

## Encouraging Results from Sapolite Hosted Graphite Work

Sovereign Metals Limited (“Sovereign” or “Company”) is pleased to advise that it has encountered widespread, high-grade sapolite-hosted graphite from initial hand auger drilling testing numerous ground EM conductors in the Lifidzi area in Malawi. Sapolite-hosted graphite has exciting potential to form the basis of very low cost (both Capex and Opex) flake graphite operations and the Company will continue to focus its exploration efforts on the dozens of sapolite prospects identified to date.

### Highlights

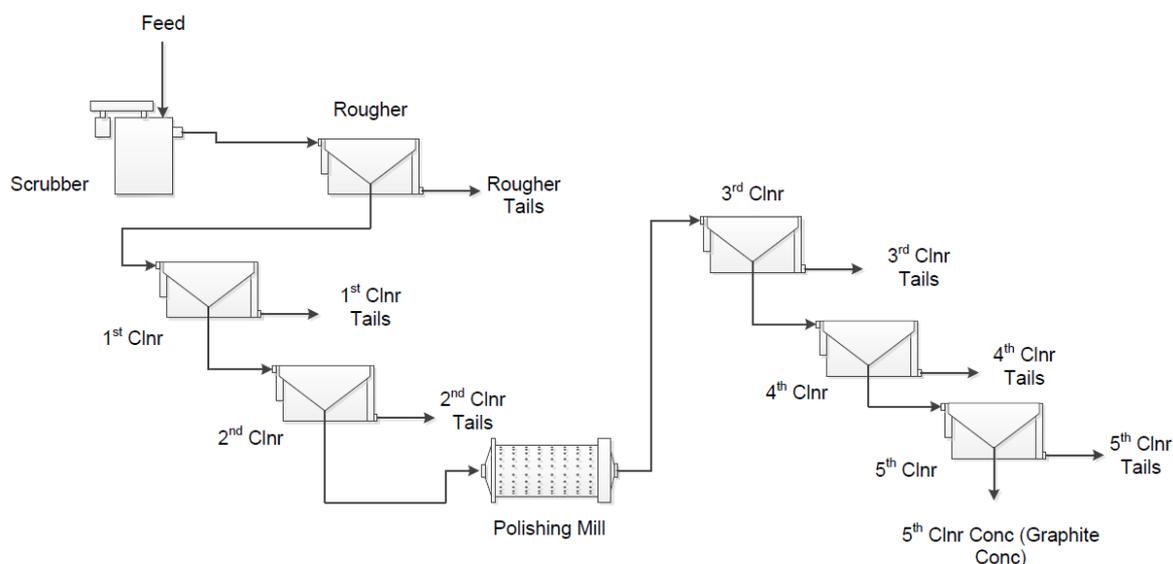
- Wide spaced ground EM surveys highlight 43 high priority conductors at Lifidzi and 20 at Malingunde, where bedrock geology and a deep, preserved weathering profile favour the formation of sapolitic flake graphite deposits.
- Hand augering shows 19 of 43 (44%) conductors at Lifidzi are sapolitic graphite gneiss.
- Significant assays of sapolite mineralisation received to date from Lifidzi average 6.5% and peak at 12.0% Total Graphitic Carbon (“TGC”) (4% TGC lower cut-off).
- Ongoing auger program at Malingunde and step-out ground EM survey at Lifidzi to extend known occurrences.
- Air core drilling confirms sapolite hosted graphite over 3.2km at Dedza Mountain West.
- Sapolite thickness at Dedza varies from 10 to 25m at grades averaging 3-5% TGC.
- Previous metallurgical test-work on Dedza sapolite indicates excellent large flake characteristics, with 58% of concentrates >150µm and the total concentrate grading 94.1% TGC.
- Duwi deposit mineral resource estimate includes sapolite component of 1.08Mt @ 7.3% TGC (Indicated + Inferred).

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## Saprolite Potential for Low Cost, High Value Graphite

Saprolite or clay hosted flake graphite mining operations, similar to those in China and Madagascar, have significant cost and environmental advantages over hard rock mining operations, due to:

- Simple, low cost exploration with auger or air-core drilling prevalent;
- The free-dig nature and very low strip ratios of the mineralised material, which is by definition close to or at surface;
- Simple processing with no primary milling circuit results in large capital and operating cost advantages;
- The relative absence of sulphides offers substantial tailings management advantages.



**Figure 1. Possible flowsheet for saprolite processing. Note the complete absence of a primary mill – resulting in potentially significant capex and opex savings**

Graphite is liberated from the ore by simple slurring and scrubbing with processing costs potentially in the order of 50% - 60% that of fresh rock ore. The simple process route also favours mobile and scalable mining and processing operations.

Sovereign initially discovered widespread saprolite hosted graphite mineralisation at the Dedza Prospect and metallurgical test-work on samples from Dedza subsequently indicated very favourable large flake characteristics (Table 1; see also ASX Announcement 17 June 2014).

**Table 1: Dedza Mountain East – Concentrate Flake Size and Carbon Content**

Particle size		Distribution	C(t)	Flake Category
Tyler Mesh	( $\mu\text{m}$ )	(%)	(%)	
+ 48	+ 297	17.3	96.5	Extra Large (Jumbo)
- 48 + 80	- 297 + 177	30.5	95.9	Large
- 80 + 100	-177 + 149	10.6	93.4	Medium
- 100 + 200	- 149 + 74	26.9	92.3	Small
- 200	- 74	14.8	91.6	Amorphous
<b>Total</b>		<b>100%</b>	<b>94.1%</b>	

Results reported are those from the 2<sup>nd</sup> five-stage cleaner flotation test. All reported results have an associated measurement uncertainty (MU) based on the expected precision and accuracy relating to the method and sample concentration. Values at 100% should not be treated as pure products without additional impurity testing. Testing by party and/or umpire analysis will reduce, but not remove measurement uncertainty of the method. The estimated MU for C(t) using a LECO SC-632 analyser are 1.4% relative for grades between 95 and <100% C(t) and 1.7% relative for grades between 90.0 and <95% C(t).

After assessing the potential cost advantages and high value flake characteristics of saprolite-hosted graphite, Sovereign's attention turned to its permits at Lifidzi and other areas such as Malingunde and Kapiri (Figure 2).

These three new areas occur on the Lilongwe Plain, which has a largely preserved, deep tropical weathering profile and therefore potentially significant thicknesses of saprolite. Similarities in the regional magnetic signatures and numerous, highly conductive responses in historical VTEM show that this area is underlain by the same paragneiss rock package that hosts the graphite deposits to the east of Lilongwe, for example - the Duwi Deposit.

Overall, the Company controls a vast area prospective for saprolitic graphite deposits with Lifidzi ~ 900km<sup>2</sup>, Malingunde ~140km<sup>2</sup> and Kapiri ~ 2,165km<sup>2</sup> (Figure 2).

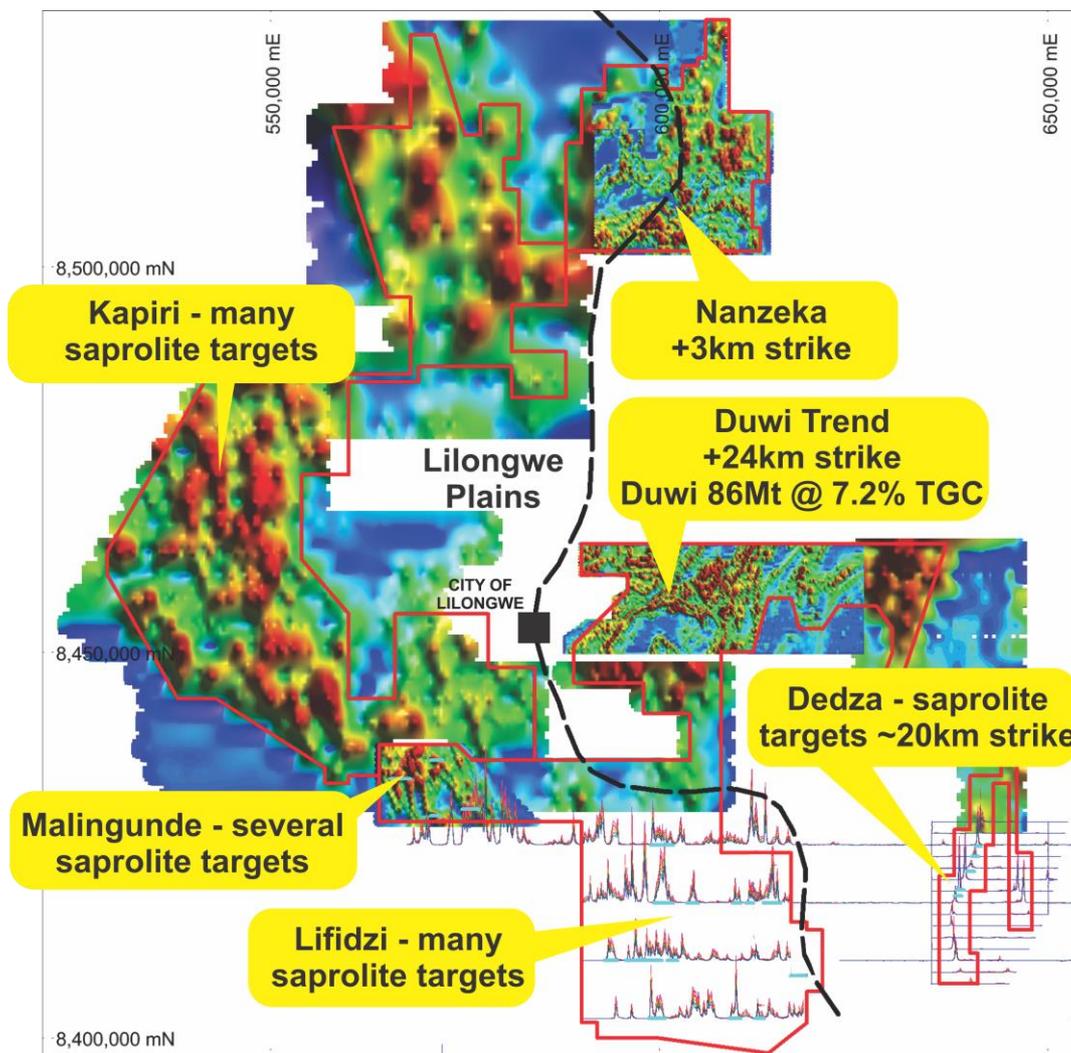


Figure 2. Map of CMGP area over historical VTEM profiles and recent VTEM imagery. Initial ground EM lines at Lifidzi and Malingunde are shown in light blue

### *Initial ground EM and Hand Auger Results at Lifidzi and Other Prospects*

Ground electromagnetic (EM) surveys and hand auger drilling have established saprolite-hosted (soft, clayey rock near surface) flake graphite zones, with initial results being highly encouraging.

- At Lifidzi, a total of 37 line km of ground EM was completed in the initial survey on E-W lines generally spaced 7.5km apart to test anomalies from previous aerial VTEM surveys.
- A total of 43 high-priority conductors were identified.
- Hand auger drilling showed that 19 of 43 (44%) of the conductors at Lifidzi are saprolitic graphite gneiss.
- So far, assays have been received for 12 of the 19 saprolitic graphite gneiss zones of which 8 were shown to be significant (>4% TGC).
- Average saprolite grades over all 8 significant zones are 6.5% TGC, with peak saprolite zone grades reaching 12.0%, 10.7% and 9.9% TGC.
- All mineralised holes ended in saprolite at depths between 6m and 10m due to the presence of water (and hence the limit of hand auger drilling). This indicates a deep saprolite profile is potentially present.
- At Malingunde, an initial 8 line km of ground EM identified 20 high priority conductors that are yet to be tested by hand auger drilling.
- At Kapiri, a large area underlain by conductive rocks shows a number of sub-cropping graphite occurrences, and importantly has a mostly preserved, deep weathering profile, suggesting substantial potential for saprolite-hosted flake graphite mineralisation.

### **Lifidzi**

The Lifidzi area is underlain by a graphitic paragneiss rock package and has a largely preserved tropical weathering profile. It is therefore a prime target for large tonnages of saprolite-hosted graphite mineralisation. Graphite was previously detected in limited mapping, several water-bore holes and in “chiziro” (locally made paint containing graphite) on village huts (Figure 3).



**Figure 3. “Chiziro” paint made from locally sourced, purified high-grade graphite on a hut in the Lifidzi area**

The Company completed an initial ground EM program in order to further define targets for hand auger and aircore drilling. A total of 37km of wide spaced ground EM was completed and was very successful in defining conductors for testing (Figure 4).

A total of 43 high priority conductors were identified at Lifidzi. Hand auger drilling of the 43 conductors identified saprolitic graphite gneiss in 19 of the target zones. Assay results for 12 of the 19 graphitic zones have been received to date and show 8 (of 12) contain average grades of over 4% TGC, with best results shown in Table 1 and Figure 4 below. A number of zones have multiple intercepts of graphite, indicating widths ranging between <10m and at least 80m. Additionally and importantly, a potentially deep saprolite profile is indicated as all mineralised holes terminated in saprolite at depths between 6m and 10m, due to the presence of water.

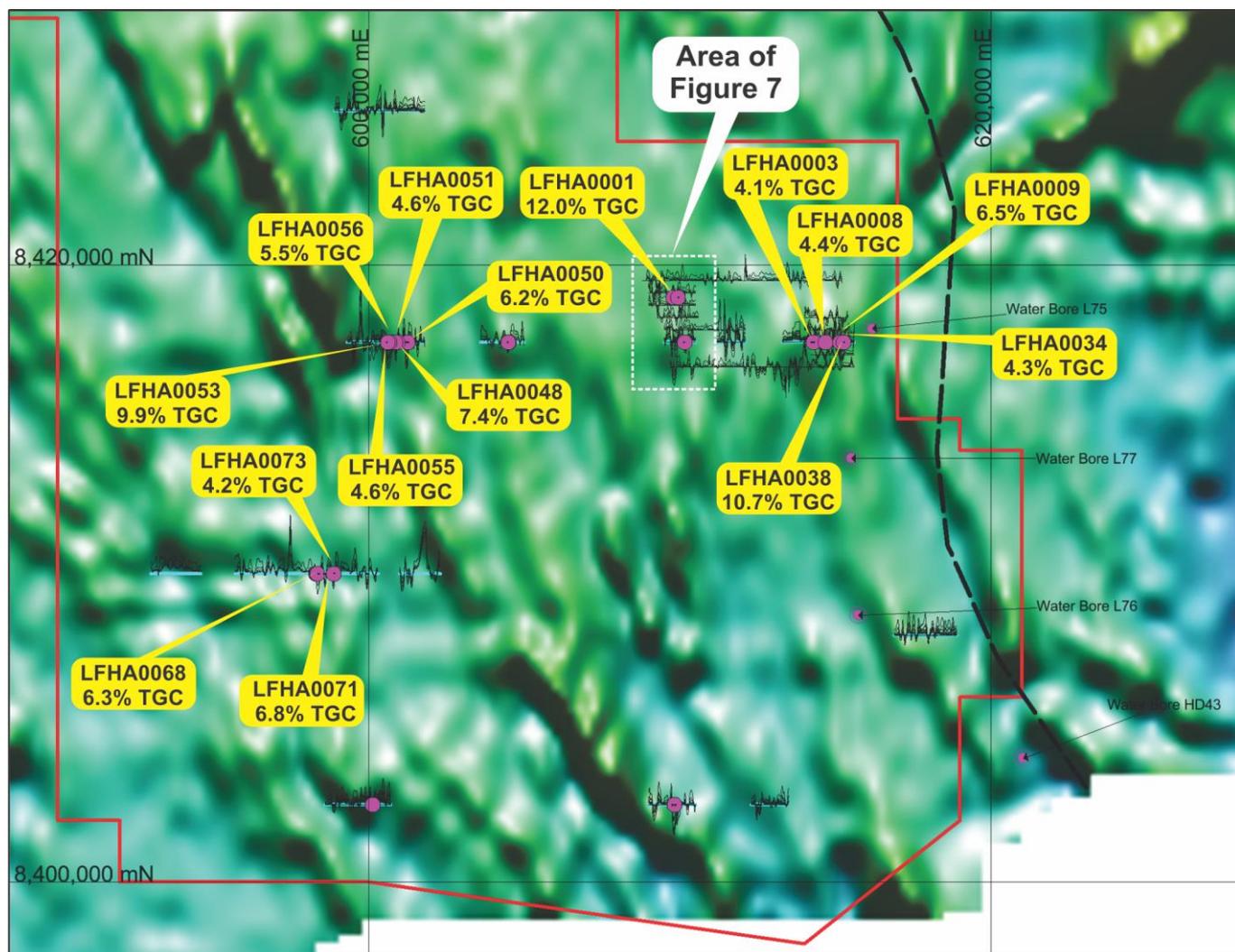


Figure 4. Location of ground EM lines completed to date and hand-auger holes (magenta) that have intersected saprolitic graphite gneiss.

**Table 2. Significant bottom-of hole assay results for composite saprolite samples from hand auger drilling at Lifidzi**

Hole ID	From (m)	To (m)	Width (m)	%TGC
LFHA0001 *	4	6	2	12.0
LFHA0003	5	7	2	4.1
LFHA0008	5	9	4	4.4
LFHA0009	4	7	3	6.5
LFHA0034	3	9	6	4.3
LFHA0038	6	8	2	10.7
LFHA0048	6	8	2	7.4
LFHA0050	2	9	7	6.2
LFHA0051	2	9	7	4.6
LFHA0053	6	7	1	9.9
LFHA0055	7	10	3	4.6
LFHA0056	5	7	2	5.5
LFHA0068	6	8	2	6.3
LFHA0071	6	8	2	6.8
LFHA0073	4	7	3	4.2

\* Adjacent to high-grade Chiziro pit

Note that all holes reported above ended in saprolite-hosted flake graphite mineralisation where the composite sample assayed geologically was the best representation of the underlying saprolite. Results where weighted average saprolite grades are greater than a 4% TGC lower cut-off are deemed significant and are reported here. Complete drill hole information is tabulated in Table C within the Appendix.



**Figure 5. Hand augering in progress at Lifidzi.**



Figure 6. Hand auger LFHA0009 chips showing high grade graphitic saprolite. From left to right: 0-1m soil, 1-3m ferruginous pedolith, 3-4m mottled saprolite, 4-7m saprolite.

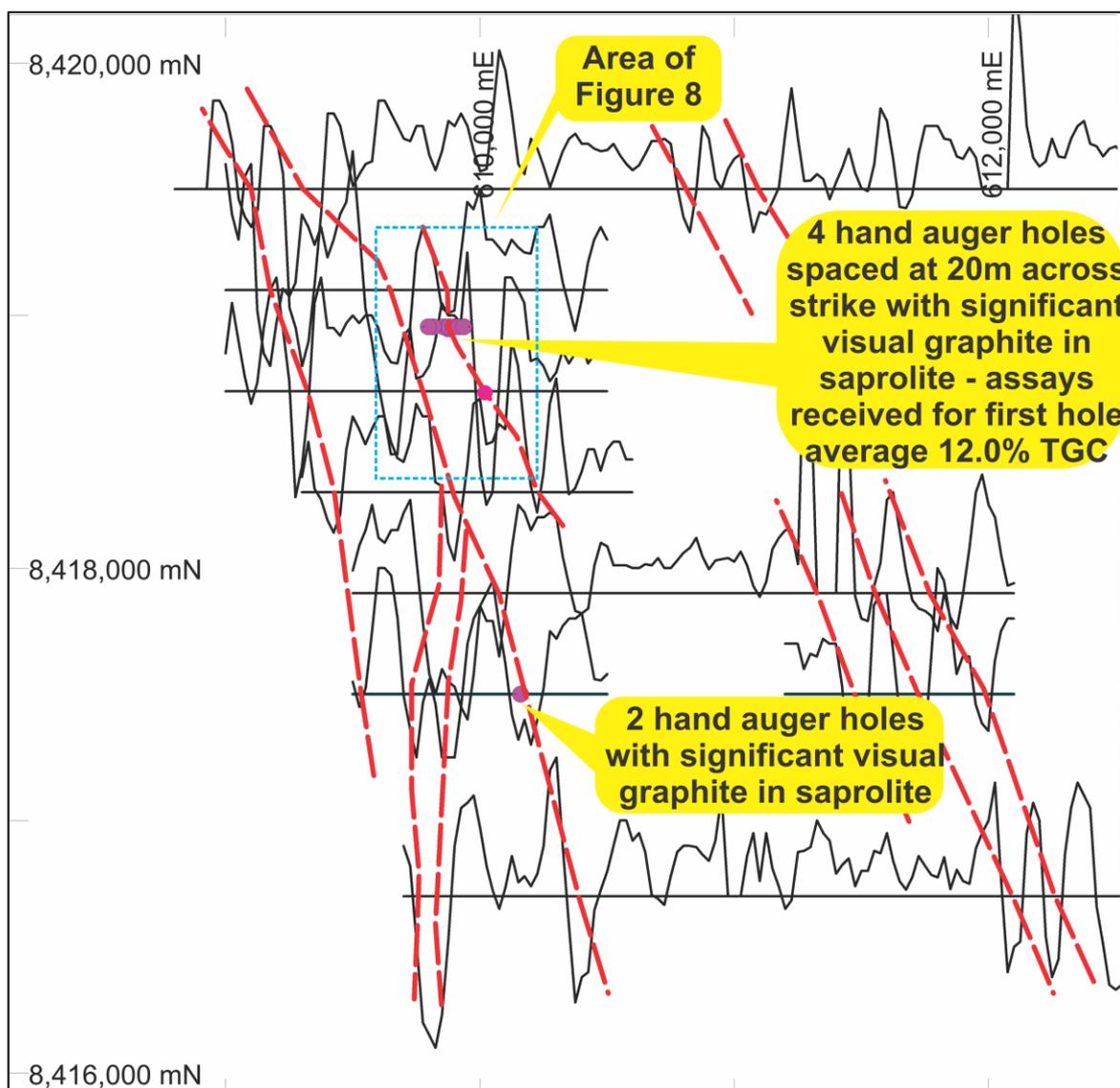


Figure 7. Chiziro pit area with location of zones of hand auger saprolite graphite intercepts (magenta dots) over late-time ground EM profiles.

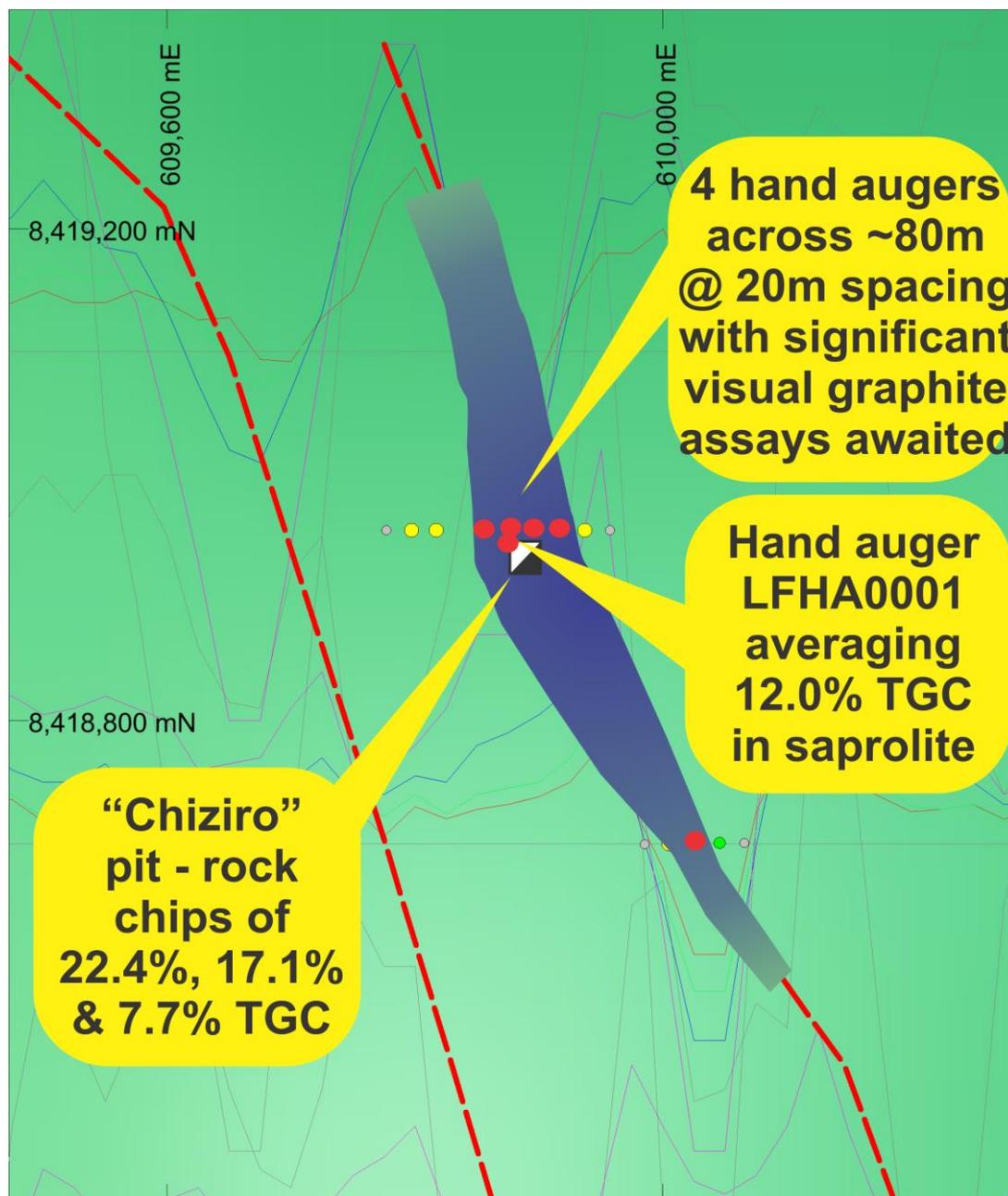


Figure 8. Zoomed map of Chiziro pit area with location of zones of hand auger saprolite graphite intercepts (red dots) over late-time ground EM profiles, rock chip results and single initial hand auger results. Dotted red lines represent interpreted strike of ground EM conductors.



**Figure 9. Photograph of high grade graphitic saprolite “chiziro” pit mined by local villagers to produce a graphite concentrate to make paint for their mud brick huts. Rock chip results from these workings assayed 22.4%, 17.1% and 7.7% TGC.**

### Duwi Saprolite Resource

Recently, the Company reported its maiden mineral resource estimate for the Duwi deposit, located about 15km east of Lilongwe (Table 3).

**Table 3. Total Duwi Resources at 5% TGC lower cut-off grade.**

Category	Tonnage (MT)	Grade (% TGC)	Contained Graphite (MT)
Indicated	35.2	7.2	2.52
Inferred	50.7	7.1	3.61
Total	85.9	7.1	6.13

When the saprolite resource is reported separately, it was shown that there is 0.96Mt @ 7.2% TGC in the Indicated category and 0.12Mt @ 8.4% TGC in the Inferred category.

Overall, the residual weathering profile is generally not as well preserved along the Duwi Trend as it is at Lifidzi. However, as is shown by the resource at Duwi, significant zones of saprolite-hosted graphite mineralisation do occur. Additionally, there is significant potential to expand the known saprolite mineralised zones along the mostly un-drilled ~24km long Duwi Trend.

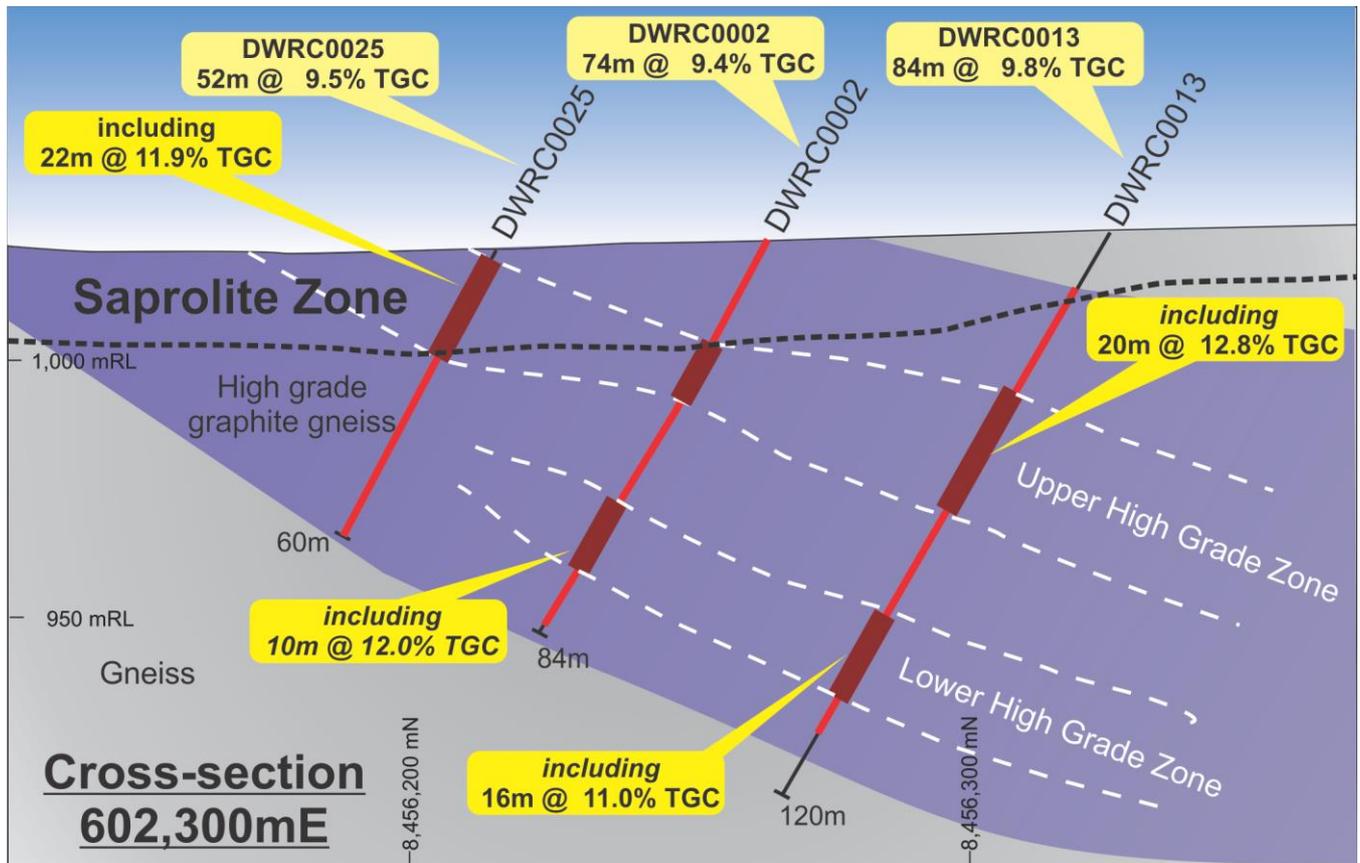


Figure 10. Cross section 602300mE at Duwi highlighting thick, high grade, saprolite-hosted flake graphite over the main zone of mineralisation.

## Dedza

The first saprolite target explored by the Company was at Dedza because of the presence of some historical trenches with known graphite that were excavated by a previous base metals explorer. A discrete, ~20km long VTEM conductor at the Dedza Mountain West (“DMW”) Prospect showed that it was caused by graphite mineralisation in an area where a tropical weathering profile was largely preserved (Figure 2). The Company undertook reconnaissance hand auger drilling, pitting, trenching and aircore drilling on the DMW and Dedza Mountain East (“DME”) Prospects to test the depth of saprolite and the potential for saprolite-hosted graphite mineralisation. Results received to date show that saprolite graphite mineralisation, whilst modest in grade, is certainly present with intercepts ranging from 10m to 25m down-hole and saprolite thicknesses ranging from 10m to 20m vertically from surface (Appendix 1 - Table A).

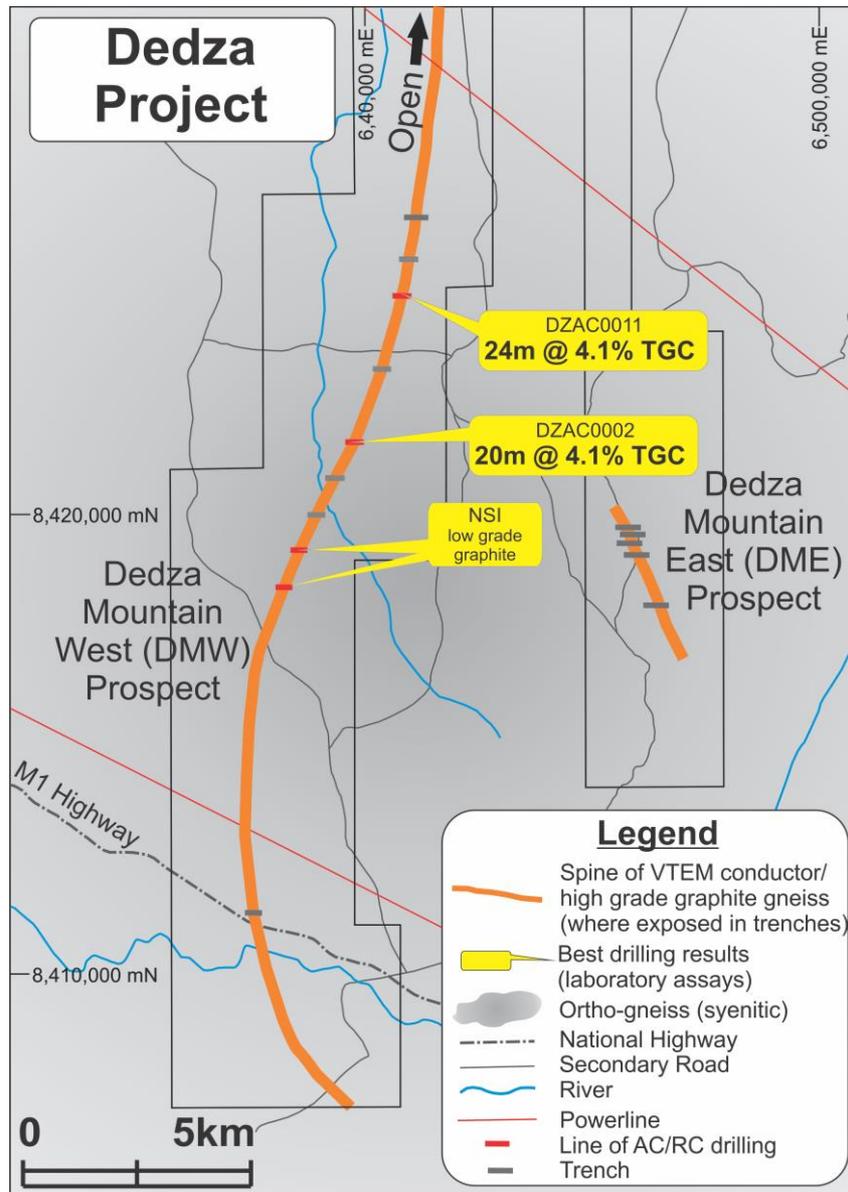


Figure 11. Map of Dedza Project with best drilling intercepts shown. NSI denotes no significant intercepts.

### Other Target Areas

At Malingunde, an initial 8 line km of ground EM identified 20 high priority conductors, all of which remain to be tested by hand auger drilling (Figure 2). At Kapiri, a large area underlain by conductive rocks (Figure 2) shows a number of sub-cropping graphite occurrences, and importantly has a mostly preserved, deep weathering profile, suggesting substantial potential for saprolite-hosted flake graphite mineralisation.

The Malingunde targets will be tested with an initial hand auger drilling program over the wet season (December 2014 to March 2015), whilst an initial ground EM and hand augering program at Kapiri is planned for 2015.

## Conclusion

With 19 conductors tested so far showing saprolite-hosted flake graphite in zones up to 80m wide (across strike), it is clear the potential of the Lifidzi area to host large tonnages is significant. The same graphitic paragneiss rock package also underlies the Malingunde and Kapiri areas, which also therefore show substantial saprolite-hosted flake graphite potential.

Current exploration information – geological mapping, VTEM, auger and aircore drilling - suggests that there is potentially several hundred kilometres of cumulative strike length suitable for exploration for shallow saprolite-hosted graphite zones.

### **Competent Person Statement**

*The information in this report that relates to Exploration Results, not including Geophysical Results, is based on information compiled by Mr Peter Woodman, a Competent Person who is a member of the Australasian Institute of Mining and Metallurgy. Mr Woodman is a director of Sovereign Metals Limited. Mr Woodman has sufficient experience that is relevant to the style of mineralisation and type of deposit 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'. Mr Woodman consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.*

*The information in this report that relates to Mineral Resources is extracted from the report entitled 'Maiden JORC Resource Confirms Duwi as one the World's Largest Graphite Deposits' dated 17 October 2014. The announcement is available to view on [www.sovereignmetals.com.au](http://www.sovereignmetals.com.au). The information in the original ASX Announcement that related to Mineral Resources was based on, and fairly represents, information compiled by Mr David Williams, a Competent Person, who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Williams is employed by CSA Global Pty Ltd, an independent consulting company. Mr Williams has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration, and to the activity he is undertaking, 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 Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.*

*The information in this report that relates to Metallurgical Testwork Results is extracted from the report entitled 'Excellent Saprolite Metallurgical Results at Dedza' dated 17 June 2014. This report is available to view on [www.sovereignmetals.com.au](http://www.sovereignmetals.com.au). The information in the original ASX Announcement that related to Metallurgical Testwork Results was based on information compiled by Mr Oliver Peters, M.Sc., P.Eng., MBA, who is a Member of the Professional Engineers of Ontraio ('PEO'), a 'Recognised Professional Organisation' ('RPO'). Mr Peters is a consultant of SGS Canada Inc. ('SGS'). SGS is engaged as a consultant by Sovereign Metals Limited. Mr Peters has sufficient experience, which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking, 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 Company confirms that it is not aware of any new information or data that materially affects the information including in the original market announcement. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.*

## APPENDIX 1

Table A. Dedza Mountain West (DMW) aircore drilling results

Hole ID	Fr	To	m	% TGC
DZRC0001	NSI			
DZRC0002	NSI			
DZRC0003	NSI			
DZRC0004	NSI			
DZRC0005	NSI			
DZRC0006	NSI			
DZRC0007	NSI			
DZRC0008	NSI			
DZRC0009	NSI			
DZRC0010	NSI			
DZRC0011	NSI			
DZRC0012	72	86	14	3
DZRC0013	8	22	14	3.7
DZRC0014	NSI			
DZRC0015	6	16	10	3.4
DZAC0001	NSI			
DZAC0002	18	38	20	4.1
DZAC0003	8	20	12	4.5
	34	50	16	3.2
DZAC0004	10	22	12	4.6
DZAC0005	NSI			
DZAC0006	4	18	14	4.5
DZAC0007	4	24	20	3.6
DZAC0008	NSI			
DZAC0009	4	33	29	3.6
DZAC0010	NSI			
DZAC0011	12	36	24	4.1

**Table B. DMW drill-hole information**

HoleID	EAST	NORTH	RL_m	DEPTH	Azimuth	Dip
DZAC0001	640108	8421594	1542	26	90	-60
DZAC0002	640030	8421594	1539	39	90	-60
DZAC0003	639988	8421594	1539	50	90	-55
DZAC0004	639950	8421595	1539	49	90	-55
DZAC0005	639911	8421597	1539	35	90	-55
DZAC0006	641230	8424792	1547	26	90	-55
DZAC0007	641190	8424794	1544	25	90	-55
DZAC0008	641154	8424791	1540	16	90	-55
DZAC0009	641032	8424795	1531	40	90	-55
DZAC0010	640994	8424798	1528	25	90	-55
DZAC0011	640950	8424795	1530	49	90	-55
DZAC0012	638844	8419194	1545	25	90	-55
DZAC0013	638803	8419191	1546	25	90	-55
DZAC0014	638722	8419197	1539	22	90	-55
DZAC0015	638681	8419194	1540	37	90	-55
DZRC0001	640071	8421595	1539	49	90	-55
DZRC0002	638763	8419193	1537	36.5	90	-55
DZRC0003	638642	8419196	1541	31	90	-55
DZRC0004	638599	8419202	1541	31	90	-55
DZRC0005	638570	8419196	1539	22	90	-70
DZRC0006	638879	8419200	1536	37	90	-55
DZRC0007	638502	8419250	1542	36	90	-55
DZRC0008	638461	8419253	1546	23	90	-55
DZRC0009	638422	8419258	1542	16	90	-55
DZRC0010	638383	8419246	1542	19	90	-55
DZRC0011	641167	8424793	1542	69	90	-55
DZRC0012	639965	8421595	1539	91	90	-55
DZRC0013	638457	8418399	1537	31	90	-55
DZRC0014	638420	8418403	1552	61	90	-55
DZRC0015	638378	8418404	1548	25	90	-55
DZRC0016	638341	8418399	1548	31	90	-55
DZRC0017	638302	8418402	1548	25	90	-55
DZRC0018	638258	8418411	1550	19	90	-55
DZRC0019	638222	8418411	1554	24	90	-55

**Table C. Lifidzi hand auger drill-hole information**

HoleID	EAST	NORTH	RL_m	DEPTH	Azimuth	Dip
LFHA0001	609876	8418947	1222	6	360	-90
LFHA0002	614274	8417502	1234	9	360	-90
LFHA0003	614295	8417496	1243	7	360	-90
LFHA0004	614725	8417500	1247	8	360	-90
LFHA0005	614744	8417500	1240	8	360	-90
LFHA0006	614764	8417500	1246	8	360	-90
LFHA0007	614705	8417500	1238	8	360	-90
LFHA0008	614685	8417500	1239	9	360	-90
LFHA0009	615175	8417500	1249	7	360	-90
LFHA0010	617250	8408001	1277	6	360	-90
LFHA0011	617996	8407996	1289	6	360	-90
LFHA0012	617975	8407999	1283	6	360	-90
LFHA0013	617954	8408000	1283	5	360	-90
LFHA0014	618021	8408002	1283	6	360	-90
LFHA0015	618040	8408002	1284	5	360	-90
LFHA0016	618201	8408000	1286	5	360	-90
LFHA0017	618220	8408000	1288	5	360	-90
LFHA0018	618238	8408001	1280	5	360	-90
LFHA0019	618181	8407999	1281	5	360	-90
LFHA0020	618159	8407999	1282	5	360	-90
LFHA0021	617270	8407998	1277	6	360	-90
LFHA0022	612475	8402500	1311	8	360	-90
LFHA0023	612455	8402500	1310	7	360	-90
LFHA0024	612505	8402500	1310	8	360	-90
LFHA0025	612525	8402500	1311	5	360	-90
LFHA0026	612545	8402500	1317	4	360	-90
LFHA0027	612585	8402499	1310	5	360	-90
LFHA0028	612564	8402499	1311	5	360	-90
LFHA0029	612606	8402499	1310	3.5	360	-90
LFHA0030	613426	8402500	1297	4	360	-90
LFHA0031	613446	8402500	1295	3	360	-90
LFHA0032	613405	8402499	1298	3	360	-90
LFHA0033	615135	8417500	1245	7	360	-90
LFHA0034	615154	8417500	1244	9	360	-90
LFHA0035	615194	8417498	1246	8	360	-90
LFHA0036	615215	8417500	1245	7	360	-90
LFHA0037	615234	8417498	1244	8	360	-90
LFHA0038	615255	8417499	1245	8	360	-90
LFHA0039	615275	8417501	1245	10	360	-90

HoleID	EAST	NORTH	RL_m	DEPTH	Azimuth	Dip
LFHA0040	614235	8417500	1239	9	360	-90
LFHA0041	614255	8417499	1239	10	360	-90
LFHA0042	614315	8417500	1230	10	360	-90
LFHA0043	601225	8417500	1216	8	360	-90
LFHA0044	601245	8417500	1218	8	360	-90
LFHA0045	601265	8417500	1216	7	360	-90
LFHA0046	601205	8417500	1219	9	360	-90
LFHA0047	601185	8417500	1216	8	360	-90
LFHA0048	600875	8417500	1192	8	360	-90
LFHA0049	600895	8417500	1191	9	360	-90
LFHA0050	600915	8417500	1191	8	360	-90
LFHA0051	600855	8417500	1192	9	360	-90
LFHA0052	600835	8417500	1192	8	360	-90
LFHA0053	600625	8417500	1192	7	360	-90
LFHA0054	600645	8417500	1191	4	360	-90
LFHA0055	600665	8417500	1191	10	360	-90
LFHA0056	600605	8417500	1191	7	360	-90
LFHA0057	600585	8417500	1190	8	360	-90
LFHA0058	599875	8417500	1190	5	360	-90
LFHA0059	599895	8417500	1189	5	360	-90
LFHA0060	599915	8417500	1190	5	360	-90
LFHA0061	599855	8417500	1190	6	360	-90
LFHA0062	599835	8417500	1192	6	360	-90
LFHA0063	599525	8417498	1185	7	360	-90
LFHA0064	599546	8417500	1185	7	360	-90
LFHA0065	599566	8417501	1187	4	360	-90
LFHA0066	599506	8417496	1184	3	360	-90
LFHA0067	599485	8417500	1186	7	360	-90
LFHA0068	598309	8410000	1212	8	360	-90
LFHA0069	598330	8409993	1217	6	360	-90
LFHA0070	598291	8410000	1218	6	360	-90
LFHA0071	598350	8409996	1215	8	360	-90
LFHA0072	598371	8410000	1212	7	360	-90
LFHA0073	598390	8409999	1205	7	360	-90
LFHA0074	598561	8410000	1204	3	360	-90
LFHA0075	598580	8410000	1205	3	360	-90
LFHA0076	598600	8410000	1208	3	360	-90
LFHA0077	598620	8410001	1207	3	360	-90
LFHA0078	598807	8410001	1214	6	360	-90
LFHA0079	598833	8410001	1216	7	360	-90
LFHA0080	598850	8410000	1214	8	360	-90

HoleID	EAST	NORTH	RL_m	DEPTH	Azimuth	Dip
LFHA0081	598870	8409999	1214	7	360	-90
LFHA0082	598889	8410003	1213	7	360	-90
LFHA0083	599951	8410000	1209	6	360	-90
LFHA0084	599969	8410000	1208	6	360	-90
LFHA0085	599931	8410000	1209	8	360	-90
LFHA0086	599990	8409999	1208	6	360	-90
LFHA0087	599910	8410000	1210	7	360	-90
LFHA0088	595925	8410000	1218	6	360	-90
LFHA0089	595905	8410001	1233	7	360	-90
LFHA0090	595946	8410000	1227	6	360	-90
LFHA0091	599676	8402500	1248	8	360	-90
LFHA0092	599655	8402500	1248	8	360	-90
LFHA0093	599695	8402500	1257	9	360	-90
LFHA0094	599635	8402501	1261	7	360	-90
LFHA0095	599715	8402500	1261	5	360	-90
LFHA0096	600100	8402500	1255	5	360	-90
LFHA0097	600080	8402499	1255	3	360	-90
LFHA0098	600125	8402501	1255	5	360	-90
LFHA0100	598877	8402501	1266	2	360	-90
LFHA0101	598896	8402501	1262	2	360	-90
LFHA0102	598917	8402501	1261	1	360	-90
LFHA0103	598855	8402500	1264	2	360	-90
LFHA0104	598835	8402500	1264	2	360	-90
LFHA0105	609800	8402501	1306	7	360	-90
LFHA0106	609819	8402500	1305	8	360	-90
LFHA0107	609780	8402500	1305	7	360	-90

## APPENDIX 2

## JORC Code, 2012 Edition – Table 1

## Section 1 Sampling Techniques and Data

Criteria	JORC Code explanation	Lifidzi Hand Auger Drilling Commentary	Dedza Aircore and RC Drilling Commentary
<b>Sampling Techniques</b>	<i>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.</i>	Hand augers of 62mm diameter was employed to generate samples with geologically determined sample intervals, which were composited and riffle split through a 50/50 splitter to form analysis samples.	5 ½ inch Reverse Circulation (RC) and Aircore (AC) drilling was employed to generate 1m samples, riffle split 1:8 by hand then riffle split 1:2 through a 50/50 splitter and combined to form 2m composite samples in mineralised zones and 4m composite samples in unmineralised zones.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	Duplicate samples were taken on average every 20th sample to provide checks on sample representivity.	Duplicate samples were taken on average every 20th sample (both split and composites) to provide checks on sample representivity.
	<i>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.</i>	Weathering and lithological information logged from 1m auger samples is used to define sample intervals for each individual hole. Position in the weathering profile is the main control on sample intervals, with the upper weathering profile (soil, laterite and ferruginous pedolith) being deemed to be less representative than the lower weathering profile able to be drilled with auger, such as the mottled and saprolite zones. Once the whole metre assay sample intervals are determined, the 1m auger samples are composited and split to reduce shipping weight.  Samples were shipped to an Intertek- Genalysis sample preparation laboratory in Johannesburg or Perth. Upon receipt of sample, the laboratory prepares ~100g pulp samples for shipment (if required) to and analysis by Intertek-Genalysis Perth. A 0.2g charge is analysed for Total Graphitic Carbon (TGC) using an Eltra carbon analyser resistance furnace.	Weathering and lithological information logged from 1m samples is used to define sample intervals for each individual hole.  Samples were shipped to an Intertek- Genalysis sample preparation laboratory in Johannesburg or Perth. Upon receipt of sample, the laboratory prepares ~100g pulp samples for shipment (if required) to and analysis by Intertek-Genalysis Perth. A 0.2g charge is analysed for Total Graphitic Carbon (TGC) using an Eltra carbon analyser resistance furnace.
<b>Drilling Techniques</b>	<i>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).</i>	62mm auger bits are used with 1m long steel rods. Each 1m of sample is collected into separate bulk sample bags and set aside. The auger bits are cleaned between metres to eliminate contamination.  Notionally 5x 20m separated vertical holes are planned centred over each HLEM anomaly, covering 80m.  Holes are planned to drill to 10m (generally the limit of penetration) once a 3m interval of saprolitic material is intercepted the hole is terminated. Various other factors may result in early termination, including water, excessively hard layers, or rocks.	5 ½ inch Reverse Circulation (RC) and Aircore (AC) drilling was employed to generate 1m samples.
<b>Drill Sample Recovery</b>	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	Samples are assessed visually for recoveries. Overall, recovery is very good.	The bulk samples are systematically weighed and examined for overall recovery and representivity.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	The company's trained geologists oversee augering on a 1 team : 1 geologist basis and are responsible for ensuring due care is taken to gather representative samples.	The company's trained geologists oversee sampling. All due care is taken to gather representative samples.
	<i>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.</i>	No relationship exists between sample recovery and grade, hence no bias is demonstrated.	No relationship exists between sample recovery and grade, hence no bias is demonstrated.
<b>Logging</b>	<i>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</i>	All 1m auger intervals are geologically logged, recording relevant data to a set template using company codes. A small representative sample is kept of each 1m interval in an appropriately labelled chip tray for future reference.	All RC and AC drill samples were geologically logged, recording relevant data to a set template on 1m intervals. All logged data was codified to a set company codes system. This offers sufficient detail for the purposes of interpretation, further

Criteria	JORC Code explanation	Lifidzi Hand Auger Drilling Commentary	Dedza Aircore and RC Drilling Commentary
	<i>metallurgical studies.</i>		studies and resource estimation.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i>	All logging included lithological features, and estimates of mineralisation percentages and flake characteristics.	All logging included lithological features, and estimates of mineralisation percentages and flake characteristics.
	<i>The total length and percentage of the relevant intersection logged</i>	100% of samples are geologically logged.	100% of drill-hole samples have been geologically logged.
<b>Sub-sampling techniques and sample preparation</b>	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	Not applicable – not core drilling	Not applicable – not core drilling
	<i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i>	1m samples are composited on geological intervals and then riffle split 1:2 through a 50/50 splitter to form analysis samples. Wet samples are dried and broken up using a mortar and pestle prior to compositing or splitting.	1m samples were riffle split 1:8 by hand then riffle split 1:2 through a 50/50 splitter and combined to form 2m composite samples in mineralised zones and 4m composite samples in unmineralised zones.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	Each entire sample was crushed to nominal 100% - 3mm in a Boyd crusher then pulverised to 85% - 75µm. Approximately 100g pulp is collected for analysis at Intertek-Genalysis Perth.	Each entire sample was crushed to nominal 100% - 3mm in a Boyd crusher then pulverised to 85% - 75µm. Approximately 100g pulp is collected for analysis at Intertek-Genalysis Perth.
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	Field QC procedures involve the use of certified reference material assay standards, blanks, duplicates, replicates for company QC measures, and laboratory standards, replicate assaying and barren washes for laboratory QC measures. The insertion rate of each of these averaged better than 1:20.	Field QC procedures involve the use of certified reference material assay standards, blanks, duplicates, replicates for company QC measures, and laboratory standards, replicate assaying and barren washes for laboratory QC measures. The insertion rate of each of these averaged better than 1:20.
	<i>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.</i>	1:20 field duplicate samples (a second sample split from the same interval) were taken to attempt to quantify the equality. Review of these samples against the original samples showed consistency.	1:20 field duplicate samples (a second sample split from the same interval) were taken to attempt to quantify the equality. Review of these samples against the original samples showed consistency.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	The sample size is considered appropriate for the material sampled. It is believed that grain size has no bearing on the grade of the sampled material.	The sample size is considered appropriate for the material sampled. It is believed that grain size has no bearing on the grade of the sampled material.
<b>Quality of assay data and laboratory tests</b>	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	The assaying and laboratory procedures are considered to be appropriate for reporting graphite mineralisation, according to industry best practice.  Each entire sample was crushed to nominal 100% - 3mm in a Boyd crusher then pulverised to 85% - 75µm. Approximately 100g pulp is collected for analysis at Intertek-Genalysis Perth.  A sample of 0.2g is removed from the 100 gram pulp, first digested in HCl to remove carbon attributed to carbonate, and is then heated to 450°C to remove any organic carbon. An Eltra CS-2000 induction furnace infra-red CS analyser is then used to determine the remaining carbon which is reported as Total Graphitic Carbon (TGC) as a percentage.	The assaying and laboratory procedures are considered to be appropriate for reporting graphite mineralisation, according to industry best practice.  Each entire sample was crushed to nominal 100% - 3mm in a Boyd crusher then pulverised to 85% - 75µm. Approximately 100g pulp is collected for analysis at Intertek-Genalysis Perth.  A sample of 0.2g is removed from the 100 gram pulp, first digested in HCl to remove carbon attributed to carbonate, and is then heated to 450°C to remove any organic carbon. An Eltra CS-2000 induction furnace infra-red CS analyser is then used to determine the remaining carbon which is reported as Total Graphitic Carbon (TGC) as a percentage.
	<i>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.</i>	No non-laboratory devices were used for analysis.	No non-laboratory devices were used for analysis.
	<i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicate, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i>	The Eltra CS analyser is calibrated by the laboratory using a combination of certified carbon and graphite standards. Calibration is achieved by using a blank followed by a 3-point calibration of the expected TGC range of the samples. One reading is made per analysis. Certified reference standards produced from material sourced from the Company's tenements are inserted 1:20 samples. Blank material (1:20) and crushed material duplicates (1:20) are analysed. Laboratory check samples (blanks, standards and duplicates) are also analysed as per normal laboratory practice. No assay results were	The Eltra CS analyser is calibrated by the laboratory using a combination of certified carbon and graphite standards. Calibration is achieved by using a blank followed by a 3-point calibration of the expected TGC range of the samples. One reading is made per analysis. Certified reference standards produced from material sourced from the Company's tenements are inserted 1:20 samples. Blank material (1:20) and crushed material duplicates (1:20) are analysed. Laboratory check samples (blanks, standards and duplicates) are also analysed as

Criteria	JORC Code explanation	Lifidzi Hand Auger Drilling Commentary	Dedza Aircore and RC Drilling Commentary
		obtained outside of the laboratory.	per normal laboratory practice. No assay results were obtained outside of the laboratory.
<b>Verification of sampling &amp; assaying</b>	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	Significant mineralisation intersections were verified by alternative company personnel.	Significant mineralisation intersections were verified by alternative company personnel.
	<i>The use of twinned holes.</i>	No auger hole twinning has occurred at this early stage of exploration.	No hole twinning has occurred at this early stage of exploration.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	All data was collected initially on paper logging sheets and codified to the Company's templates. This data was hand entered to spreadsheets and validated by Company geologists. This data was then imported to a Microsoft Access Database then validated automatically and manually.	All data was collected initially on paper logging sheets and codified to the Company's templates. This data was hand entered to spreadsheets and validated by Company geologists. This data was then imported to a Microsoft Access Database then validated automatically and manually.
	<i>Discuss any adjustment to assay data.</i>	No adjustments have been made to assay data.	No adjustments have been made to assay data.
<b>Location of data points</b>	<i>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.</i>	The Company's geologists use handheld Garmin GPS units to determine the collar location of the auger holes. Handheld GPS units have inherent error values of 3-10m in the XY plane and up to 10m in the Z plane, however given the early stage of exploration this is deemed acceptable.  No downhole surveys are necessary given the drilling techniques employed.	The Company's consulting surveyor used a Leica GPS System 1200 in RTK mode to define the drill-hole collar coordinates to centimetre accuracy. All down-hole surveying was carried out using a Reflex Ez-Trak multi-shot survey tool at 30m intervals down hole. No downhole surveys were completed due to the early nature of the exploration program.
	<i>Specification of the grid system used.</i>	WGS84 UTM Zone 36 South	WGS84 UTM Zone 36 South
	<i>Quality and adequacy of topographic control.</i>	At this early stage of exploration no topographic control outside of handheld GPS capabilities is employed.	The Company's consulting surveyor used a Leica GPS System 1200 in RTK mode to collect a grid mesh of points to create topographic control over the drilling prospects.
<b>Data spacing &amp; distribution</b>	<i>Data spacing for reporting of Exploration Results.</i>	At this stage of exploration, testing the anomalies to determine their nature and tenor of graphite mineralisation rather than pattern drilling. As such, a single line of 20m spaced auger holes over an anomaly is deemed to be sufficient to intercept any graphite body of mineable width.	Drill-hole spacing was on nominal 1,600m to 800m spaced lines with individual drill-holes located at 20m or 40m spacing along these lines.
	<i>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.</i>	Not applicable, no Mineral Resource or Ore Reserve estimations are covered in this release.	Not applicable, no Mineral Resource or Ore Reserve estimations are covered in this release.
	<i>Whether sample compositing has been applied.</i>	No sample compositing has occurred.	No sample compositing has occurred.
<b>Orientation of data in relation to geological structure</b>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known considering the deposit type</i>	No bias attributable to orientation of sampling has been identified due to insufficient information. It is unlikely however that the intervals reported represent true widths of mineralisation.	No bias attributable to orientation of sampling upgrading of results has been identified.
	<i>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.</i>	No bias attributable to orientation of sampling upgrading of results has been identified.	No bias attributable to orientation of sampling upgrading of results has been identified.
<b>Sample security</b>	<i>The measures taken to ensure sample security</i>	Samples were stored in secure storage from the time of augering, through gathering and splitting. The samples were sealed as soon as splitting was completed, and again securely stored awaiting shipment. Sample tracking was achieved using dispatch tracking during shipment to Johannesburg or Perth. Laboratory best practice methods were employed by the laboratory from Johannesburg to Perth.	Samples were stored in secure storage from the time of drilling, through gathering and splitting. The samples were sealed as soon as splitting was completed, and again securely stored awaiting shipment. Sample tracking was achieved using dispatch tracking during shipment to Johannesburg or Perth. Laboratory best practice methods were employed by the laboratory from Johannesburg to Perth.
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data</i>	An audit of the sampling techniques was carried out by an independent, qualified, 3 <sup>rd</sup> party geologist. No material issues were identified. It is considered by the Company that industry best practice methods have been employed at all stages of the exploration.	An audit of the sampling techniques was carried out by an independent, qualified, 3 <sup>rd</sup> party geologist. No material issues were identified. It is considered by the Company that industry best practice methods have been employed at all stages of the exploration.

## Section 2 Reporting of Exploration Results

Criteria	JORC Code explanation	Lifidzi Hand Auger Drilling Commentary	Dedza Aircore and RC Drilling Commentary
<b>Mineral tenement &amp; land tenure status</b>	<i>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 environment settings.</i>	The Company owns 100% of 3 Exclusive Prospecting Licences (EPLs) in Malawi. EPL0355 granted in 2012 for 3 years, EPL0372 granted in 2013 for 3 years, EPL0413 granted in 2014 for 3 years. All EPLs are renewable for two additional periods of 2 years each upon expiry.	The Company owns 100% of 3 Exclusive Prospecting Licences (EPLs) in Malawi. EPL0355 granted in 2012 for 3 years, EPL0372 granted in 2013 for 3 years, EPL0413 granted in 2014 for 3 years. All EPLs are renewable for two additional periods of 2 years each upon expiry.
	<i>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.</i>	The tenements are in good standing and no known impediments to exploration or mining exist.	The tenements are in good standing and no known impediments to exploration or mining exist.
<b>Exploration done by other parties</b>	<i>Acknowledgement and appraisal of exploration by other parties.</i>	No other parties were involved in exploration.	No other parties were involved in exploration.
<b>Geology</b>	<i>Deposit type, geological setting and style of mineralisation</i>	The graphite mineralisation occurs as multiple bands of graphite gneisses, hosted within a broader Proterozoic paragneiss package. In the Lifidzi area specifically, a deep topical weathering profile is preserved, resulting in significant vertical thicknesses from near surface of saprolite-hosted graphite mineralisation.	The graphite mineralisation occurs as multiple bands of graphite gneisses, hosted within a broader Proterozoic paragneiss package.
<b>Drill hole information</b>	<i>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 northings 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; and hole length</i>	Refer Table 2 within the text and the Table C in Appendix 1.	Refer Tables A and B in Appendix 1.
	<i>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</i>	Not Applicable, no information has been excluded.	Not Applicable, no information has been excluded.
<b>Data aggregation methods</b>	<i>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.</i>	No top cuts have been applied. A nominal 4% TGC lower cut-off has been applied.	No top cuts have been applied. A nominal 3% TGC lower cut-off has been applied.
	<i>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.</i>	Not applicable, no short high grade results are reported.	Not applicable, no short high grade results are reported.
	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	No metal equivalent values are used in this report.	No metal equivalent values are used in this report.
<b>Relationship between mineralisation widths &amp; intercept lengths</b>	<i>These relationships are particularly important in the reporting of Exploration Results.</i>	At this early stage of exploration the dip and dip direction is unknown at local scale. Information gathered at a regional scale from 100K mapping suggests a broadly N-S strike dipping moderately to steeply to the east and west.	The mineralisation dips steeply to the east.
	<i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i>	At this stage of exploration and given the lack of outcrop in the field this relationship is unknown.	The mineralisation dips steeply to the east.
	<i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g.</i>	Down-hole length, true width not known.	True widths are estimated at 80% of intercept widths.

Criteria	JORC Code explanation	Lifidzi Hand Auger Drilling Commentary	Dedza Aircore and RC Drilling Commentary
	'down hole length, true width not known'.		
<b>Diagrams</b>	<i>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 the drill collar locations and appropriate sectional views.</i>	See Figures 4, 7 & 8 and Table 2 within the main text of this report.	See Figure 11 and Tables within the Appendices of this report.
<b>Balanced reporting</b>	<i>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.</i>	Representative reporting of low and high grades has been effected within this report.	Representative reporting of low and high grades has been effected within this report.
<b>Other substantive exploration data</b>	<i>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.</i>	No additional meaningful and material exploration data has been excluded from this report that has not previously been reported to the ASX.	No additional meaningful and material exploration data has been excluded from this report that has not previously been reported to the ASX.
<b>Further work</b>	<i>The nature and scale of planned further work (e.g. test for lateral extensions or depth extensions or large-scale step-out drilling).</i>	Additional hand-auger drilling is being undertaken in order to expand areas of known saprolitic graphite mineralisation.	No further work is planned for Dedza in the near future.
	<i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i>	See Figures 2,4,7 & 8 within text.	See Figures 2 & 11 within text.