

11 May 2021









## DRILLING INCREASES HIGH-GRADE RUTILE ENVELOPE AT KASIYA BY 35%

*Sovereign Metals Limited (the Company or Sovereign) is pleased to announce Phase 9 drill results from Kasiya, the Company's flagship, large, high-grade rutile deposit in Malawi. This large batch of over 200 drill-holes has further substantially extended the high-grade mineralised envelope to 89km<sup>2</sup>.*

*Sovereign's very large and expanding rutile footprint in Malawi could prove to be one of the world's most significant sources of the highest purity and most environmentally sustainable titanium feedstock.*

### HIGHLIGHTS

-  Phase 9 drilling has **increased the size of the high-grade mineralised envelope at Kasiya by ~35% to 89km<sup>2</sup>** from the previous 66km<sup>2</sup>
-  The Company has now reported a **total ~114km<sup>2</sup> drilled area of high-grade rutile mineralisation** (Kasiya 89km<sup>2</sup> + Nsaru 25km<sup>2</sup>)
-  **All drill results for the maiden Mineral Resource Estimate (MRE) at Kasiya now received**
-  **Resource estimation for the MRE at Kasiya well underway** with the resource expected to cover a large portion of the 89km<sup>2</sup> mineralised envelope and targeted for completion in the coming weeks
-  Phase 9 results display numerous areas with **greater than 1.5% rutile in the top 4-5m from surface**. Results include:
 

• <b><u>13m @ 1.08% inc. 5m @ 1.52% rutile</u></b>	• <b><u>11m @ 1.17% inc. 5m @ 1.48% rutile</u></b>
• <b><u>11m @ 1.34% inc. 5m @ 1.54% rutile</u></b>	• <b><u>11m @ 1.18% inc. 4m @ 1.53% rutile</u></b>
• <b><u>11m @ 1.27% inc. 4m @ 1.68% rutile</u></b>	• <b><u>12m @ 1.02% inc. 4m @ 1.42% rutile</u></b>
• <b><u>7m @ 1.42% inc. 4m @ 1.53% rutile</u></b>	• <b><u>15m @ 1.45% inc. 5m @ 1.59% rutile</u></b>
• <b><u>14m @ 1.30% inc. 5m @ 1.80% rutile</u></b>	• <b><u>13m @ 1.24% inc. 4m @ 1.47% rutile</u></b>
• <b><u>12m @ 1.15% inc. 4m @ 1.38% rutile</u></b>	• <b><u>11m @ 1.78% inc. 8m @ 2.01% rutile</u></b>
• <b><u>15m @ 1.15% inc. 2m @ 1.80% rutile</u></b>	• <b><u>10m @ 1.20% inc. 5m @ 1.46% rutile</u></b>
-  **Further step-out drilling at Kasiya and Nsaru continues** with multiple field drilling teams deployed targeting additional rutile mineralisation that will potentially add to future resources

## Sovereign's Managing Director Dr Julian Stephens commented:

*"This drilling has served to significantly further increase the high-grade, near surface rutile mineralisation at Kasiya. We now have a grand total of well over a hundred square kilometres of mineralisation defined across Kasiya and Nsaru. This is the final batch of results we have been awaiting in order to complete the dataset required for our maiden Kasiya JORC resource estimate."*

*"These very large, high-grade areas of mineralisation may well become one of the largest primary rutile deposits in the world. Unlocking a new, globally significant source of direct feed natural rutile could help meet the growing demand for low carbon feedstock across the titanium industry supply-chain."*

## ENQUIRIES

Dr Julian Stephens (Perth)  
Managing Director  
+61(8) 9322 6322

Sam Cordin (Perth)  
+61(8) 9322 6322

Sapan Ghai (London)  
+44 207 478 3900

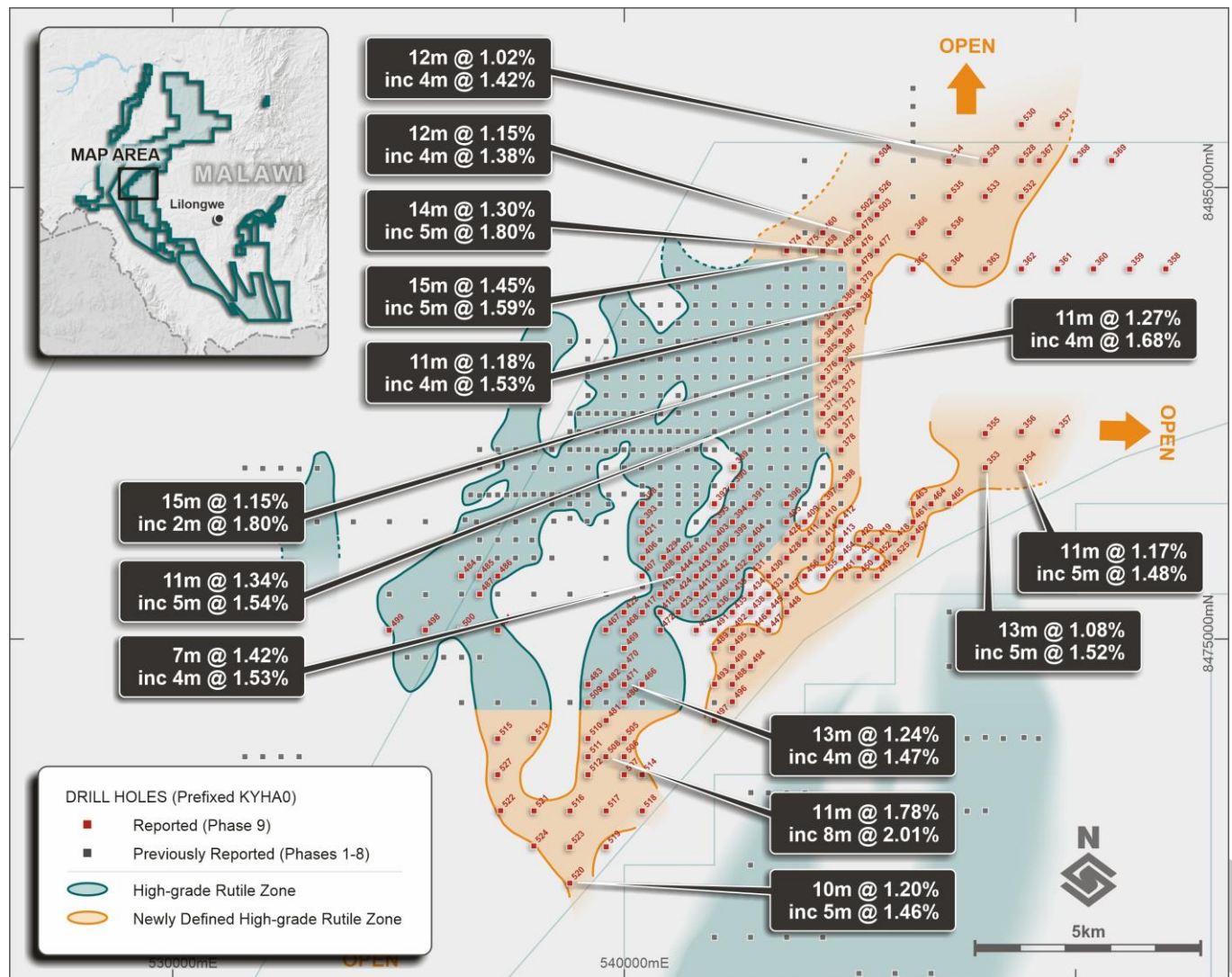


Figure 1. Map of the Kasiya deposit showing the drill-defined mineralised envelope and the newly defined extensions to the north, east and south.

## KASIYA DRILLING – PHASE 9

The Phase 9 drilling results reported comprise a further 204 hand-auger holes for a total of 1,797m. With the inclusion of Phase 9, the total number of holes reported from Kasiya to date is now 507 with 4,820m drilled.

The Phase 9 drilling has increased the size of the high-grade rutile mineralised envelope at Kasiya by ~35% to 89km<sup>2</sup> with extensions defined on the north, east and southern parts of the deposit (Figure 1).

The Company now has a total of ~114km<sup>2</sup> of drilled, high-grade rutile mineralisation (Kasiya 89km<sup>2</sup> + Nsaru 25km<sup>2</sup>).

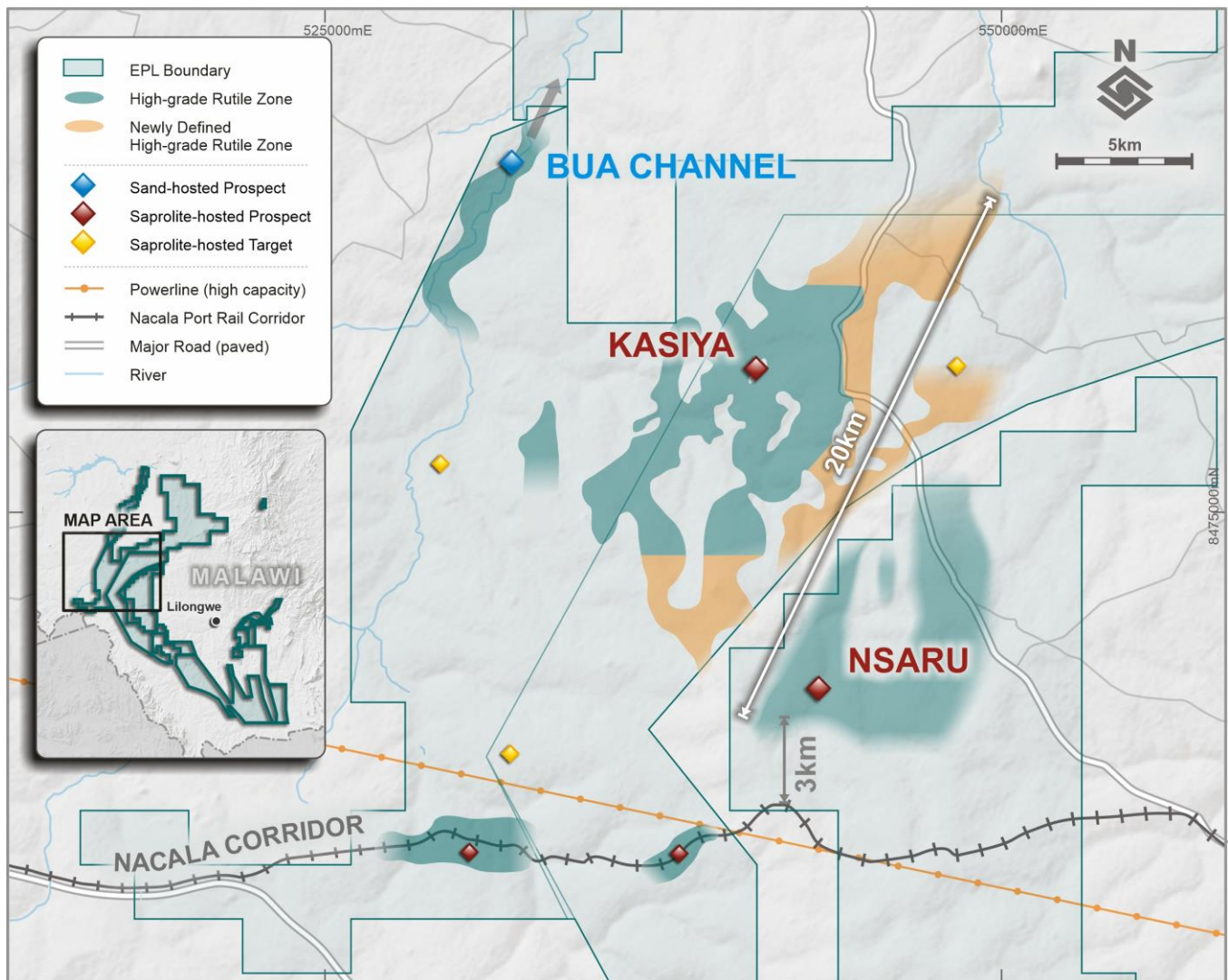


Figure 2. The Kasiya – Nsaru area showing outlines of the drilled mineralised envelopes and the location of the operating rail line, paved highway and power line.

Drilling is complete at Kasiya for the time being, with this final batch of results to be incorporated into the maiden JORC MRE. Modelling and estimation is underway and well-advanced, with the MRE expected to cover a large portion of the 89km<sup>2</sup> mineralised footprint at Kasiya.



Drill results continued to demonstrate that significant rutile enrichment occurs in the top ~8m from surface with very-high grades, commonly greater than 1.5% rutile occurring in the top 3-5m from surface. In most cases, drill depth was restricted by the hand-auger drilling equipment capacity and it is assumed that free-dig rutile mineralisation should continue vertically to the base of saprolite estimated at approximately 25m depth from surface.

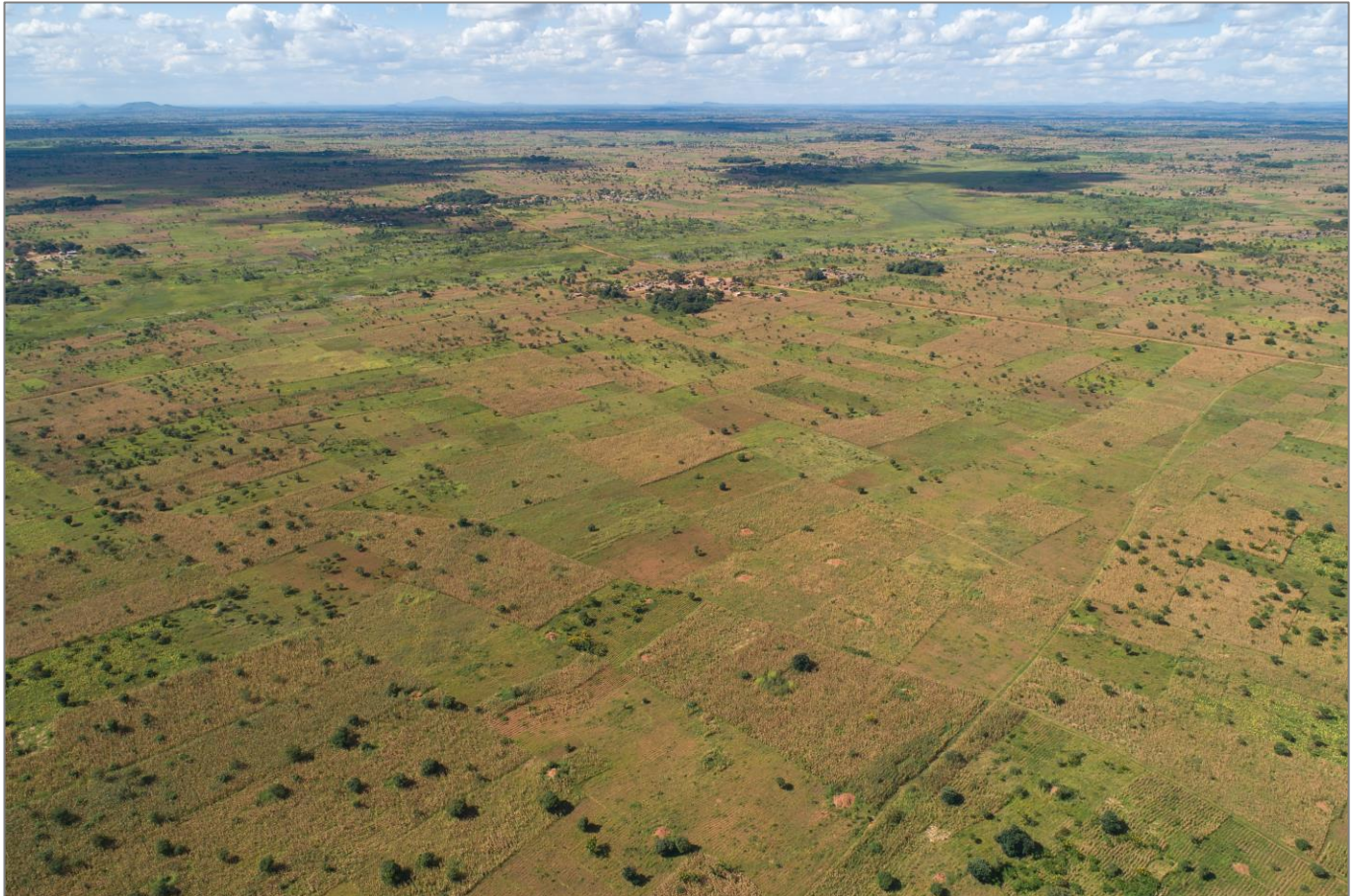


Figure 3. Drone photo above Kasiya showing the generally very flat terrain.

Step-out drilling at Kasiya and Nsaru is continuing with multiple field drilling teams deployed. Additional rutile mineralisation delineated will potentially result in future additions to the MRE.

The peripheral zones at Kasiya with nominal 800m x 800m may need further infill drilling before they can be included in a future MRE. The Nsaru deposit also requires further infill and extensional drilling before it will be brought in to the MRE.





## CONCLUSIONS & FORWARD PLAN

The Phase 9 drill results have substantially expanded the drilled mineralised envelope at Kasiya by ~35% to 89km<sup>2</sup>.

Ongoing work programs for Kasiya and Nsaru are focused on completion of the MRE to be followed by a Scoping Study. Work programs planned and underway include:

- ✦ The maiden MRE for Kasiya, expected to cover a large portion of the 89km<sup>2</sup> mineralised envelope is underway and well advanced with completion expected in the coming weeks.
- ✦ Extensional and infill hand-auger and core drilling to increase the MRE confidence and grow tonnages.
- ✦ Commencement of long-lead elements of the Scoping Study including:
  - Mining method and pit optimisation studies
  - Tailings disposal design and methodology studies
  - Continued metallurgical test-work focused on variability
  - Investigation of a potential graphite by-product from Kasiya



Figure 4. Sovereign team members hand-auger drilling at Kasiya being observed by a journalist from the Malawi Broadcasting Corporation (MBC)

## DRILL RESULTS

Drilling results from Phase 9 at Kasiya are shown below in Table 1.

Hole ID	Interval Thickness	Rutile %	From (m) Downhole	Comments
KYHA0263	2	0.83	surface	
KYHA0264	no significant results			
KYHA0265	11	0.90	surface	open at depth
incl	3	1.20	surface	
KYHA0266	13	0.71	surface	open at depth
incl	4	1.16	surface	
KYHA0267	10	0.70	surface	open at depth
incl	3	0.96	surface	
KYHA0268	no significant results			
KYHA0269	4	0.53	surface	
KYHA0270	8	0.86	surface	open at depth
incl	4	1.01	surface	
KYHA0271	no significant results			
KYHA0272	6	0.84	surface	
incl	2	1.30	surface	
KYHA0273	8	0.84	surface	open at depth
KYHA0274	5	0.66	surface	
KYHA0275	no significant results			
KYHA0280	12	0.70	surface	open at depth
incl	4	0.90	surface	
KYHA0281	no significant results			
KYHA0282	7	0.77	surface	open at depth
incl	4	0.89	surface	
KYHA0283	5	0.94	surface	open at depth
KYHA0284	4	0.68	surface	
KYHA0285	2	0.56	surface	
KYHA0287	5	0.88	surface	
<b>KYHA0353</b>	<b>13</b>	<b>1.08</b>	<b>surface</b>	<b>open at depth</b>
<b>incl</b>	<b>5</b>	<b>1.52</b>	<b>surface</b>	
<b>KYHA0354</b>	<b>11</b>	<b>1.17</b>	<b>surface</b>	<b>open at depth</b>
<b>incl</b>	<b>5</b>	<b>1.48</b>	<b>surface</b>	
KYHA0355	4	0.75	surface	open at depth
incl	2	1.01	surface	
KYHA0356	6	0.82	surface	
incl	3	1.09	surface	
KYHA0357	11	0.91	surface	open at depth
incl	3	1.70	8m	
KYHA0358	3	0.62	surface	
KYHA0359	no significant results			
KYHA0360	no significant results			
KYHA0361	no significant results			

Hole ID	Interval Thickness	Rutile %	From (m) Downhole	Comments
KYHA0362	no significant results			
KYHA0363	no significant results			
KYHA0364	11	0.82	surface	open at depth
incl	2	1.35	surface	
KYHA0365	3	0.51	surface	
KYHA0366	14	0.98	surface	open at depth
incl	4	1.26	surface	
KYHA0367	12	0.82	surface	open at depth
incl	4	1.05	surface	
KYHA0368	no significant results			
KYHA0369	no significant results			
KYHA0370	15	0.68	surface	open at depth
incl	3	1.25	surface	
KYHA0371	14	1.04	surface	open at depth
incl	5	1.35	surface	
KYHA0372	6	1.11	surface	open at depth
incl	4	1.34	surface	
KYHA0373	11	0.72	surface	open at depth
incl	4	0.97	surface	
KYHA0374	8	1.17	surface	open at depth
incl	4	1.65	surface	
<b>KYHA0375</b>	<b>11</b>	<b>1.34</b>	<b>surface</b>	<b>open at depth</b>
<b>incl</b>	<b>5</b>	<b>1.54</b>	<b>surface</b>	
KYHA0376	8	0.94	surface	
incl	3	1.37	surface	
KYHA0377	8	0.72	surface	open at depth
KYHA0378	4	0.94	surface	
KYHA0379	9	1.09	surface	
incl	5	1.48	surface	
KYHA0380	14	0.78	surface	open at depth
incl	3	1.39	surface	
<b>KYHA0381</b>	<b>11</b>	<b>1.18</b>	<b>surface</b>	<b>open at depth</b>
<b>incl</b>	<b>4</b>	<b>1.53</b>	<b>surface</b>	
KYHA0382	3	1.08	surface	
KYHA0383	11	0.98	surface	open at depth
incl	2	1.37	surface	
KYHA0384	7	0.91	surface	open at depth
incl	4	1.06	surface	
<b>KYHA0385</b>	<b>15</b>	<b>1.15</b>	<b>surface</b>	<b>open at depth</b>
<b>incl</b>	<b>2</b>	<b>1.80</b>	<b>surface</b>	
<b>KYHA0386</b>	<b>11</b>	<b>1.27</b>	<b>surface</b>	<b>open at depth</b>
<b>incl</b>	<b>4</b>	<b>1.68</b>	<b>surface</b>	
KYHA0387	6	1.25	surface	
incl	2	1.93	surface	

Hole ID	Interval Thickness	Rutile %	From (m) Downhole	Comments
KYHA0388	6	0.86	surface	open at depth
KYHA0389	no significant results			
KYHA0390	5	0.87	surface	
incl	2	1.22	surface	
KYHA0391	4	0.86	surface	
incl	2	1.14	surface	
KYHA0392	3	0.57	surface	open at depth
KYHA0393	3	0.75	surface	open at depth
KYHA0394	6	0.85	surface	open at depth
incl	2	1.18	surface	
KYHA0395	2	0.71	surface	
KYHA0396	8	1.05	surface	
KYHA0397	5	1.04	surface	
incl	2	1.42	surface	
KYHA0398	12	0.95	surface	open at depth
incl	4	1.04	surface	
KYHA0399	2	0.71	surface	
KYHA0400	13	1.04	surface	open at depth
incl	4	1.16	surface	
KYHA0401	7	0.95	surface	
incl	3	1.06	surface	
KYHA0402	7	1.01	surface	open at depth
incl	2	1.41	surface	
KYHA0403	2	0.72	surface	open at depth
KYHA0404	2	1.05	surface	open at depth
KYHA0405	6	1.23	surface	open at depth
incl	3	1.45	surface	
KYHA0406	7	0.83	surface	open at depth
incl	3	1.38	4m	
KYHA0407	2	0.62	surface	
KYHA0408	2	1.05	surface	
KYHA0409	no significant results			
KYHA0410	4	0.98	surface	
KYHA0411	11	1.07	surface	open at depth
incl	4	1.28	surface	
KYHA0412	3	0.61	surface	
KYHA0413	2	0.68	surface	
KYHA0414	10	0.95	surface	open at depth
incl	4	1.03	surface	
KYHA0415	10	0.80	surface	open at depth
KYHA0416	3	0.60	surface	open at depth
KYHA0417	11	1.01	surface	open at depth
incl	2	1.58	surface	
KYHA0418	6	0.80	surface	open at depth



Hole ID	Interval Thickness	Rutile %	From (m) Downhole	Comments
incl	2	1.08	surface	
KYHA0419	9	0.72	surface	open at depth
KYHA0420	5	0.88	surface	
incl	2	1.44	surface	
KYHA0421	2	0.75	surface	open at depth
KYHA0422	4	0.85	surface	
KYHA0423	9	1.01	surface	open at depth
incl	2	1.31	surface	
KYHA0424	8	1.20	surface	open at depth
incl	2	1.89	surface	
KYHA0425	5	1.01	surface	open at depth
KYHA0426	4	0.76	surface	
KYHA0427	4	0.81	surface	
KYHA0428	4	1.05	surface	
KYHA0429	4	0.94	surface	open at depth
KYHA0430	8	0.85	surface	open at depth
incl	3	1.18	surface	
KYHA0431	no significant results			
KYHA0432	3	0.69	surface	
KYHA0433	no significant results			
KYHA0434	no significant results			
KYHA0435	no significant results			
KYHA0436	2	0.80	surface	
KYHA0437	2	1.80	surface	
KYHA0438	4	0.55	surface	open at depth
KYHA0439	11	0.89	surface	open at depth
incl	5	1.01	surface	
KYHA0440	9	0.75	surface	
KYHA0441	5	0.62	surface	
KYHA0442	12	0.86	surface	open at depth
KYHA0443	3	0.81	surface	open at depth
<b>KYHA0444</b>	<b>7</b>	<b>1.42</b>	<b>surface</b>	<b>open at depth</b>
<b>incl</b>	<b>4</b>	<b>1.53</b>		
KYHA0445	3	0.55	surface	
KYHA0446	5	0.65	surface	open at depth
KYHA0447	no significant results			
KYHA0448	7	0.73	surface	open at depth
KYHA0449	8	0.64	surface	open at depth
KYHA0450	2	1.17	surface	
KYHA0451	3	0.78	surface	open at depth
KYHA0452	8	0.61	surface	open at depth
KYHA0453	3	0.63	surface	open at depth
KYHA0454	no significant results			
KYHA0455	4	0.56	surface	open at depth

Hole ID	Interval Thickness	Rutile %	From (m) Downhole	Comments
KYHA0456	no significant results			
KYHA0457	2	0.92	surface	
<b>KYHA0458</b>	<b>15</b>	<b>1.45</b>	<b>surface</b>	<b>open at depth</b>
<b>incl</b>	<b>5</b>	<b>1.59</b>		
<b>KYHA0459</b>	<b>14</b>	<b>1.30</b>	<b>surface</b>	<b>open at depth</b>
<b>incl</b>	<b>5</b>	<b>1.80</b>	<b>surface</b>	
KYHA0460	8	0.84	surface	
incl	4	1.09	surface	
KYHA0461	no significant results			
KYHA0462	4	0.77	surface	
KYHA0463	4	0.70	surface	
KYHA0464	4	0.80	surface	
KYHA0465	3	1.01	surface	open at depth
KYHA0466	4	0.62	surface	
KYHA0467	3	0.80	surface	open at depth
KYHA0468	13	0.94	surface	open at depth
incl	4	1.08	surface	
KYHA0469	4	0.81	surface	
KYHA0470	8	1.05	surface	open at depth
incl	4	1.21	surface	
<b>KYHA0471</b>	<b>13</b>	<b>1.24</b>	<b>surface</b>	<b>open at depth</b>
<b>incl</b>	<b>8</b>	<b>1.32</b>	<b>surface</b>	
<b>incl</b>	<b>4</b>	<b>1.47</b>	<b>surface</b>	
KYHA0472	5	0.76	surface	
KYHA0473	8	0.85	surface	
incl	3	1.12	surface	
KYHA0474	no significant results			
KYHA0475	3	1.03	surface	
KYHA0476	7	0.92	surface	open at depth
incl	4	1.19	surface	
KYHA0477	3	1.10	surface	
<b>KYHA0478</b>	<b>12</b>	<b>1.15</b>	<b>surface</b>	<b>open at depth</b>
incl	8	1.20	surface	
<b>incl</b>	<b>4</b>	<b>1.38</b>	<b>surface</b>	
KYHA0479	5	0.83	surface	open at depth
KYHA0480	5	0.68	surface	
KYHA0481	8	0.99	surface	open at depth
KYHA0482	4	1.05	surface	
KYHA0483	3	1.15	surface	open at depth
KYHA0484	5	1.49	surface	
KYHA0485	13	0.93	surface	open at depth
incl	4	1.30	surface	open at depth
KYHA0486	10	1.00	surface	open at depth
KYHA0487	11	0.94	surface	open at depth

Hole ID	Interval Thickness	Rutile %	From (m) Downhole	Comments
incl	8	1.11	surface	
KYHA0488	4	0.88	surface	
KYHA0489	4	0.51	surface	
KYHA0490	2	0.92	surface	
KYHA0491	no significant results			
KYHA0492	4	0.61	surface	
KYHA0493	2	1.00	surface	
KYHA0494	7	0.65	surface	
KYHA0495	no significant results			
KYHA0496	10	0.69	surface	open at depth
KYHA0497	11	0.95	surface	open at depth
KYHA0498	4	0.52	surface	
KYHA0499	no significant results			
KYHA0500	4	0.56	surface	open at depth
KYHA0501	8	0.67	surface	open at depth
KYHA0502	12	0.87	surface	open at depth
incl	4	1.18	surface	
KYHA0503	4	1.05	surface	
KYHA0504	12	1.01	surface	open at depth
incl	4	1.11		
KYHA0505	9	0.75	surface	
incl	4	1.01	surface	
KYHA0506	9	0.98	surface	open at depth
KYHA0507	10	0.65	surface	open at depth
incl	4	0.84	surface	
<b>KYHA0508</b>	<b>11</b>	<b>1.78</b>	<b>surface</b>	<b>open at depth</b>
<b>incl</b>	<b>8</b>	<b>2.01</b>	<b>surface</b>	
<b>incl</b>	<b>4</b>	<b>2.52</b>	<b>surface</b>	
KYHA0509	10	1.08	surface	open at depth
incl	4	1.56	surface	
KYHA0510	6	1.31	surface	open at depth
KYHA0511	10	0.90	surface	open at depth
incl	4	1.28	surface	
KYHA0512	8	0.67	surface	open at depth
incl	3	0.99	surface	
KYHA0513	5	0.57	surface	
KYHA0514	5	0.89	surface	
KYHA0515	4	0.70	surface	
KYHA0516	6	1.11	surface	open at depth
KYHA0517	8	0.88	surface	open at depth
KYHA0518	4	0.69	surface	open at depth
KYHA0519	no significant results			
<b>KYHA0520</b>	<b>10</b>	<b>1.20</b>	<b>surface</b>	<b>open at depth</b>
<b>incl</b>	<b>5</b>	<b>1.46</b>	<b>surface</b>	



Hole ID	Interval Thickness	Rutile %	From (m) Downhole	Comments
KYHA0521	5	1.14	surface	open at depth
KYHA0522	1	1.06	surface	open at depth
KYHA0523	6	1.16	surface	open at depth
incl	4	1.33	surface	
KYHA0524	no significant results			
KYHA0525	3	0.82	surface	open at depth
KYHA0526	2	0.87	surface	open at depth
KYHA0527	10	0.71	surface	open at depth
KYHA0528	11	0.93	surface	open at depth
incl	3	1.36	surface	
<b>KYHA0529</b>	<b>12</b>	<b>1.02</b>	<b>surface</b>	<b>open at depth</b>
<b>incl</b>	<b>4</b>	<b>1.42</b>	<b>surface</b>	
KYHA0530	4	0.55	surface	
KYHA0531	7	0.99	surface	open at depth
incl	4	1.07	surface	
KYHA0532	5	1.15	surface	
KYHA0533	3	1.07	surface	open at depth
KYHA0534	5	1.38	surface	open at depth
KYHA0535	10	0.86	surface	open at depth
incl	3	1.35	surface	
KYHA0536	9	1.00	surface	open at depth
incl	2	2.11	surface	

## **Competent Person's Statement**

*The information in this announcement that relates to Exploration Results is based on information compiled by Dr Julian Stephens, a Competent Person who is a member of the Australian Institute of Geoscientists (AIG). Dr Stephens is the Managing Director of Sovereign Metals Limited and a holder of ordinary shares, unlisted options and performance rights in Sovereign. Dr Stephens 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'. Dr Stephens consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.*

## **Forward Looking Statement**

*This release may include forward-looking statements, which may be identified by words such as "expects", "anticipates", "believes", "projects", "plans", and similar expressions. These forward-looking statements are based on Sovereign's expectations and beliefs concerning future events. Forward looking statements are necessarily subject to risks, uncertainties and other factors, many of which are outside the control of Sovereign, which could cause actual results to differ materially from such statements. There can be no assurance that forward-looking statements will prove to be correct. Sovereign makes no undertaking to subsequently update or revise the forward-looking statements made in this release, to reflect the circumstances or events after the date of that release.*

*This announcement has been approved and authorised for release by the Company's Managing Director, Julian Stephens.*



## APPENDIX 1: DRILL HOLE DATA

Hole ID	Easting	Northing	RL	Depth
KYHA0263	540399	8475200	1104	8
KYHA0264	541201	8475200	1095	7
KYHA0265	539600	8474400	1118	12
KYHA0266	540400	8474399	1119	13
KYHA0267	541199	8474399	1111	10
KYHA0268	541999	8474399	1109	10
KYHA0269	538800	8472801	1123	13
KYHA0270	539600	8472800	1137	8
KYHA0271	540399	8472798	1129	10
KYHA0272	541198	8472803	1123	11
KYHA0273	539599	8471999	1153	8
KYHA0274	538798	8471998	1133	14
KYHA0275	537997	8472000	1118	5
KYHA0280	547200	8479601	1146	12
KYHA0281	547199	8478799	1153	13
KYHA0282	545598	8484001	1126	10
KYHA0283	545600	8483201	1124	5
KYHA0284	546799	8477598	1150	11
KYHA0285	546000	8477598	1138	7
KYHA0287	544801	8483998	1130	14
KYHA0353	548000	8478800	1147	13
KYHA0354	548800	8478800	1138	11
KYHA0355	548000	8479557	1136	4
KYHA0356	548801	8479597	1133	12
KYHA0357	549597	8479602	1129	11
KYHA0358	552000	8483200	1105	11
KYHA0359	551198	8483199	1117	13
KYHA0360	550398	8483200	1118	8
KYHA0361	549600	8483201	1134	12
KYHA0362	548800	8483199	1128	12
KYHA0363	547999	8483199	1112	3
KYHA0364	547201	8483205	1111	11
KYHA0365	546400	8483198	1116	10
KYHA0366	546400	8484000	1119	14
KYHA0367	549198	8485599	1109	12
KYHA0368	549999	8485598	1103	10
KYHA0369	550803	8485600	1084	5
KYHA0370	544400	8479600	1145	15
KYHA0371	544400	8480000	1145	15
KYHA0372	544800	8480000	1139	6
KYHA0373	544801	8480402	1138	11
KYHA0374	544799	8480800	1138	8
KYHA0375	544400	8480401	1145	11
KYHA0376	544400	8480800	1145	15
KYHA0377	544801	8479602	1141	8



Hole ID	Easting	Northing	RL	Depth
KYHA0378	544806	8479194	1143	7
KYHA0379	545200	8482800	1131	13
KYHA0380	544800	8482400	1134	14
KYHA0381	545200	8482400	1128	11
KYHA0382	544399	8482000	1136	9
KYHA0383	544799	8482000	1126	11
KYHA0384	544400	8481600	1138	11
KYHA0385	544400	8481200	1142	15
KYHA0386	544803	8481200	1137	11
KYHA0387	544800	8481600	1132	9
KYHA0388	540402	8478002	1084	6
KYHA0389	542432	8478816	1107	3
KYHA0390	542400	8478400	1107	7
KYHA0391	542800	8478000	1115	8
KYHA0392	542001	8478000	1097	3
KYHA0393	540404	8477601	1083	5
KYHA0394	542400	8477600	1101	6
KYHA0395	542000	8477600	1093	5
KYHA0396	543600	8478000	1131	11
KYHA0397	544400	8478000	1128	7
KYHA0398	544799	8478402	1141	12
KYHA0399	542400	8477201	1099	2
KYHA0400	542000	8476800	1099	13
KYHA0401	541600	8476801	1087	9
KYHA0402	541199	8476799	1082	7
KYHA0403	541999	8477201	1093	2
KYHA0404	542795	8477200	1101	7
KYHA0405	543600	8477600	1117	6
KYHA0406	540415	8476800	1078	7
KYHA0407	540398	8476401	1089	6
KYHA0408	540797	8476401	1084	8
KYHA0409	544000	8477599	1118	6
KYHA0410	544400	8477600	1129	8
KYHA0411	544000	8477200	1126	11
KYHA0412	544800	8477600	1130	10
KYHA0413	544800	8477200	1120	11
KYHA0414	544400	8477200	1127	10
KYHA0415	540800	8476003	1093	10
KYHA0416	540800	8475600	1094	8
KYHA0417	540400	8475600	1103	10
KYHA0418	546000	8477200	1138	11
KYHA0419	545600	8477200	1131	9
KYHA0420	545200	8477200	1123	5
KYHA0421	540399	8477199	1071	5
KYHA0422	539997	8475598	1105	10
KYHA0423	541198	8475600	1088	9
KYHA0424	541174	8476006	1079	8

Hole ID	Easting	Northing	RL	Depth
KYHA0425	543600	8477200	1119	5
KYHA0426	542800	8476802	1112	12
KYHA0427	544400	8476800	1121	10
KYHA0428	543600	8476800	1122	12
KYHA0429	540874	8476817	1073	4
KYHA0430	543200	8476400	1116	8
KYHA0431	542800	8476402	1110	12
KYHA0432	542400	8476400	1105	9
KYHA0433	543201	8476001	1110	10
KYHA0434	542800	8476000	1100	10
KYHA0435	542396	8475598	1084	3
KYHA0436	541998	8475601	1089	4
KYHA0437	541598	8475601	1088	6
KYHA0438	542800	8475600	1089	4
KYHA0439	542400	8475994	1093	11
KYHA0440	541990	8475984	1086	9
KYHA0441	541600	8476000	1083	10
KYHA0442	542000	8476401	1099	12
KYHA0443	541600	8476400	1092	12
KYHA0444	541201	8476402	1075	7
KYHA0445	543200	8475600	1093	6
KYHA0446	542848	8475200	1084	5
KYHA0447	543200	8475200	1096	8
KYHA0448	543600	8475600	1101	7
KYHA0449	545600	8476400	1129	8
KYHA0450	545200	8476400	1125	5
KYHA0451	544800	8476400	1115	3
KYHA0452	545600	8476800	1124	8
KYHA0453	545205	8476800	1118	3
KYHA0454	544800	8476800	1112	4
KYHA0455	544400	8476403	1108	4
KYHA0456	544000	8476400	1112	4
KYHA0457	543599	8475999	1101	7
KYHA0458	544400	8483602	1128	15
KYHA0459	544798	8483602	1132	14
KYHA0460	544399	8484000	1128	13
KYHA0461	546399	8477600	1147	12
KYHA0462	546398	8477247	1145	10
KYHA0463	546404	8478005	1149	12
KYHA0464	546800	8477998	1153	6
KYHA0465	547200	8477999	1147	3
KYHA0466	540399	8474003	1123	11
KYHA0467	539592	8475207	1105	3
KYHA0468	540000	8475200	1109	13
KYHA0469	540000	8474800	1115	13
KYHA0470	539999	8474400	1122	8
KYHA0471	540000	8474000	1127	13

Hole ID	Easting	Northing	RL	Depth
KYHA0472	540801	8475202	1100	8
KYHA0473	541600	8475200	1098	13
KYHA0474	543599	8483600	1113	8
KYHA0475	543991	8483600	1120	10
KYHA0476	545199	8483601	1132	10
KYHA0477	545601	8483601	1128	11
KYHA0478	545198	8483998	1130	12
KYHA0479	545200	8483200	1131	5
KYHA0480	539999	8473601	1127	13
KYHA0481	539602	8473203	1128	8
KYHA0482	539595	8473983	1123	13
KYHA0483	539199	8474000	1116	3
KYHA0484	536400	8476400	1095	12
KYHA0485	536797	8476401	1098	13
KYHA0486	537199	8476401	1098	10
KYHA0487	536799	8476000	1100	11
KYHA0488	542396	8474000	1103	8
KYHA0489	541999	8474801	1106	6
KYHA0490	542400	8474400	1101	7
KYHA0491	541999	8475199	1100	10
KYHA0492	542401	8475199	1098	9
KYHA0493	542001	8474007	1113	9
KYHA0494	542800	8474402	1092	7
KYHA0495	542399	8474801	1101	12
KYHA0496	542397	8473616	1102	10
KYHA0497	541999	8473200	1115	11
KYHA0498	535599	8475204	1110	4
KYHA0499	534799	8475204	1090	8
KYHA0500	536380	8475208	1099	4
KYHA0501	537200	8475200	1104	8
KYHA0502	545200	8484400	1125	12
KYHA0503	545600	8484400	1121	10
KYHA0504	545600	8485600	1117	12
KYHA0505	540000	8472801	1135	13
KYHA0506	540000	8472400	1142	9
KYHA0507	540000	8472000	1145	10
KYHA0508	539595	8472402	1152	11
KYHA0509	539202	8473600	1118	11
KYHA0510	539201	8472801	1131	6
KYHA0511	539201	8472402	1142	10
KYHA0512	539201	8472001	1144	8
KYHA0513	537996	8472803	1111	8
KYHA0514	540400	8472000	1137	5
KYHA0515	537201	8472797	1118	11
KYHA0516	538800	8471200	1130	6
KYHA0517	539600	8471201	1143	8
KYHA0518	540400	8471200	1139	4



Hole ID	Easting	Northing	RL	Depth
KYHA0519	539601	8470403	1133	6
KYHA0520	538798	8469600	1134	10
KYHA0521	538004	8471200	1124	5
KYHA0522	537263	8471202	1113	1
KYHA0523	538799	8470399	1122	6
KYHA0524	538000	8470421	1110	4
KYHA0525	546000	8476800	1130	3
KYHA0526	545600	8484800	1113	2
KYHA0527	537200	8472000	1119	10
KYHA0528	548800	8485600	1110	11
KYHA0529	548001	8485600	1103	12
KYHA0530	548802	8486400	1095	12
KYHA0531	549599	8486401	1089	7
KYHA0532	548798	8484801	1118	12
KYHA0533	548001	8484805	1109	3
KYHA0534	547191	8485588	1098	5
KYHA0535	547200	8484800	1102	10
KYHA0536	547200	8484000	1104	9

\* All holes were vertical.

## APPENDIX 2: JORC CODE, 2012 EDITION – TABLE 1

### SECTION 1 - SAMPLING TECHNIQUES AND DATA

Criteria	JORC Code explanation	Hand Auger 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>	A total of 204 hand auger holes for 1,797m were drilled at the Kasiya Rutile Deposit to obtain samples for quantitative determination of recoverable rutile and graphite (graphite results are pending).  Samples were composited based on regolith boundaries and chemistry generated by hand-held XRF, generally at 3, 4 or 5m intervals.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	Drilling and sampling activities were supervised by a suitably qualified Company geologist who was present at all times. All bulk 1-metre drill samples were geologically logged by the geologist at the drill site.  Each 1m sample was sun dried and homogenised. Sub-samples were carefully riffle split to ensure representivity. ~1.5kg composite samples were processed.  Extreme care is taken to ensure an equivalent mass is taken from each 1m sample to make up the composite. The primary composite sample is considered representative for this style of rutile mineralisation.
	<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>	Logged mineralogy percentages, lithology information and TiO <sub>2</sub> % obtained from handheld XRF were used to determine compositing intervals. Care is taken to ensure that only lithological units with similar geological and grade characteristics are composited together.
<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>	Hand-auger drilling with 75mm diameter enclosed spiral bits with 1-metre long steel rods. Each 1m of drill sample is collected into separate sample bags and set aside. The auger bits and flights are cleaned between each metre of sampling to avoid contamination.
<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. Drilling is ceased when recoveries become poor once the water table has been reached.
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	The Company's trained geologists supervise auger drilling on a 1 team 1 geologist basis and are responsible for monitoring all aspects of the drilling and sampling process.
	<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 bias related to preferential loss or gain of different materials has occurred.
<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 metallurgical studies.</i>	All individual 1-metre auger intervals are geologically logged, recording relevant data to a set template using company codes. A small representative sample is collected for each 1-metre interval and placed in appropriately labelled chip trays for future reference.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</i>	All logging includes lithological features and estimates of basic mineralogy. Logging is generally qualitative.
	<i>The total length and percentage of the relevant intersection logged</i>	100% of samples are 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 – no core drilling conducted.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i>	Samples from the 204 auger holes drilled were composited. Each 1m sample was sun dried and homogenised. Sub-samples were carefully riffle split to ensure sample representivity. ~1.5kg composite samples were processed.  Extreme care is taken to ensure an equivalent mass is taken from each 1m sample to make up the composite.  The primary composite sample is considered representative for this style of rutile mineralisation and is consistent with industry standard practice.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	Use of the above compositing and sampling technique is deemed appropriate given the dry nature of the samples.

Criteria	JORC Code explanation	Hand Auger Drilling Commentary
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	The sampling equipment is cleaned after each sub-sample is taken.
	<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>	Extreme care is taken to ensure an equivalent mass is taken from each 1m sample to make up each composite.
	<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.
<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>	<p>The Malawi onsite laboratories sample preparation methods are considered quantitative to the point where a heavy mineral concentrate (HMC) is generated.</p> <p>Final results generated are for recovered rutile i.e. the % mass of the sample that is rutile that can be recovered to a heavy mineral concentrate.</p> <p>The following workflow for the samples was undertaken on-site in Malawi;</p> <ul style="list-style-type: none"> <li>• Dry sample in oven for 1 hour at 105°C</li> <li>• Soak in water and lightly agitate</li> <li>• Wet screen at 5mm, 600mm and 45µm to remove oversize and slimes material</li> <li>• Dry +45µm -600mm (sand fraction) in oven for 1 hour at 105°C</li> </ul> <p>The following workflow for the samples was then undertaken at Perth based Laboratories.</p> <ul style="list-style-type: none"> <li>• Split ~150g off Sand fraction for Heavy Liquid Separation (HLS) using Tetrabromomethane (TBE, SG 2.96g/cc) as the liquid heavy media. Work undertaken at Diamantina Laboratories.</li> <li>• Magnetic separation of the THM Sinks by Carpc magnet @ 16,800G (2.9Amps) into a magnetic (M) and non-magnetic (NM) fraction. Work undertaken at Allied Mineral Laboratories (AML) in Perth.</li> <li>• The NM fractions were sent to ALS Perth for quantitative XRF analysis.</li> <li>• Rutile is reported as: rutile mineral recovered to the total NM concentrate fraction as a % of the total primary, dry, raw sample mass.</li> </ul>
	<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>	Acceptable levels of accuracy and precision have been established. No handheld methods are used for quantitative determination.
	<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>	ALS used internal XRF standards and duplicates. The overall quality of QA/QC is considered to be good.
	<i>The verification of significant intersections by either independent or alternative company personnel.</i>	Significant mineralisation intersections were verified by qualified, alternative company personnel.
<b>Verification of sampling &amp; assaying</b>	<i>The use of twinned holes.</i>	No twin holes have been used.
	<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.
	<i>Discuss any adjustment to assay data.</i>	Rutile is reported as: rutile mineral recovered to the total NM concentrate fraction as a % of the total primary, dry raw sample mass.
	<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>	A Trimble R2 Differential GPS was used to pick up the hand auger collars.
<b>Location of data points</b>	<i>Specification of the grid system used.</i>	No downhole surveying of auger holes is completed. Given the vertical nature and shallow depths of the auger holes drill hole deviation is not considered to significantly affect the downhole location of samples.
	<i>Quality and adequacy of topographic control.</i>	WGS84 UTM Zone 36 South.
		DGPS pickups are considered to be high quality topographic control measures.
<b>Data spacing &amp; distribution</b>	<i>Data spacing for reporting of Exploration Results.</i>	<p>The hand auger collars are spaced at approximately 400m along the drill-lines. All extensional holes are designed to provide systematic strike and width extension of the anomalous lines of hand auger drilling previously reported along this same trend.</p> <p>It is deemed that these holes should be broadly representative of the mineralisation style in the general area. More work is required to accurately determine the variability of the mineralisation in the Kasiya region.</p>
	<i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral</i>	Not applicable, no Mineral Resource or Ore Reserve estimations are covered by new data in this report.



Criteria	JORC Code explanation	Hand Auger Drilling Commentary
	<i>Resource and Ore Reserve estimation procedure(s) and classifications applied.</i>	
	<i>Whether sample compositing has been applied.</i>	Individual 1-metre auger intervals have been composited over a determined interval of interest for the 204 auger holes drilled in order to obtain a primary sample of ~1.5kg mass for mineralogical analysis.
<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.
	<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>	All holes were drilled vertically as the nature of the mineralisation is horizontal. No bias attributable to orientation of drilling 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 drilling, through gathering, compositing and analysis. The samples were sealed as soon as site preparation was completed, and again securely stored during shipment and while at Australian laboratories.
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data</i>	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	Explanation	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 the following Exploration Licences (ELs) under the Mines and Minerals Act 2019, held in the Company's wholly-owned, Malawi-registered subsidiary, Sovereign Services Limited: EL0372, EL0355, EL0413, EL0492, EL0528, EL0545, EL0561 and EL0582.
	<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.
<b>Exploration done by other parties</b>	<i>Acknowledgement and appraisal of exploration by other parties.</i>	No other parties were involved in exploration.
<b>Geology</b>	<i>Deposit type, geological setting and style of mineralisation</i>	The rutile deposit type could be termed a residual placer formed by the intense weathering of rutile-rich basement paragneisses.  Rutile occurs in a mostly topographically flat area west of Malawi's capital known as the Lilongwe Plain where a deep tropical weathering profile is preserved. A typical profile from top to base is generally soil ("SOIL" 0-1m) ferruginous pedolith ("FERP", 1-4m), mottled zone ("MOTT", 4-7m), pallid saprolite ("PSAP", 7-9m), saprolite ("SAPL", 9-25m), saprock ("SAPR", 25-35m) and fresh rock ("FRESH" >35m).
<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>	All collar and composite data is provided in the body and Appendices of this report. All holes were drilled vertically.
	<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>	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</i>	All results reported are of a length-weighted average. The results reported in the body of the report are on a nominal lower cut-off of 0.5% Rutile.

Criteria	Explanation	Commentary
	<i>high-grades) and cut-off grades are usually Material and should be stated.</i>	
	<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>	No significant aggregate intercepts have been 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.
<b>Relationship between mineralisation widths &amp; intercept lengths</b>	<i>These relationships are particularly important in the reporting of Exploration Results.</i>	It is considered that the mineralisation lies in laterally extensive, near surface, flat "blanket" style, generally NNE striking bodies in areas where the entire weathering profile is preserved and not significantly eroded.
	<i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i>	The mineralisation lies in laterally extensive, near surface, flat "blanket" style, in generally NNE striking bodies.
	<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. 'down hole length, true width not known'.</i>	Downhole widths approximate true widths. Some mineralisation currently remains open at depth.
<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>	Refer to figures in the body 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>	All results have been reported in 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>	Rutile has been determined to be the major TiO <sub>2</sub> -bearing mineral at and around several rutile prospects and within Sovereign's ground package. The company continues to examine areas within the large tenement package for rutile mineralisation.
<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>	Laboratory processing of 2021 drilling samples on the saprolite prospects continues.  Drilling is ongoing at Kasiya and Nsaru to further expand the areas of known rutile mineralisation.
	<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>	Refer to diagrams in the body of this report.