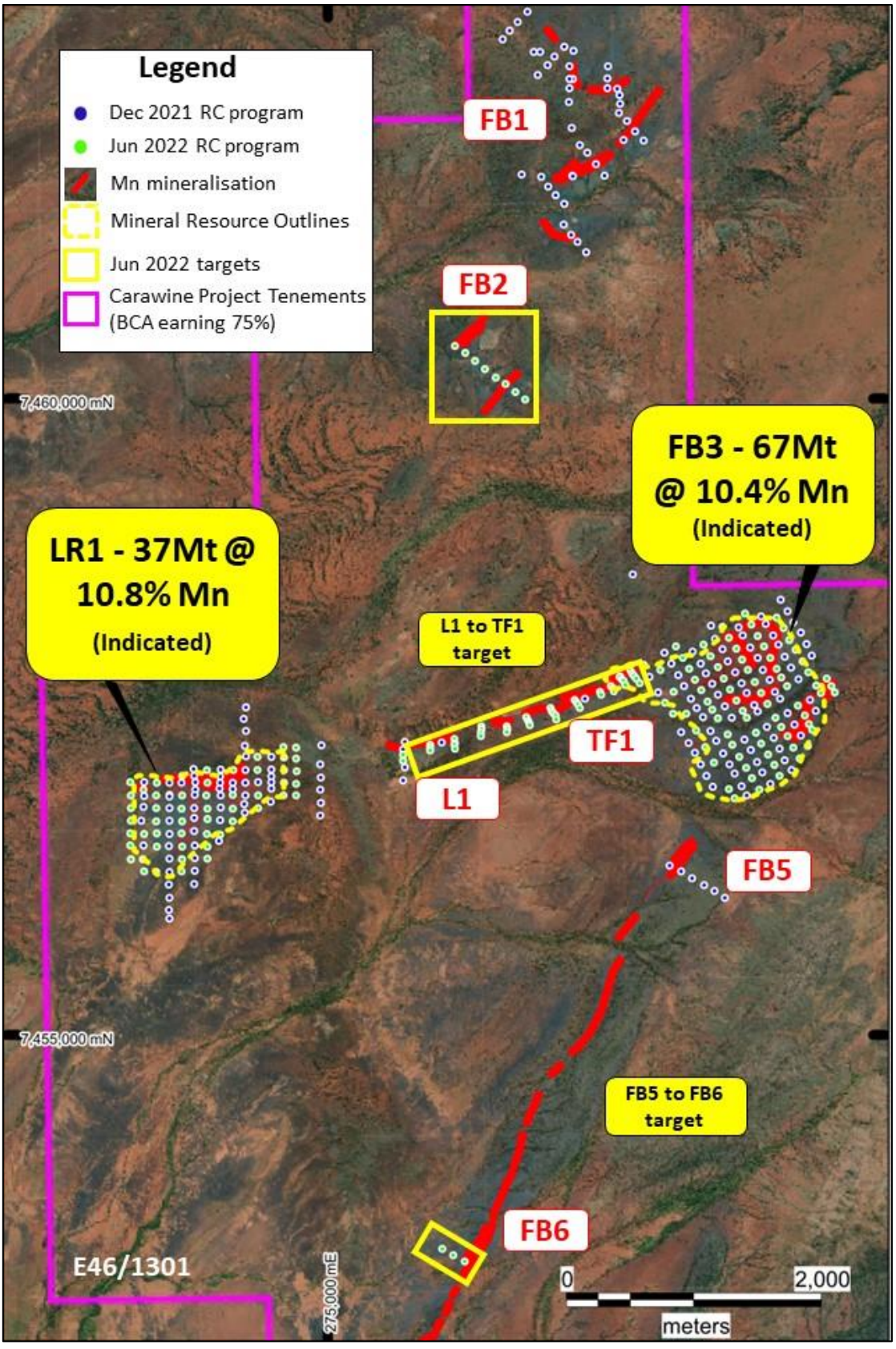

Figure 1. Flanagan Bore Project - FB3 & LR1 Mineral Resource outlines and additional drill targets at FB1, L1, TF1 and FB6 (Black Canyon (51%) earning up to 75%)

This announcement has been approved by the Board of Black Canyon Limited.

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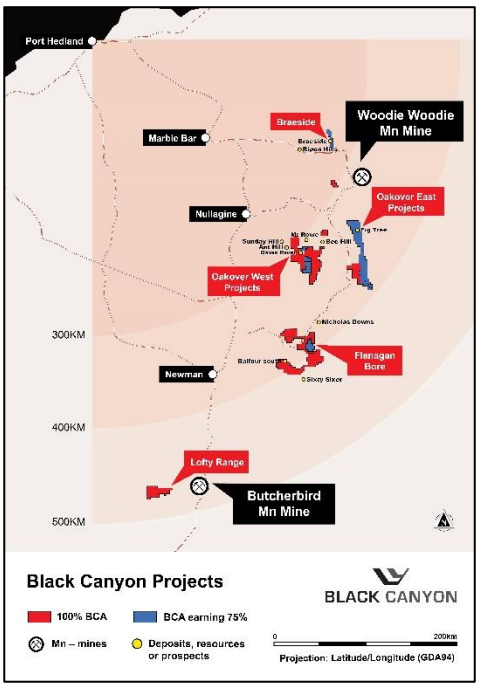
About Black Canyon

Black Canyon has entered into a farm-in and joint venture with ASX listed Carawine Resources Limited (ASX:CWX) to acquire a majority interest in the Carawine Project in Western Australia. The Carawine Project covers approximately 800 km^2 of tenure located south of the operating Woodie-Woodie manganese mine, providing a large footprint in a proven and producing manganese belt. Black Canyon has also applied for and acquired other exploration licenses adjacent to the Carawine Project that would increase the total land holdings to over 2600 km^2 upon grant. In addition to manganese, the Carawine Project also hosts multiple copper occurrences including the Western Star prospect which comprises a large zone of surface copper enrichment.



Manganese and copper continue to have attractive fundamentals with growing utilisation in the battery mineral sector and challenging supply conditions.

Compliance Statements

Reporting of Exploration Results and Previously Reported Information

The information in this report that relates to Exploration Results is based on, and fairly represents, information and supporting documentation reviewed by Mr Brendan Cummins, Executive Director of Black Canyon Limited. Mr Cummins is a member of the Australian Institute of Geoscientists, and he has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which has been 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". Mr Cummins consents to the inclusion in this release of the matters based on the information in the form and context in which they appear. Mr Cummins is a shareholder of Black Canyon Limited.

The information in this report that relates to Mineral Resources is based on, and fairly represents, information and supporting documentation prepared by Mr Greg Jones, (Consultant to Black Canyon and Geological Services Manager for IHC Mining). Mr Jones is a Fellow of the Australian Institute of Mining and Metallurgy and has sufficient experience of relevance to the style of mineralisation and type of deposit under consideration, and to the activities undertaken to qualify as a Competent Persons 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 Jones consents to the inclusion in this report of the matters based on the information in the form and context in which they appear.

For further information, please refer to ASX announcements dated 17 May 2021, 10 June 2021, 7 July 2021, 5 October 2021, 4 January 2022, 8 February 2022, 21 February 2022, 2 March 2022, 23 March 2022 and 13 April 2022 which are available from the ASX Announcement web page on the Company's website. The Company confirms that there is no new information or data that materially affects the information presented in the JORC Table 1 appendices that relate to Exploration Results and Mineral Resources in the original market announcements.

Appendix 1. Flanagan Bore June 2022 drill collar information

HOLE ID	EASTING	NORTHING	RL	GRID	HOLE TYPE	COLLAR PICK-UP	DIP	AZIMUTH	EOH	PROSPECT
FBRC169	273446.52	7457002.11	498.12	MGA94_51	RC	DGPS	-90	360	24	LR1
FBRC170	273447.88	7456901.29	497.83	MGA94_51	RC	DGPS	-90	360	54	LR1
FBRC171	273448.69	7456799.12	497.50	MGA94_51	RC	DGPS	-90	360	60	LR1
FBRC172	273450.34	7456700.13	497.19	MGA94_51	RC	DGPS	-90	360	66	LR1
FBRC173	273442.79	7456599.60	496.86	MGA94_51	RC	DGPS	-90	360	54	LR1
FBRC174	273446.57	7456504.12	496.54	MGA94_51	RC	DGPS	-90	360	60	LR1
FBRC175	273449.17	7456396.44	496.34	MGA94_51	RC	DGPS	-90	360	60	LR1
FBRC176	273548.73	7456946.53	498.11	MGA94_51	RC	DGPS	-90	360	48	LR1
FBRC177	273552.86	7456598.21	497.10	MGA94_51	RC	DGPS	-90	360	60	LR1
FBRC178	273544.73	7456397.51	496.55	MGA94_51	RC	DGPS	-90	360	60	LR1
FBRC179	273552.82	7456301.53	496.33	MGA94_51	RC	DGPS	-90	360	60	LR1
FBRC180	273650.80	7457000.63	498.99	MGA94_51	RC	DGPS	-90	360	24	LR1
FBRC181	273648.26	7456898.63	498.49	MGA94_51	RC	DGPS	-90	360	60	LR1
FBRC182	273647.81	7456798.27	497.90	MGA94_51	RC	DGPS	-90	360	70	LR1
FBRC183	273647.53	7456698.08	497.61	MGA94_51	RC	DGPS	-90	360	60	LR1
FBRC184	273650.87	7456601.25	497.36	MGA94_51	RC	DGPS	-90	360	48	LR1
FBRC185	273652.11	7456498.91	497.12	MGA94_51	RC	DGPS	-90	360	42	LR1
FBRC186	273648.83	7456298.00	496.63	MGA94_51	RC	DGPS	-90	360	68	LR1
FBRC187	273849.30	7457053.83	500.04	MGA94_51	RC	DGPS	-90	360	18	LR1
FBRC188	273852.57	7456899.80	499.34	MGA94_51	RC	DGPS	-90	360	54	LR1
FBRC189	273848.36	7456796.87	499.15	MGA94_51	RC	DGPS	-90	360	54	LR1
FBRC190	273850.55	7456697.68	498.95	MGA94_51	RC	DGPS	-90	360	42	LR1
FBRC191	273848.76	7456598.98	498.78	MGA94_51	RC	DGPS	-90	360	36	LR1
FBRC192	273853.27	7456499.03	498.54	MGA94_51	RC	DGPS	-90	360	42	LR1
FBRC193	273853.13	7456399.10	498.05	MGA94_51	RC	DGPS	-90	360	54	LR1
FBRC194	273844.64	7456301.28	497.52	MGA94_51	RC	DGPS	-90	360	70	LR1
FBRC195	274046.89	7457099.43	501.92	MGA94_51	RC	DGPS	-90	360	24	LR1
FBRC196	274049.50	7456998.85	504.13	MGA94_51	RC	DGPS	-90	360	24	LR1
FRBC197	274043.45	7456897.35	501.97	MGA94_51	RC	DGPS	-90	360	42	LR1
FRBC198	274248.70	7456902.78	502.20	MGA94_51	RC	DGPS	-90	360	54	LR1
FRBC199	274249.74	7456797.38	500.98	MGA94_51	RC	DGPS	-90	360	60	LR1
FRBC200	274247.54	7456698.03	500.51	MGA94_51	RC	DGPS	-90	360	42	LR1
FRBC201	274150.77	7456594.13	499.72	MGA94_51	RC	DGPS	-90	360	54	LR1
FRBC202	274047.92	7456597.85	499.54	MGA94_51	RC	DGPS	-90	360	36	LR1
FRBC203	274049.45	7456498.26	498.98	MGA94_51	RC	DGPS	-90	360	42	LR1
FRBC204	274050.18	7456401.01	498.39	MGA94_51	RC	DGPS	-90	360	72	LR1
FRBC205	274051.00	7456715.00	500.00	MGA94_51	RC	DGPS	-90	360	36	LR1
FRBC206	274051.13	7456797.46	500.26	MGA94_51	RC	DGPS	-90	360	36	LR1
FRBC207	274443.95	7457201.42	504.29	MGA94_51	RC	DGPS	-90	360	48	LR1
FRBC208	274445.42	7457097.87	503.47	MGA94_51	RC	DGPS	-90	360	30	LR1
FRBC209	274448.34	7456901.69	501.95	MGA94_51	RC	DGPS	-90	360	60	LR1

FRBC210	274446.25	7456798.01	501.57	MGA94_51	RC	DGPS	-90	360	54	LR1
FRBC211	274648.79	7457277.38	505.57	MGA94_51	RC	DGPS	-90	360	36	LR1
FRBC212	274652.83	7457199.06	505.40	MGA94_51	RC	DGPS	-90	360	36	LR1
FRBC213	274651.75	7457100.00	504.77	MGA94_51	RC	DGPS	-90	360	30	LR1
FRBC214	274651.56	7456997.39	503.66	MGA94_51	RC	DGPS	-90	360	36	LR1
FRBC215	274646.87	7456898.88	503.07	MGA94_51	RC	DGPS	-90	360	36	LR1
FRBC216	274744.11	7457275.25	506.24	MGA94_51	RC	DGPS	-90	360	36	LR1
FRBC217	274747.97	7457187.91	505.97	MGA94_51	RC	DGPS	-90	360	30	LR1
FRBC218	274751.07	7457091.38	505.20	MGA94_51	RC	DGPS	-90	360	30	LR1
FRBC219	274748.32	7456989.83	504.10	MGA94_51	RC	DGPS	-90	360	25	LR1
FRBC220	274746.61	7456900.41	503.85	MGA94_51	RC	DGPS	-90	360	24	LR1
FBRC221	274251.41	7457100.04	503.86	MGA94_51	RC	DGPS	-90	360	30	LR1
FBRC222	278573.32	7458216.81	526.68	MGA94_51	RC	DGPS	-90	360	18	LR1
FBRC223	278619.29	7458120.40	525.04	MGA94_51	RC	DGPS	-90	360	24	LR1
FBRC224	278670.34	7458042.55	522.75	MGA94_51	RC	DGPS	-90	360	18	LR1
FBRC225	278722.03	7457952.41	521.68	MGA94_51	RC	DGPS	-90	360	18	LR1
FBRC226	278771.13	7457866.67	520.51	MGA94_51	RC	DGPS	-90	360	18	LR1
FBRC227	278521.91	7458295.50	531.37	MGA94_51	RC	DGPS	-90	360	18	LR1
FBRC228	278273.95	7458326.56	526.52	MGA94_51	RC	DGPS	-90	360	18	LR1
FBRC229	278323.10	7458240.08	532.02	MGA94_51	RC	DGPS	-90	360	18	LR1
FBRC230	278373.19	7458153.12	533.00	MGA94_51	RC	DGPS	-90	360	42	LR1
FBRC231	278420.62	7458068.03	533.33	MGA94_51	RC	DGPS	-90	360	60	LR1
FBRC232	278472.15	7457980.63	531.13	MGA94_51	RC	DGPS	-90	360	54	LR1
FBRC233	278522.29	7457895.23	524.73	MGA94_51	RC	DGPS	-90	360	36	LR1
FBRC234	278555.78	7457827.93	521.87	MGA94_51	RC	DGPS	-90	360	36	LR1
FBRC235	278602.34	7457757.19	520.20	MGA94_51	RC	DGPS	-90	360	54	LR1
FBRC236	278097.27	7458225.89	521.31	MGA94_51	RC	DGPS	-90	360	18	LR1
FBRC237	278144.86	7458139.66	526.69	MGA94_51	RC	DGPS	-90	360	36	LR1
FBRC238	278202.35	7458051.84	526.15	MGA94_51	RC	DGPS	-90	360	54	LR1
FBRC239	278248.12	7457965.49	525.35	MGA94_51	RC	DGPS	-90	360	60	LR1
FBRC240	278293.19	7457883.68	522.77	MGA94_51	RC	DGPS	-90	360	60	LR1
FBRC241	278349.27	7457791.21	523.40	MGA94_51	RC	DGPS	-90	360	54	LR1
FBRC242	278397.53	7457705.30	522.14	MGA94_51	RC	DGPS	-90	360	60	LR1
FBRC243	278449.69	7457619.49	518.42	MGA94_51	RC	DGPS	-90	360	61	LR1
FBRC244	277947.97	7458082.77	517.11	MGA94_51	RC	DGPS	-90	360	18	LR1
FBRC245	278001.16	7457995.12	518.55	MGA94_51	RC	DGPS	-90	360	18	LR1
FBRC246	278058.06	7457906.88	519.41	MGA94_51	RC	DGPS	-90	360	52	LR1
FBRC247	278103.27	7457815.58	519.01	MGA94_51	RC	DGPS	-90	360	58	LR1
FBRC248	278155.69	7457731.69	519.53	MGA94_51	RC	DGPS	-90	360	56	LR1
FBRC249	278205.31	7457646.49	519.06	MGA94_51	RC	DGPS	-90	360	48	LR1
FBRC250	278252.98	7457564.22	517.48	MGA94_51	RC	DGPS	-90	360	63	LR1
FBRC251	278287.30	7457509.28	516.82	MGA94_51	RC	DGPS	-90	360	60	LR1
FBRC252	277731.06	7458068.15	514.51	MGA94_51	RC	DGPS	-90	360	18	LR1
FBRC253	277781.82	7457980.82	514.70	MGA94_51	RC	DGPS	-90	360	18	LR1
FBRC254	277833.43	7457893.86	515.50	MGA94_51	RC	DGPS	-90	360	48	FB3

FBRC255	277876.53	7457808.84	516.19	MGA94_51	RC	DGPS	-90	360	75	FB3
FBRC256	277927.97	7457726.93	515.99	MGA94_51	RC	DGPS	-90	360	72	FB3
FBRC257	277607.94	7457883.10	513.17	MGA94_51	RC	DGPS	-90	360	36	FB3
FBRC258	277710.89	7457714.21	513.34	MGA94_51	RC	DGPS	-90	360	96	FB3
FBRC259	278913.99	7457817.60	521.74	MGA94_51	RC	DGPS	-90	360	18	FB3
FBRC260	278951.76	7457758.14	522.17	MGA94_51	RC	DGPS	-90	360	18	FB3
FBRC261	278978.13	7457707.35	521.32	MGA94_51	RC	DGPS	-90	360	18	FB3
FBRC262	278831.58	7457761.25	520.58	MGA94_51	RC	DGPS	-90	360	27	FB3
FBRC263	278866.47	7457702.82	520.82	MGA94_51	RC	DGPS	-90	360	24	FB3
FBRC264	278689.81	7457606.46	520.18	MGA94_51	RC	DGPS	-90	360	36	FB3
FBRC265	278740.61	7457529.75	521.86	MGA94_51	RC	DGPS	-90	360	26	FB3
FBRC266	278772.85	7457461.59	520.90	MGA94_51	RC	DGPS	-90	360	21	FB3
FBRC267	278799.69	7457416.96	519.88	MGA94_51	RC	DGPS	-90	360	18	FB3
FBRC268	278513.58	7457510.47	518.54	MGA94_51	RC	DGPS	-90	360	42	FB3
FBRC269	278558.04	7457439.24	520.03	MGA94_51	RC	DGPS	-90	360	36	FB3
FBRC270	278606.07	7457362.87	522.15	MGA94_51	RC	DGPS	-90	360	33	FB3
FBRC271	278653.12	7457275.80	520.84	MGA94_51	RC	DGPS	-90	360	24	FB3
FBRC272	278702.25	7457190.77	517.60	MGA94_51	RC	DGPS	-90	360	18	FB3
FBRC273	278358.46	7457390.39	517.23	MGA94_51	RC	DGPS	-90	360	45	FB3
FBRC274	278400.51	7457308.15	518.32	MGA94_51	RC	DGPS	-90	360	42	FB3
FBRC275	278454.10	7457220.14	519.34	MGA94_51	RC	DGPS	-90	360	36	FB3
FBRC276	278502.79	7457140.55	518.20	MGA94_51	RC	DGPS	-90	360	26	FB3
FBRC277	278545.19	7457053.48	516.62	MGA94_51	RC	DGPS	-90	360	18	FB3
FBRC278	278134.14	7457376.84	515.86	MGA94_51	RC	DGPS	-90	360	36	FB3
FBRC279	278172.93	7457295.82	516.13	MGA94_51	RC	DGPS	-90	360	30	FB3
FBRC280	278228.12	7457202.04	516.22	MGA94_51	RC	DGPS	-90	360	48	FB3
FBRC281	278281.54	7457118.16	516.36	MGA94_51	RC	DGPS	-90	360	42	FB3
FBRC282	278326.76	7457036.29	516.09	MGA94_51	RC	DGPS	-90	360	36	FB3
FBRC283	278382.67	7456944.28	515.26	MGA94_51	RC	DGPS	-90	360	27	FB3
FBRC284	277887.45	7457408.24	513.92	MGA94_51	RC	DGPS	-90	360	84	FB3
FBRC285	277959.99	7457278.61	514.50	MGA94_51	RC	DGPS	-90	360	30	FB3
FBRC286	278029.89	7457156.43	514.68	MGA94_51	RC	DGPS	-90	360	64	FB3
FBRC287	278147.06	7456949.51	514.45	MGA94_51	RC	DGPS	-90	360	44	FB3
FBRC288	278192.24	7456875.95	514.09	MGA94_51	RC	DGPS	-90	360	40	FB3
FBRC289	277645	7457626	518	MGA94_51	RC	GPS	-90	360	72	FB3
FBRC290	277708	7457540	496	MGA94_51	RC	GPS	-90	360	72	FB3
FBRC291	277809	7457542	507	MGA94_51	RC	GPS	-90	360	72	FB3
FBRC292	277976	7457634	515	MGA94_51	RC	GPS	-90	360	72	FB3
FBRC293	278013	7457571	511	MGA94_51	RC	GPS	-90	360	72	FB3
FBRC294	278059	7457506	507	MGA94_51	RC	GPS	-90	360	72	FB3
FBRC295	275995	7460431	515	MGA94_51	RC	GPS	-90	360	36	FB2
FBRC296	276073	7460375	513	MGA94_51	RC	GPS	-90	360	30	FB2
FBRC297	276151	7460314	512	MGA94_51	RC	GPS	-90	360	24	FB2
FBRC298	276229	7460251	511	MGA94_51	RC	GPS	-90	360	30	FB2
FBRC299	276313	7460180	512	MGA94_51	RC	GPS	-90	360	63	FB2

FBRC300	276392	7460129	510	MGA94_51	RC	GPS	-90	360	42	FB2
FBRC301	276470	7460068	508	MGA94_51	RC	GPS	-90	360	42	FB2
FBRC302	276546	7460007	510	MGA94_51	RC	GPS	-90	360	42	FB2
FBRC303	277374	7457881	510	MGA94_51	RC	GPS	-60	330	42	TF1
FBRC304	277387	7457857	509	MGA94_51	RC	GPS	-60	330	42	TF1
FBRC305	277401	7457838	510	MGA94_51	RC	GPS	-60	330	48	TF1
FBRC306	277417	7457817	510	MGA94_51	RC	GPS	-60	330	48	TF1
FBRC307	277444	7457779	502	MGA94_51	RC	GPS	-60	330	66	TF1
FBRC308	277286	7457829	507	MGA94_51	RC	GPS	-60	330	42	TF1
FBRC309	277306	7457811	513	MGA94_51	RC	GPS	-60	330	30	TF1
FBRC310	277316	7457798	510	MGA94_51	RC	GPS	-60	330	36	TF1
FBRC311	277332	7457767	509	MGA94_51	RC	GPS	-60	330	54	TF1
FBRC312	277220	7457758	509	MGA94_51	RC	GPS	-60	330	30	TF1
FBRC313	277236	7457740	507	MGA94_51	RC	GPS	-60	330	36	TF1
FBRC314	277243	7457719	504	MGA94_51	RC	GPS	-60	330	42	TF1
FBRC315	277131	7457711	513	MGA94_51	RC	GPS	-60	330	30	TF1
FBRC316	277144	7457691	512	MGA94_51	RC	GPS	-60	330	36	TF1
FBRC317	277332	7457767	509	MGA94_51	RC	GPS	-60	330	48	TF1
FBRC318	276933	7457652	513	MGA94_51	RC	GPS	-60	330	24	TF1
FBRC319	276946	7457630	511	MGA94_51	RC	GPS	-60	330	30	TF1
FBRC320	276959	7457612	510	MGA94_51	RC	GPS	-60	330	42	TF1
FBRC321	276975	7457587	510	MGA94_51	RC	GPS	-60	330	60	TF1
FBRC322	276744	7457585	503	MGA94_51	RC	GPS	-60	330	24	TF1
FBRC323	276755	7457566	503	MGA94_51	RC	GPS	-60	330	32	TF1
FBRC324	276765	7457545	501	MGA94_51	RC	GPS	-60	330	30	TF1
FBRC325	276784	7457527	500	MGA94_51	RC	GPS	-60	330	30	TF1
FBRC326	276788	7457495	500	MGA94_51	RC	GPS	-60	330	42	TF1
FBRC327	276553	7457513	509	MGA94_51	RC	GPS	-60	330	24	TF1
FBRC328	276567	7457488	505	MGA94_51	RC	GPS	-60	330	36	TF1
FBRC329	276578	7457470	505	MGA94_51	RC	GPS	-60	330	42	TF1
FBRC330	276583	7457452	505	MGA94_51	RC	GPS	-60	330	42	TF1
FBRC331	276402	7457442	503	MGA94_51	RC	GPS	-60	360	42	L1
FBRC332	276403	7457421	505	MGA94_51	RC	GPS	-60	360	60	L1
FBRC333	276400	7457395	505	MGA94_51	RC	GPS	-60	360	60	L1
FBRC334	276203	7457443	504	MGA94_51	RC	GPS	-60	360	24	L1
FBRC335	276201	7457421	502	MGA94_51	RC	GPS	-60	360	18	L1
FBRC336	276198	7457393	504	MGA94_51	RC	GPS	-60	360	24	L1
FBRC337	276196	7457366	503	MGA94_51	RC	GPS	-60	360	42	L1
FBRC338	275989	7457343	505	MGA94_51	RC	GPS	-60	360	18	L1
FBRC339	275994	7457313	506	MGA94_51	RC	GPS	-60	360	36	L1
FBRC340	275991	7457296	506	MGA94_51	RC	GPS	-60	360	42	L1
FBRC341	275993	7457265	505	MGA94_51	RC	GPS	-60	360	54	L1
FBRC342	275801	7457299	517	MGA94_51	RC	GPS	-60	360	18	L1
FBRC343	275798	7457276	515	MGA94_51	RC	GPS	-60	360	36	L1
FBRC344	275800	7457250	514	MGA94_51	RC	GPS	-60	360	36	L1

FBRC345	275589	7457221	504	MGA94_51	RC	GPS	-60	360	48	L1
FBRC346	275588	7457170	504	MGA94_51	RC	GPS	-60	360	60	L1
FBRC347	276071	7453238	510	MGA94_51	RC	GPS	-90	360	36	FB6
FBRC348	275981	7453286	510	MGA94_51	RC	GPS	-90	360	42	FB6
FBRC349	275896	7453338	510	MGA94_51	RC	GPS	-90	360	20	FB6

Appendix 2. JORC 2012 Table 1

Section 1 Sampling Techniques and Data

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	• *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.* • *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 (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.*	• The samples were collected using industry standard Reverse Circulation (RC) drill methods . • Drilling was completed by Westside Drilling who completed the entire RC drill program – 181 holes for 7534m • There was limited water encountered during the drill program • The drilling and sample techniques are considered representative for the style of mineralisation utilising 1m sample intervals gathered directly from the RC drill rig using an adjustable cone splitter from a levelled drill rig. • The target sample weight was between 2-3kg which is appropriate for the style of mineralisation
Drilling techniques	• *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).*	• The drill type is Reverse Circulation (RC) drilling vertical holes • The drill diameter us 5 ¼ inch RC using a face sampling hammer
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.*	• Sample recovery was estimated by the geologist on the rig and secondly by assessing the weight of the representative samples delivered to laboratory • The drill recoveries were deemed acceptable with supervision of the sampling at the cone splitter • No sample bias due to sample loss is evident from the observed sample recoveries • The samples were drilled mostly dry again minimising sample bias
Logging	• *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.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* • *The total length and percentage of the relevant intersections logged.*	• Drillhole logging was completed at the drill rig recording lithology, texture, grain size and colour. • 1m chip trays were also collected in site, photographed and used to further detailed logging post the drill program • The logging was considered appropriate for exploration reporting and eventually Mineral Resource Estimation • Every 1m interval as logged and sieved for inspection – 7534
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 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.*	• The 1m RC samples were gathered by using a levelled cone splitter of the side of the rig • The samples were dominantly dry • Black Canyon inserted Certified Reference Material (CRM) at a rate of 1/50, blanks at a rate of 1/50 and field duplicates from the cone splitter at a rate of 1/50 for a total insertion rate of QA/QC materials at 6% • The sub sampling technique and quality control procedures is considered appropriate to ensure sample representivity • The sample size is considered appropriate for the grainsize and style of mineralisation
Quality of assay data	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and*	• The samples were submitted to NATA accredited ALSChemex in Wangara

Criteria	JORC Code explanation	Commentary
and laboratory tests	*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.* • *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.*	• The 2 – 3kg samples was sub-split to 750gram and pulverised with 85% passing 75µm • The sample was then analysed using method ME-XRF26s for manganese ores using fusion disc XRF for Fe, SiO2, Mn, Al2O3, TiO2, P2O5, S, MgO, K2O, Na2O, CaO, BaO, Cr2O3 and ZrO2 • Review of the quality control results received to date that include CRM, blanks, duplicates show an acceptable level of accuracy (lack of bias) and precision has been achieved. • In addition ALSCHEMEX has undertaken its own internal QAQC checks using CRM, Blanks and pulp duplicates and no issues have been reported or identified • The CP is satisfied that the analysis was completed to an acceptable standard in the context in which the results have been reported
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.*	• The significant intersections have not been verified by independent personnel • Once the assays are received the new drill assay data will be compared to the previous drill hole assays by the Independent Resource Geologist
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.*	• Once a drill hole was completed the drill collar was located using a GARMIN handheld GPS with an accuracy of +/- 5m • The drill collars were also located using a DGPS system accurate to 100mm • The grid system is UTM zone 51, GDA94 datum • The topography is quite flat reflecting the underlying stratigraphy. The holes are shallow and downhole deviation is not considered material in the context of these results
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.*	• At FB3 and LR1 the drill spacing of the RC drill program has been reduced from 200m line spacing with holes drilled 100m apart to 100mm line spacing and 100m spaced holes • The infill drill hole spacing is considered appropriate for this stage of resource development. • No sample compositing has been applied
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of 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.*	• The deposit is flat and gently plunging. Drill logs and assay data have identified cross cutting dolerite dykes that may have intruded into zones of structural weakness which does appear at this early stage to terminate the prospective horizon to the south • The drill hole orientation otherwise is suitable for this style of mineralisation and considered appropriate and unlikely to introduce sample bias
Sample security	• *The measures taken to ensure sample security.*	• The samples were collected into bulka bags, sealed with cable ties and stored on site until the drill program was completed • The samples were then trucked to Perth in one consignment and delivered directly to ALSCHEMEX in Wangara. • The .bulka bags were inspected and audited by ALSCHEMEX who did not report any suspicious or tampered samples
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Other than internal review by Company staff no audits have been completed. • The CP was on site for some of the RC drill program and considers the sampling and sub sampling techniques to be equal to industry standard and appropriate for the style of mineralisation and the results being reported.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
Mineral tenement and	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures,*	• The drilling was undertaken on granted tenement E46/1301 • Black Canyon has a farm-in and joint venture agreement with Carawine Resources Ltd (ASX:CWX), BCA has earned

Criteria	JORC Code explanation	Commentary
land tenure status	*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 known impediments to obtaining a licence to operate in the area.*	a 51% interest, Black Canyon is now earning up to 75% in the Carawine Project tenements by sole-funding an additional $2.5m of exploration expenditure in the Carawine Projects that includes E45/1301 • The tenement has a native title Heritage Protection Agreement with the Karlka Nyiyaparli People that required a Heritage Survey to be undertaken prior to ground disturbing activities. To this end an Ethnographic and Archeologic survey was completed prior to commencement of site activities • There are no other known impediments to exploring E46/1301
Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Previous work on the tenure Includes exploration by Sentinel Mining Company carried out in 1968 in the general area of Balfour Downs. The exploration work included rock chip sampling from the southern edge of E46/784 which returned three samples with manganese values of 21.6 %, 25.7% and 11.4% Mn within manganese surface enrichment of Balfour Shales. • Consolidated Global Investment Pty Limited ('CGI') owned tenement E46/784 between 2010 and 2015 and carried out exploration work. • Early reconnaissance work completed by CGI delineated many occurrences of manganese enriched outcroppings of the Balfour Formation. These north south striking outcrops were continuous over a distance of 1 km with widths of 50 m to 90 m in the LR1 Prospect area. Further exploration work completed by CGI included identification of prospective area using google images and remote sensing, a heritage survey and clearance for drilling using local Martu consultants. CGI completed a reverse circulation drilling programme of 22 holes in July 2012 on E46/784.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The Flanagan Bore tenement is located within the Oakover Basin, the edges of which are defined by the Neoarchaean Fortescue Group. Most of the tenement is covered by quaternary alluvium, sheetwash and outcrop only exists within the southern part and consists of rocks of the Manganese Group, mainly the Encheddong Dolomite and Balfour Formation. The tenement contains widespread manganese scree associated with manganese enriched Balfour Formation shales • The LR1 prospect can be separated into three primary units, the upper unmineralised Balfour shale, the mineralised Balfour shale and the lower basal shale unit. The upper unmineralised shale is brown grey in colour and occurs from surface up to 10 m in depth intermittently across the project area. • The manganiferous shale unit contains a supergene enriched manganiferous horizon which exhibits thickness range between 15 m to 37 m depth gently dipping to the south, progressively thickening to the east-south-east. The manganese layers are confined to distinct banding within the Balfour and there are also minor occurrences of interbedded red/brown shales intermixed within saprolitic clay bands.

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.*
		• Refer to Appendix 1 for a complete listing of the RC drill holes completed at the Flanagan Bore project for the June 2022 RC drill program by Black Canyon

Criteria	JORC Code explanation	Commentary
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Only length (1m) weighted intervals are included in the text of this release. • Manganese intervals have been reported at 7% Mn cut off allowing 1 m of dilution (<7% Mn) • Iron intervals have been reported as they coincide with the Mn intervals and no cut offs are applied • No metal equivalent values are used.
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 (eg 'down hole length, true width not known').*	• The region is mostly flat lying exhibiting a gentle dip of mineralisation to the south, south-west therefore 90 degree angled (vertical) drill holes considered appropriate. • The mineralisation of the LR1 prospect is primarily strata bound striking approximately 45 - 90 degrees, gently dipping to the southwest about a regional syncline. • The mineralisation of the FB3 prospect is primarily strata bound striking approximately 80 to 90 degrees, gently dipping to the southwest about a regional syncline • The drill results reported are interpreted to represent close to true widths of the mineralisation
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.*	• These have been included in the body of the release where relevant and material to the reader's understanding of the results in regard to the context in which they have been reported.
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 to avoid misleading reporting of Exploration Results.*	• Information considered material to the reader's understanding of the Exploration Results has been reported. in the body of the text and significant results have selectively been reported to provide the reader with the potential tenor and widths of the mineralisation • APPENDIX 1- contains the location and drill holes details drilled into the Flanagan Bore project, June 2022
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.*	• All information considered material to the reader's understanding and context of the RC Exploration Results have been reported.
Further work	• *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* • *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	• Further work is planned that includes: metallurgical testwork on previously diamond drill core • Down hole geophysical surveys for magnetic susceptibility density and gamma radiation has been completed and will be used to update the lithological logging • The Company is intending to update the LR1 and FB3 Mineral Resources once all of the drill information has been received and interpreted