SOVEREIGN METALS LIMITED

22 April 2020

# DRILLING EXTENDS HIGH GRADE RUTILE AT BUA CHANNEL TO +8KM LENGTH

*Sovereign Metals Limited ("the Company" or "Sovereign") is pleased to report that latest drilling results from the sand-hosted Bua Channel have extended the known, high-grade rutile mineralisation to +8km channel length.*

## HIGHLIGHTS

- Drilling continues to confirm and extend the **high-grade, rutile dominant,** sand-hosted, Bua Channel placer deposit within the emerging Malawi Rutile Province
- Air-core and hand-auger drilling results have **extended rutile mineralisation to over 8km** length
- Second phase air-core results (37 holes) include;
  - ***7m @ 0.86% rutile**, 1.4% ilmenite & 0.08% zircon (from surface)*
    *inc. **3m @ 1.05% rutile**, 1.7% ilmenite & 0.09% zircon (from 4m)*
  - ***5m @ 0.80% rutile**, 1.3% ilmenite & 0.07% zircon (from 4m)*
    *inc. **1m @ 1.11% rutile**, 1.8% ilmenite & 0.10% zircon (from 8m)*
  - ***4m @ 1.11% rutile**, 1.8% ilmenite & 0.10% zircon (from 4m)*
    *inc. **1m @ 1.36% rutile**, 2.3% ilmenite & 0.12% zircon (from 7m)*
- Second phase hand-auger results (49 holes) include;
  - ***6m @ 1.09% rutile**, 1.6% ilmenite & 0.13% zircon (from surface)*
    *inc. **4m @ 1.28% rutile**, 1.9% ilmenite & 0.15% zircon (from 2m)*
  - ***6m @ 0.85% rutile**, 1.2% ilmenite & 0.11% zircon (from surface)*
    *inc. **4m @ 1.00% rutile**, 1.4% ilmenite & 0.12% zircon (from 2m)*
  - ***6m @ 0.70% rutile**, 1.0% ilmenite & 0.11% zircon (from surface)*
    *inc. **4m @ 0.80% rutile**, 1.1% ilmenite & 0.12% zircon (from 2m)*
- The Bua Channel is geologically well defined over a **total length of ~50km**. Planning and permitting for a drilling program to test the remaining ~42km length of the channel is in progress
- Extensional and in-fill drilling continues at the saprolite-hosted Kasiya Prospect with additional sample batches already in Perth (Phase 3) for laboratory analysis and in transit (Phase 4)

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

*"These new results from the Bua Channel are very encouraging and continue to confirm the extensive potential of the Bua Channel. The remaining significant upside with over 40km of channel length to be explored places the Company in an exciting position. We are very much looking forward to unlocking what we believe is a globally significant, strategic rutile province in Malawi, as we continue to advance the large, high-grade saprolite-hosted Kasiya Prospect and the sand-hosted Bua Channel Prospect."*


***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*

SOVEREIGN METALS LIMITED
ASX:SVM

# BUA CHANNEL DRILL PROGRAM

A total of 57 shallow hand-auger holes for 364m and 54 deeper air-core holes for 473m were drilled at Bua Channel in late 2019. The final 49 hand-auger and 37 air-core hole results for this program are reported. Both sets of results have returned excellent grades of rutile and high-quality ilmenite (~60% $TiO_2$) over the southern ~8km of the Bua Channel.

QEMSCAN mineralogy test-work shows clean and liberated rutile grains. Additionally, QEMSCAN shows the ilmenite to be very high quality with a $TiO_2$ content of ~60%, indicating it may be suitable as chloride feedstock.

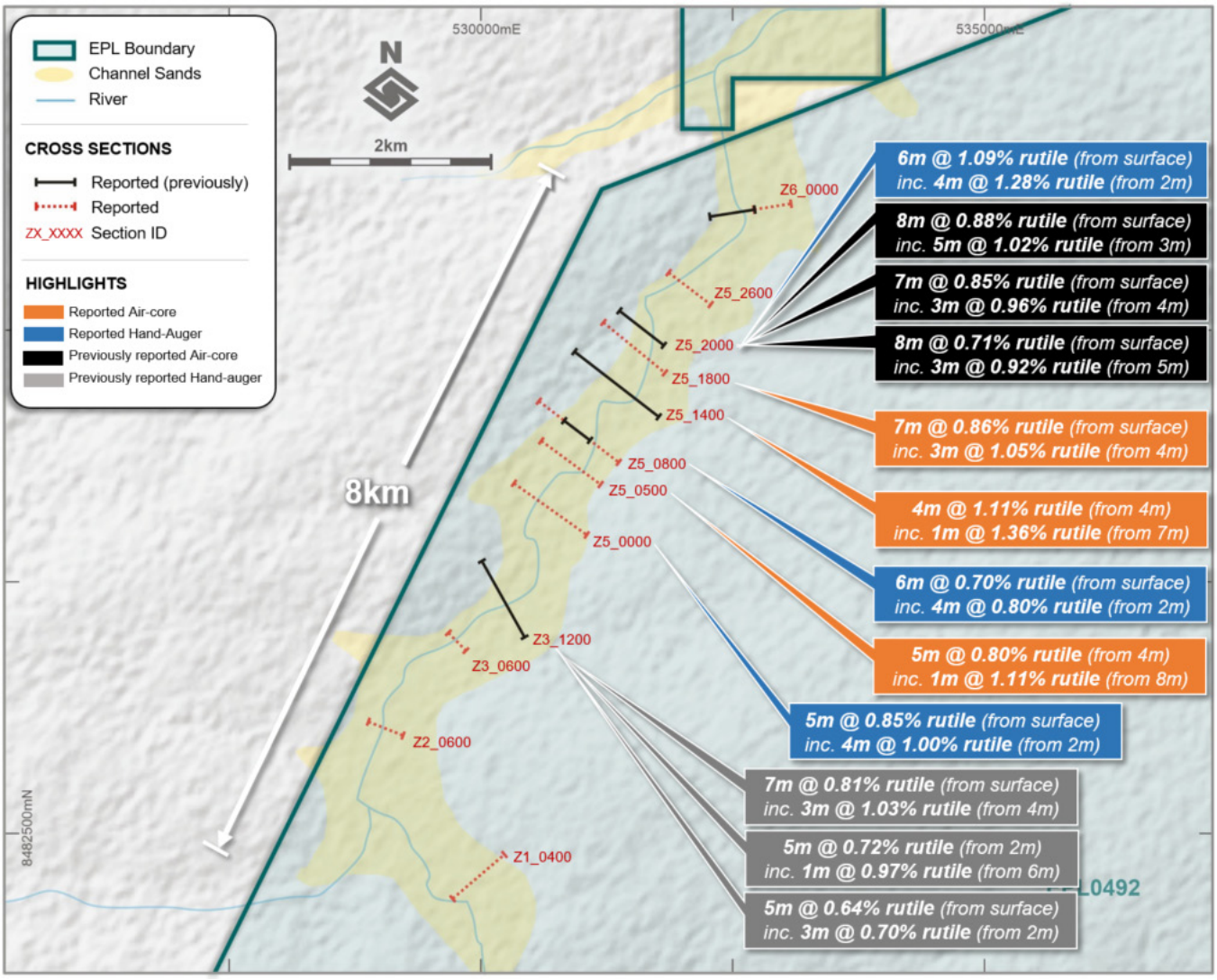


Figure 1. Map showing drilling locations across the southern 8km of the Bua Channel Prospect.

Sovereign has confirmed sand-hosted, placer rutile mineralisation via drilling in the southern Bua Channel over approximately 8km length with widths ranging from 300m to 700m and mineralised sand thicknesses ranging from about 4m to 10m.

The drilling programs completed to date have provided high-grade rutile and accessory ilmenite across the entire 8km of the southern channel. Results from the second phase of drilling are outlined below with the complete set of results presented in the Table 1.

Second phase air-core results (37 holes) include;

- ***7m @ 0.86% rutile**, 1.4% ilmenite & 0.08% zircon (from surface)*
  *inc. **3m @ 1.05% rutile**, 1.7% ilmenite & 0.09% zircon (from 4m)*
- ***5m @ 0.80% rutile**, 1.3% ilmenite & 0.06% zircon (from 4m)*
  *inc. **1m @ 1.11% rutile**, 1.8% ilmenite & 0.10% zircon (from 8m)*
- ***4m @ 1.11% rutile**, 1.8% ilmenite & 0.10% zircon (from 4m)*
  *inc. **1m @ 1.36% rutile**, 2.3% ilmenite & 0.12% zircon (from 7m)*

Second phase hand-auger results (49 holes) include;

- ***6m @ 1.09% rutile**, 1.6% ilmenite & 0.13% zircon (from surface)*
  *inc. **4m @ 1.28% rutile**, 1.9% ilmenite & 0.15% zircon (from 2m)*
- ***6m @ 0.85% rutile**, 1.2% ilmenite & 0.11% zircon (from surface)*
  *inc. **4m @ 1.00% rutile**, 1.4% ilmenite & 0.12% zircon (from 2m)*
- ***6m @ 0.70% rutile**, 1.0% ilmenite & 0.11% zircon (from surface)*
  *inc. **4m @ 0.80% rutile**, 1.1% ilmenite & 0.12% zircon (from 2m)*

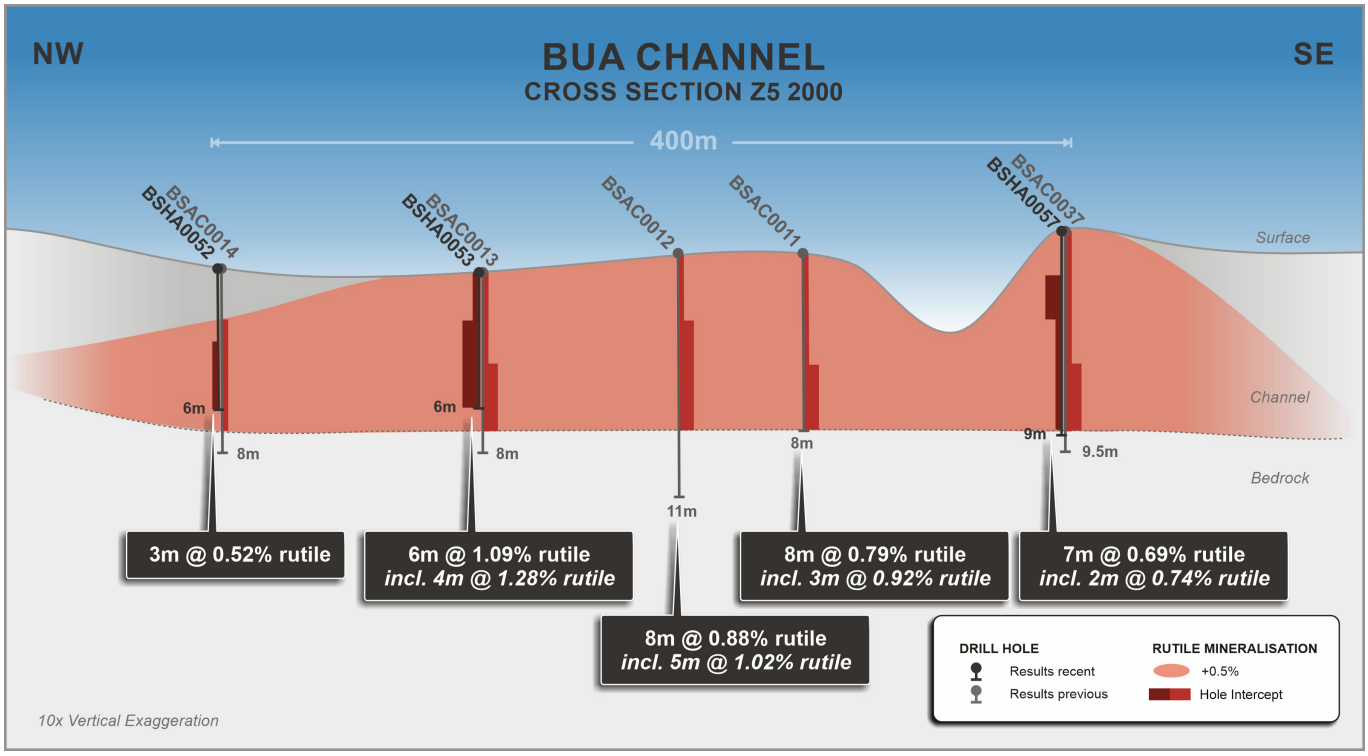


**Figure 2. Cross-section showing air-core and hand-auger drilling results and rutile mineralisation at the Bua Channel.**

A significant, +40km potential extension was identified to the north by the field team and this ground was secured with a new exploration licence granted in January 2020. Planning for a drilling program on the newly granted ground is progressing with timing controlled by the cessation of the Covid-19 lock-down in Malawi.

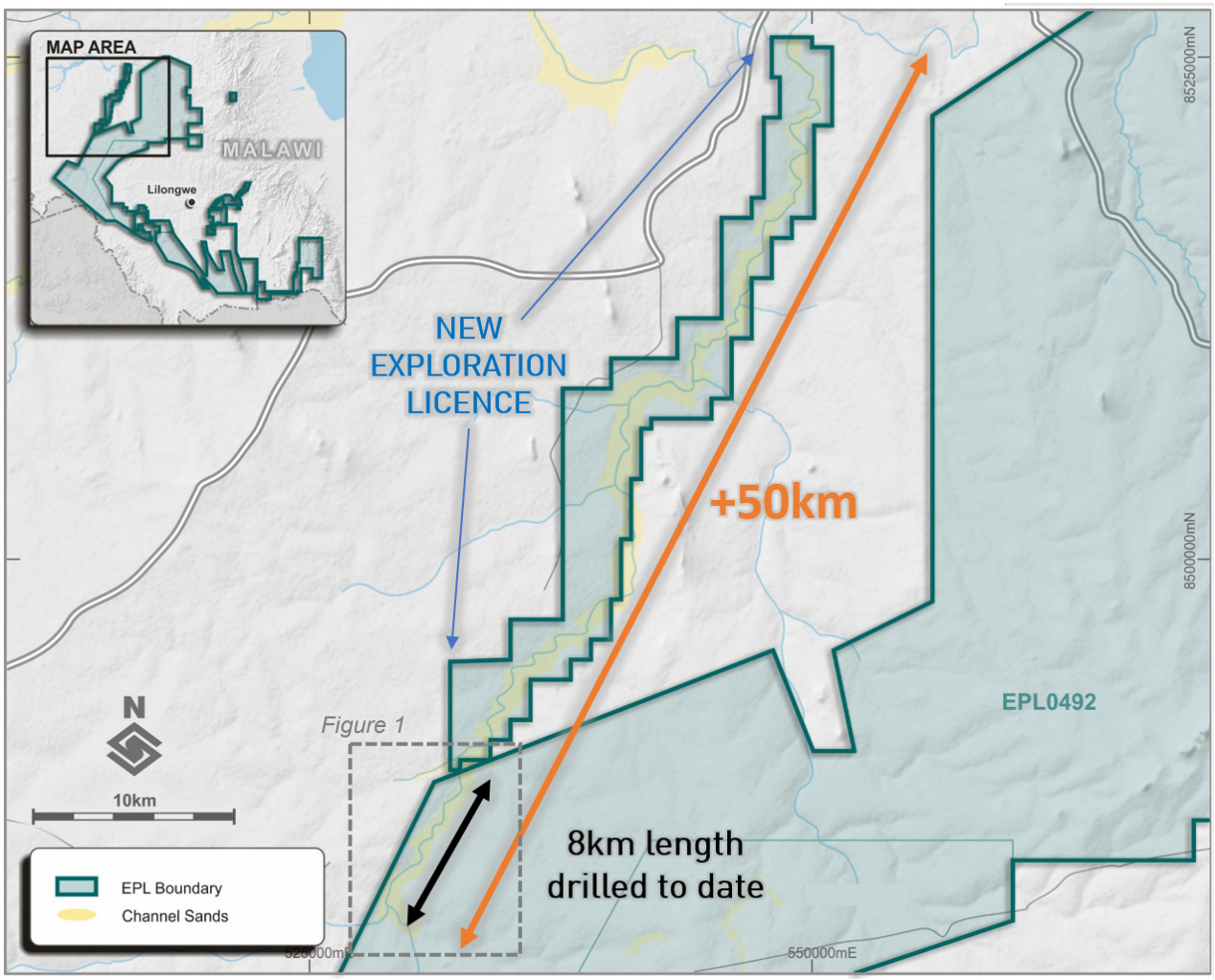


Figure 3. Map showing the Bua Channel and Sovereign's ground position in the area. Only the southern 8km been drilled to date.


Figure 4. Drone photograph of the Bua Channel

## FORWARD PLAN

Sovereign has identified a potentially globally significant, strategic rutile province across its large Malawi ground holding. The Malawi Rutile Province features two confirmed, discrete rutile mineralisation styles hosted respectively in sand and saprolite (soft, friable weathered material) which are both amenable to conventional processing. Rutile mineralisation identified to date has generally not been spatially constrained by drilling at either of the two main prospects, Kasiya (saprolite) and the Bua Channel (sand).

The Company is targeting large resources that could support long-life, large-scale rutile production. Sovereign's ongoing rutile work programs to unlock the Malawi Rutile Province include:

- Extensional and in-fill drilling at Kasiya continues with additional sample batches already in Perth, Australia (Phase 3) for laboratory analysis and in transit (Phase 4)
- Sovereign is working towards a significant maiden rutile Mineral Resource in late Q3 2020
- Mining and tailings studies commenced to accelerate a future scoping study
- Bulk-scale metallurgical test-work with sampling at Kasiya currently underway
- Continued regional exploration across the Company's large ground holding

## COVID-19 IMPACT AND RESPONSE

The Company is proactively managing the potential impact of Covid-19 with the health and safety of our employees, contractors, local communities and other stakeholders being the highest priority. The Company took the precautionary step to temporarily suspend activities at its Lilongwe facilities.

The Malawian Government has announced a country-wide lock-down, at this stage to be effective from 25 April 2020 for a period of 21 days. Sovereign will suspend its drilling activities during this period to comply with the protocols set out by the Government of Malawi.

The Company is continuously monitoring the situation and will re-mobilise drill teams at the completion of the lock-down if it is considered safe to do so.

Laboratory processing and analysis of sample batches is continuing and the Company looks forward to reporting these to the market in coming weeks.

## Competent Persons' Statements

*The information in this report that relates to Exploration Results and QEMSCAN results are 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 and unlisted options in Sovereign Metals Limited. 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 the report 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 ASX Announcement has been approved and authorised for release by the Company's Managing Director, Julian Stephens.*

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## *Table 1. Hand-Auger Results from Phase 2 Drilling at Bua Channel*

| Hole ID | From | To | Interval | Rutile % | Ilmenite % | Zircon % | Slimes % |
|---|---|---|---|---|---|---|---|
| BSHA0001 | *No significant results* | | | | | | |
| BSHA0002 | 3 | 8 | 5 | 0.70 | 0.99 | n/a | 27 |
| inc | 6 | 8 | 2 | 0.91 | 1.26 | n/a | 17 |
| BSHA0003 | *No significant results* | | | | | | |
| BSHA0004 | *No significant results* | | | | | | |
| BSHA0005 | *No significant results* | | | | | | |
| BSHA0006 | *No significant results* | | | | | | |
| BSHA0007 | *No significant results* | | | | | | |
| BSHA0008 | *No significant results* | | | | | | |
| BSHA0017 | 1 | 4 | 3 | 0.47 | 0.69 | 0.05 | 28 |
| BSHA0018 | 5 | 8 | 3 | 0.62 | 1.06 | 0.07 | 29 |
| inc | 6 | 8 | 2 | 0.68 | 1.22 | 0.07 | 25 |
| BSHA0019 | 2 | 3 | 1 | 0.60 | 0.79 | 0.08 | 41 |
| BSHA0020 | *No significant results* | | | | | | |
| BSHA0022 | 4 | 9 | 5 | 0.61 | 0.86 | 0.09 | 32 |
| inc | 7 | 9 | 2 | 0.74 | 1.03 | 0.11 | 25 |
| BSHA0023 | 0 | 7 | 7 | 0.61 | 0.88 | 0.08 | 24 |
| BSHA0024 | 2 | 7 | 5 | 0.71 | 1.12 | 0.07 | 12 |
| inc | 2 | 6 | 4 | 0.74 | 1.19 | 0.07 | 12 |
| BSHA0025 | 2 | 6 | 4 | 0.73 | 0.99 | 0.08 | 51 |
| inc | 2 | 3 | 1 | 0.86 | 1.15 | 0.09 | 64 |
| BSHA0027 | *No significant results* | | | | | | |
| BSHA0028 | 3 | 9 | 6 | 0.73 | 1.11 | 0.11 | 19 |
| BSHA0029 | 2 | 5 | 3 | 0.60 | 0.83 | 0.08 | 21 |
| inc | 4 | 5 | 1 | 0.70 | 1.01 | 0.10 | 20 |
| BSHA0030 | 3 | 5 | 2 | 0.56 | 0.87 | 0.05 | 13 |
| BSHA0031 | 3 | 5 | 2 | 0.63 | 1.03 | 0.11 | 20 |
| BSHA0032 | *No significant results* | | | | | | |
| BSHA0033 | 3 | 5 | 2 | 0.54 | 0.81 | 0.09 | 34 |
| BSHA0034 | *No significant results* | | | | | | |
| BSHA0039 | *No significant results* | | | | | | |
| BSHA0040 | *No significant results* | | | | | | |
| BSHA0042 | 1 | 4 | 3 | 0.64 | 0.89 | 0.08 | 227 |
| inc | 1 | 2 | 1 | 0.82 | 1.09 | 0.11 | 24 |
| BSHA0043 | 0 | 6 | 6 | 0.85 | 1.17 | 0.11 | 25 |
| inc | 2 | 6 | 4 | 1.00 | 1.36 | 0.12 | 20 |
| BSHA0045 | *No significant results* | | | | | | |
| BSHA0046 | 4 | 5 | 1 | 0.53 | 0.87 | 0.07 | 21 |
| BSHA0047 | 0 | 6 | 6 | 0.70 | 1.03 | 0.11 | 23 |
| inc | 2 | 6 | 4 | 0.80 | 1.14 | 0.12 | 19 |
| BSHA0048 | *No significant results* | | | | | | |
| BSHA0049 | *No significant results* | | | | | | |
| BSHA0050 | 2 | 4 | 2 | 0.51 | 0.72 | 0.06 | 16 |

| Hole ID | From | To | Interval | Rutile % | Ilmenite % | Zircon % | Slimes % |
|---|---|---|---|---|---|---|---|
| BSHA0052 | 3 | 6 | 3 | 0.52 | 0.85 | 0.10 | 23 |
| BSHA0053 | 0 | 6 | 6 | 1.09 | 1.64 | 0.13 | 21 |
| inc | 2 | 6 | 4 | 1.28 | 1.94 | 0.15 | 12 |
| BSHA0055 | *No significant results* | | | | | | |
| BSHA0056 | *No significant results* | | | | | | |
| BSHA0057 | 2 | 9 | 7 | 0.69 | 1.10 | 0.10 | 21 |
| inc | 2 | 4 | 2 | 0.74 | 1.15 | 0.13 | 27 |

**Significant results are reported at 0.5% rutile lower cut-off.*

### *Table 2. Air-Core Drilling Results from Batch Two at Bua Channel*

| Hole ID | From | To | Interval | Rutile % | Ilmenite % | Zircon % | Slimes % |
|---|---|---|---|---|---|---|---|
| BSAC0018 | 0 | 7 | 7 | 0.86 | 1.43 | 0.08 | 16 |
| inc | 4 | 7 | 3 | 1.05 | 1.74 | 0.09 | 25 |
| BSAC0019 | 0 | 9 | 9 | 0.79 | 1.30 | 0.08 | 23 |
| BSAC0020 | 0 | 8 | 8 | 0.65 | 1.05 | 0.06 | 27 |
| BSAC0021 | 1 | 5 | 4 | 0.57 | 0.90 | 0.07 | 31 |
| BSAC0022 | 0 | 6 | 6 | 0.51 | 0.84 | 0.04 | 33 |
| BSAC0023 | 5 | 8 | 3 | 0.66 | 1.11 | 0.06 | 20 |
| BSAC0024 | 0 | 7 | 7 | 0.67 | 1.07 | 0.07 | 32 |
| inc | 5 | 7 | 2 | 0.92 | 1.53 | 0.08 | 36 |
| BSAC0025 | 3 | 9 | 6 | 0.64 | 1.06 | 0.06 | 25 |
| inc | 6 | 9 | 3 | 0.72 | 1.19 | 0.06 | 26 |
| BSAC0026 | 5 | 9 | 4 | 0.77 | 1.28 | 0.07 | 22 |
| inc | 8 | 9 | 1 | 1.03 | 1.72 | 0.09 | 24 |
| BSAC0027 | 0 | 9 | 9 | 0.67 | 1.10 | 0.06 | 16 |
| inc | 4 | 9 | 5 | 0.80 | 1.33 | 0.07 | 16 |
| inc | 8 | 9 | 1 | 1.11 | 1.84 | 0.10 | 25 |
| BSAC0028 | 4 | 8 | 4 | 0.64 | 1.07 | 0.06 | 24 |
| BSAC0029 | 5 | 9 | 4 | 0.66 | 1.09 | 0.06 | 13 |
| BSAC0030 | 5 | 10 | 5 | 0.73 | 1.21 | 0.06 | 16 |
| inc | 7 | 9 | 2 | 0.91 | 1.52 | 0.08 | 18 |
| BSAC0031 | 5 | 10 | 5 | 0.68 | 1.12 | 0.06 | 22 |
| BSAC0032 | 0 | 4 | 4 | 0.58 | 0.96 | 0.05 | 21 |
| BSAC0033 | 4 | 8 | 4 | 0.67 | 1.11 | 0.06 | 16 |
| BSAC0034 | 8 | 9 | 1 | 0.58 | 0.96 | 0.05 | 21 |
| BSAC0035 | 1 | 8 | 7 | 0.60 | 0.98 | 0.06 | 28 |
| BSAC0036 | 4 | 8 | 4 | 1.11 | 1.85 | 0.10 | 22 |
| inc | 7 | 8 | 1 | 1.36 | 2.27 | 0.12 | 25 |
| BSAC0037 | 0 | 9 | 9 | 0.52 | 0.85 | 0.05 | 26 |
| BSAC0038 | 3 | 7 | 4 | 0.72 | 1.20 | 0.06 | 15 |
| inc | 5 | 7 | 2 | 0.82 | 1.36 | 0.07 | 16 |
| BSAC0039 | 7 | 8 | 1 | 0.66 | 1.10 | 0.06 | 24 |
| BSAC0040 | 8 | 11 | 3 | 0.68 | 1.13 | 0.06 | 19 |

| Hole ID | From | To | Interval | Rutile % | Ilmenite % | Zircon % | Slimes % |
|---|---|---|---|---|---|---|---|
| BSAC0041 | 6 | 9 | 3 | 0.69 | 1.15 | 0.06 | 22 |
| inc | 8 | 9 | 1 | 0.93 | 1.54 | 0.08 | 25 |
| BSAC0042 | 5 | 8 | 3 | 0.69 | 1.15 | 0.06 | 24 |
| inc | 7 | 8 | 1 | 0.81 | 1.35 | 0.07 | 21 |
| BSAC0043 | 7 | 10 | 3 | 0.73 | 1.21 | 0.06 | 25 |
| inc | 9 | 10 | 1 | 0.85 | 1.41 | 0.07 | 23 |
| BSAC0044 | 2 | 8 | 6 | 0.53 | 0.88 | 0.05 | 28 |
| BSAC0045 | *No significant results* | | | | | | |
| BSAC0046 | *No significant results* | | | | | | |
| BSAC0047 | *No significant results* | | | | | | |
| BSAC0048 | 5 | 10 | 5 | 0.74 | 1.23 | 0.07 | 20 |
| inc | 9 | 10 | 1 | 0.96 | 1.60 | 0.08 | 26 |
| BSAC0049 | 0 | 8 | 8 | 0.61 | 1.01 | 0.05 | 23 |
| BSAC0050 | 0 | 5 | 5 | 0.55 | 0.92 | 0.05 | 28 |
| BSAC0051 | 0 | 8 | 8 | 0.57 | 0.92 | 0.05 | 28 |
| BSAC0052 | 4 | 10 | 6 | 0.65 | 1.08 | 0.06 | 21 |
| inc | 6 | 9 | 3 | 0.75 | 1.25 | 0.07 | 19 |
| BSAC0053 | 2 | 6 | 4 | 0.69 | 1.10 | 0.07 | 35 |
| BSAC0054 | 8 | 9 | 1 | 0.56 | 0.93 | 0.05 | 20 |

## APPENDIX 1: DRILL HOLE DATA

| Hole ID | Section ID | East | North | RL | Depth |
|---|---|---|---|---|---|
| BSAC0018 | Z5 1800 | 531540 | 8487303 | 1034 | 7.0 |
| BSAC0019 | Z5 1800 | 531470 | 8487359 | 1035 | 9.0 |
| BSAC0020 | Z5 1800 | 531386 | 8487420 | 1034 | 9.0 |
| BSAC0021 | Z5 1800 | 531315 | 8487496 | 1035 | 6.0 |
| BSAC0022 | Z5 1500 | 531421 | 8487038 | 1036 | 10.0 |
| BSAC0023 | Z5 1500 | 531338 | 8487100 | 1035 | 9.0 |
| BSAC0024 | Z5 1500 | 531256 | 8487164 | 1035 | 8.0 |
| BSAC0025 | Z5 0500 | 530934 | 8486160 | 1035 | 9.0 |
| BSAC0026 | Z5 0500 | 530855 | 8486218 | 1035 | 9.0 |
| BSAC0027 | Z5 0500 | 530775 | 8486278 | 1035 | 9.0 |
| BSAC0028 | Z5 0500 | 530697 | 8486337 | 1035 | 8.0 |
| BSAC0029 | Z3 1200 | 530269 | 8484744 | 1036 | 8.5 |
| BSAC0030 | Z3 1200 | 530319 | 8484660 | 1036 | 11.0 |
| BSAC0031 | Z3 1200 | 530368 | 8484567 | 1036 | 10.0 |
| BSAC0032 | Z5 0000 | 530552 | 8485814 | 1036 | 10.0 |
| BSAC0033 | Z5 0000 | 530631 | 8485761 | 1035 | 8.0 |
| BSAC0034 | Z5 0500 | 531016 | 8486100 | 1036 | 9.5 |
| BSAC0035 | Z5 0800 | 531110 | 8486389 | 1035 | 8.5 |
| BSAC0036 | Z5 1400 | 531513 | 8486842 | 1033 | 8.5 |
| BSAC0037 | Z5 2000 | 531751 | 8487414 | 1036 | 9.5 |
| BSAC0038 | Z5 2600 | 531955 | 8488005 | 1034 | 7.5 |
| BSAC0039 | Z5 2600 | 532033 | 8487947 | 1034 | 8.0 |
| BSAC0040 | Z6 0000 | 532675 | 8488697 | 1036 | 10.5 |
| BSAC0041 | Z6 0000 | 532767 | 8488704 | 1035 | 8.6 |

| Hole ID | Section ID | East | North | RL | Depth |
|---|---|---|---|---|---|
| BSAC0042 | Z5 2600 | 532114 | 8487886 | 1034 | 9.0 |
| BSAC0043 | Z5 2600 | 532196 | 8487830 | 1037 | 11.0 |
| BSAC0044 | Z5 1800 | 531716 | 8487174 | 1035 | 9.0 |
| BSAC0045 | Z5 1800 | 531620 | 8487234 | 1034 | 8.0 |
| BSAC0046 | Z5 1500 | 531536 | 8486951 | 1033 | 6.6 |
| BSAC0047 | Z5 0500 | 531105 | 8486039 | 1035 | 5.0 |
| BSAC0048 | Z3 0600 | 529770 | 8484410 | 1035 | 10.0 |
| BSAC0049 | Z2 0600 | 529017 | 8483562 | 1036 | 8.0 |
| BSAC0050 | Z2 0600 | 529063 | 8483543 | 1036 | 7.3 |
| BSAC0051 | Z2 0600 | 529110 | 8483527 | 1036 | 8.0 |
| BSAC0052 | Z1 0400 | 529826 | 8481947 | 1038 | 11.0 |
| BSAC0053 | Z1 0400 | 529905 | 8482011 | 1038 | 11.0 |
| BSAC0054 | Z1 0400 | 529980 | 8482080 | 1038 | 9.5 |
| BSHA0001 | Z1 0400 | 529789 | 8481915 | 1037 | 5.4 |
| BSHA0002 | Z1 0400 | 529862 | 8481981 | 1038 | 8.0 |
| BSHA0003 | Z1 0400 | 529941 | 8482042 | 1038 | 8.0 |
| BSHA0004 | Z1 0400 | 530014 | 8482111 | 1038 | 6.0 |
| BSHA0005 | Z1 0400 | 530092 | 8482174 | 1038 | 6.5 |
| BSHA0006 | Z1 0400 | 530170 | 8482238 | 1038 | 7.0 |
| BSHA0007 | Z1 0400 | 529906 | 8482208 | 1038 | 5.5 |
| BSHA0008 | Z1 0400 | 530114 | 8482002 | 1038 | 9.0 |
| BSHA0017 | Z5 1400 | 531390 | 8486932 | 1034 | 4.0 |
| BSHA0018 | Z5 1400 | 531476 | 8486889 | 1034 | 8.0 |
| BSHA0019 | Z5 1400 | 531550 | 8486823 | 1034 | 7.0 |
| BSHA0020 | Z5 1400 | 531630 | 8486762 | 1036 | 7.0 |
| BSHA0021 | Z5 1400 | 531713 | 8486702 | 1037 | 3.0 |
| BSHA0022 | Z5 1400 | 531321 | 8487000 | 1035 | 9.0 |
| BSHA0023 | Z5 1400 | 531230 | 8487050 | 1035 | 7.0 |
| BSHA0024 | Z5 1400 | 531150 | 8487120 | 1035 | 7.0 |
| BSHA0025 | Z6 0000 | 531070 | 8487180 | 1035 | 6.0 |
| BSHA0026 | Z6 0000 | 530978 | 8487245 | 1036 | 7.0 |
| BSHA0027 | Z6 0000 | 532520 | 8488661 | 1034 | 7.0 |
| BSHA0028 | Z6 0000 | 532424 | 8488652 | 1035 | 9.0 |
| BSHA0029 | Z6 0000 | 532331 | 8488641 | 1035 | 7.0 |
| BSHA0030 | Z6 0000 | 532620 | 8488670 | 1033 | 5.0 |
| BSHA0031 | Z6 0000 | 532720 | 8488700 | 1036 | 8.0 |
| BSHA0032 | Z6 0000 | 532820 | 8488710 | 1035 | 8.0 |
| BSHA0033 | Z5 0000 | 532920 | 8488730 | 1035 | 7.0 |
| BSHA0034 | Z5 0000 | 533020 | 8488740 | 1035 | 7.0 |
| BSHA0035 | Z5 0000 | 533120 | 8488760 | 1036 | 4.0 |
| BSHA0036 | Z5 0000 | 533220 | 8488780 | 1037 | 1.0 |
| BSHA0037 | Z5 0800 | 530959 | 8485531 | 1038 | 2.0 |
| BSHA0038 | Z5 0800 | 530879 | 8485586 | 1037 | 5.0 |
| BSHA0039 | Z5 0800 | 530797 | 8485644 | 1037 | 8.0 |
| BSHA0040 | Z5 0800 | 530719 | 8485703 | 1036 | 7.0 |
| BSHA0041 | Z5 0800 | 530389 | 8485929 | 1036 | 5.0 |
| BSHA0042 | Z5 0800 | 530471 | 8485871 | 1035 | 6.0 |
| BSHA0043 | Z5 2000 | 530636 | 8485756 | 1035 | 6.0 |
| BSHA0044 | Z5 2000 | 530640 | 8486742 | 1036 | 8.0 |
| BSHA0045 | Z5 2000 | 530713 | 8486688 | 1035 | 6.0 |
| BSHA0046 | Z5 2000 | 530796 | 8486630 | 1034 | 6.0 |
| BSHA0047 | Z5 2000 | 530874 | 8486573 | 1035 | 6.0 |

| Hole ID | Section ID | East | North | RL | Depth |
|---|---|---|---|---|---|
| BSHA0048 | Z5 1400 | 531265 | 8486285 | 1036 | 6.0 |
| BSHA0049 | Z5 1400 | 531192 | 8486337 | 1035 | 8.0 |
| BSHA0050 | Z5 1400 | 531112 | 8486396 | 1035 | 5.0 |
| BSHA0051 | Z5 1400 | 531354 | 8487712 | 1036 | 5.0 |
| BSHA0052 | Z5 1400 | 531434 | 8487653 | 1034 | 6.0 |
| BSHA0053 | Z5 1400 | 531514 | 8487594 | 1034 | 6.0 |
| BSHA0054 | Z5 1400 | 531992 | 8487238 | 1037 | 4.0 |
| BSHA0055 | Z5 1400 | 531913 | 8487292 | 1035 | 7.0 |
| BSHA0056 | Z6 0000 | 531834 | 8487351 | 1035 | 6.0 |
| BSHA0057 | Z6 0000 | 531756 | 8487412 | 1036 | 9.0 |

** All holes were vertical.*

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

## SECTION 1 - SAMPLING TECHNIQUES AND DATA

| Criteria | JORC Code explanation | Air Core and Hand Auger Drilling Commentary |
|---|---|---|
| ***Sampling Techniques*** | *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.* | A total of 54 air-core (AC) holes for 473m were drilled at the Bua Channel prospect in late 2019.The Company reported the results from the first 17 holes for a total of 148m per ASX Announcement dated 24/02/2020.<br>The company has now received the results from the remaining 37 holes for 325m and are reported within this announcement.<br>A total of 57 hand-auger (HA) holes for 365m were also drilled at the Bua Channel prospect in late 2019. The Company reported results from 8 holes for 54m per ASX announcement dated 03/02/2020. This announcement reports the results from the remaining 49 holes for 311m.<br>Samples for both the AC and HA drilling were composited based on logged geological boundaries, generally at 1, 2 or 3m intervals. |
| | *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* | Drilling and sampling activities were supervised by a suitably qualified Company geologist who was present at the drill rig at all times. All bulk 1-metre drill samples were geologically logged by the geologist at the drill site.<br>All 1-metre down-hole drill samples were collected in plastic bags.<br>Each 1-metre sample was sun dried and homogenised. Sub-samples were carefully riffle split to ensure representivity. ~1.5kg AC composite samples and ~1.0kg HA composite samples were processed. Extreme care was taken to ensure an equivalent mass is taken from each 1-metre sample to make up the composite. The primary composite sample is considered representative for this style of rutile mineralisation. |
| | *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.* | Logged mineralogy percentages, lithology information and $TiO_2$% obtained from handheld XRF were used to determine compositing intervals. Care is taken to ensure that only lithological units with similar grade and geological characteristics are composited together. |
| ***Drilling Techniques*** | *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).* | Conventional blade bit air core drilling was employed to obtain all drill cuttings from surface.<br>Drilling was completed using a P900 drill rig mounted on a 4x4 truck using standard 3-inch diameter/3-metre length drill rods equipped with inner tubes. Drilling was performed with standard face discharge air core blade bits. The nominal drill hole diameter is 87mm.<br>Hand-auger drilling was completed with 62mm diameter 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. |
| ***Drill Sample Recovery*** | *Method of recording and assessing core and chip sample recoveries and results assessed.* | All 1-metre down-hole AC drill samples were collected in plastic bags from directly beneath the cyclone underflow.<br>HA 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. |
| | *Measures taken to maximise sample recovery and ensure representative nature of the samples.* | The Company's trained geologists supervise drilling on a 1 team 1 geologist basis and are responsible for monitoring all aspects of the drilling and sampling process. |
| | *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.* | No bias related to preferential loss or gain of different materials has occurred. |
| ***Logging*** | *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation mining studies and metallurgical studies.* | All individual 1-metre AC and HA 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. |

| Criteria | JORC Code explanation | Air Core and Hand Auger Drilling Commentary |
|---|---|---|
| | *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* | All logging includes lithological features and estimates of basic mineralogy. Logging is generally qualitative. |
| | *The total length and percentage of the relevant intersection logged* | 100% of samples are geologically logged. |
| ***Sub-sampling techniques and sample preparation*** | *If core, whether cut or sawn and whether quarter, half or all core taken.* | Not applicable – no core drilling conducted. |
| | *If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.* | Samples from the 37 AC holes reported here were composited. Each 1-metre sample was sun dried on large metal trays and homogenised. Sub-samples were carefully riffle split to ensure sample representivity. ~1.5kg composite samples were processed.<br><br>Samples from the remining 49 HA drilled holes being reported here were composited. Each 1m sample was sun dried and homogenised. Sub-samples were carefully riffle split to ensure sample representivity. ~1.0kg composite samples were processed.<br><br>For both HA and AC holes extreme care is taken to ensure an equivalent mass is taken from each 1m sample to make up the composite.<br><br>The primary composite sample is considered representative for this style of rutile mineralisation and is consistent with industry standard practice. |
| | *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* | Use of the above compositing and sampling technique is deemed appropriate given the dried nature of the samples. |
| | *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* | The sampling equipment is cleaned after each sub-sample is taken. |
| | *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.* | Extreme care is taken to ensure an equivalent mass is taken from each 1-metre sample to make up each composite. |
| | *Whether sample sizes are appropriate to the grain size of the material being sampled.* | The sample size is considered appropriate for the material sampled. |
| ***Quality of assay data and laboratory tests*** | *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* | The Malawi onsite laboratories sample preparation methods are considered quantitative to the point where a heavy mineral concentrate (HMC) is generated. 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.<br><br>The following workflow for the **air core** composite samples was undertaken on-site in Malawi;<br>• Dry composite sample in oven for 1 hour at 105℃<br>• Soak in water and lightly agitate<br>• Wet screen at 5mm, 600mm and 45µm to remove oversize and slimes material<br>• Dry +45µm -600mm fraction in oven for 1 hour at 105℃<br>• Pass the dry +45µm -600mm through 50:50 riffle splitter.<br>• Retain one split on site as library sample and send the second split to Perth for further quantitative mineralogical analysis.<br><br>The following workflow for the **air core** composite samples was then undertaken in Perth based Laboratories.<br>• ~75g split taken from +45µm -600mm for heavy liquid separation (HLS).<br>• The laboratory used TBE as the heavy liquid medium for HLS with a density of 2.95 g/ml/.<br>• The sinks were then dried and weighed to give a HM content.<br>• Lithological HM composites were then generated for mineralogy profiling as per industry standards.<br>• Magnetic separation of the HM composites by a Carpco magnet @ 16,000G (2.9Amps) into a magnetic (M) and non-magnetic (NM) fraction. Work was undertaken at Allied Mineral Laboratories (AML) in Perth.<br>• The M and NM fractions were sent to Intertek Genalysis Perth for quantitative ICP analysis.<br>• 2g splits of selected M and NM fractions were sent to ALS for QEMSCAN analysis for further determination of mineralogy, grain size and other mineral chemistry and deportment information.<br>• 1g splits of selected M and NM fractions were sent to Diamantina Laboratories for thin-section and 300-point count analysis. |

| Criteria | JORC Code explanation | Air Core and Hand Auger Drilling Commentary |
|---|---|---|
| | | The following workflow for the **hand-auger** samples was undertaken on-site in Malawi;<br>• Dry composite sample in oven for 1 hour at 105℃<br>• Soak in water and lightly agitate<br>• Wet screen at 5mm, 600mm and 45µm to remove oversize and slimes material<br>• Dry +45µm -600mm fraction in oven for 1 hour at 105℃<br>• Pass +45µm -600mm fraction across wet table twice to generate a heavy mineral concentrate (HMC)<br>• Dry HMC in oven for 30 minutes at 105℃<br>• Bag +45µm -600mm HMC Fraction and send to Perth, Australia for quantitative mineralogical determination.<br><br>The following workflow for the **hand-auger** samples was then undertaken at Perth based Laboratories.<br>• Magnetic separation of the HMC by Carpco magnet @ 16,000G (2.9Amps) into a magnetic (M) and non-magnetic (NM) fraction. Work undertaken at Allied Mineral Laboratories (AML) in Perth.<br>• The M and NM fractions were sent to Intertek Genalysis Perth for quantitative XRF analysis.<br>• 2g splits of selected M and NM fractions were sent to ALS for QEMSCAN analysis for further determination of mineralogy, grain size and other mineral chemistry and deportment information.<br>• 1g splits of selected M and NM fractions were sent to Diamantina Laboratories for thin-section and 300-point count analysis. |
| | *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.* | Acceptable levels of accuracy and precision have been established. No handheld methods are used for quantitative determination. |
| | *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.* | Intertek Genalysis used internal ICP and XRF standards and duplicates. The overall quality of QA/QC is considered to be good. |
| ***Verification of sampling & assaying*** | *The verification of significant intersections by either independent or alternative company personnel.* | Significant mineralisation intersections were verified by qualified alternative company personnel. |
| | *The use of twinned holes.* | No twin holes have been used. |
| | *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* | 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. |
| | *Discuss any adjustment to assay data.* | The following adjustments were made to the **air-core** data.<br><br>Lithological HMC composite results are assigned to corresponding lithology's as per industry standards.<br><br>The mineral assemblages were calculated using theoretic stoichiometric ratios from ICP analysis of HM sink lithology composites. This calculation process is considered appropriate for this level of study.<br><br>Rutile content is calculated on the NM fraction by ICP analysis for $TiO_2$%. The rutile content of the NM fraction is supported by QEMSCAN and 300-point thin section analysis on selected samples.<br><br>Ilmenite content is calculated on the M fraction by ICP analysis for $TiO_2$%. All $TiO_2$ units in the M fraction are either ilmenite or an altered ilmenite product. This is supported by QEMSCAN and 300-point thin section analysis on selected samples.<br><br>Zircon content is calculated on the NM fraction by ICP analysis for Zr%. The zircon content of the NM fraction is supported by QEMSCAN and 300-point thin section analysis on selected samples.<br><br>The correlation between ICP calculated mineral assemblages, QEMSCAN assemblages and 300-point count assemblages is very good. |

| Criteria | JORC Code explanation | Air Core and Hand Auger Drilling Commentary |
|---|---|---|
| | | The following adjustments were made to the **hand-auger** data.<br><br>Rutile content is calculated on the NM fraction by XRF analysis for TiO2%. The rutile content of the NM fraction is supported by QEMSCAN and 300-point thin section analysis on selected samples.<br><br>Ilmenite content is calculated on the M fraction by XRF analysis for TiO2%. All TiO2 units in the M fraction are either ilmenite or an altered ilmenite product. This is supported by QEMSCAN and 300-point thin section analysis on selected samples.<br><br>Zircon content is calculated on both the M and NM fraction by XRF analysis for Zr%. The zircon content of both the M and NM fractions is summed together for a total zircon. The zircon content of the M and NM fraction is supported by QEMSCAN and 300-point thin section analysis on selected samples. |
| ***Location of data points*** | *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* | A Trimble R2 Differential GPS was used to pick up the drill hole collars.<br><br>No down-hole surveying of air core holes is completed. Given the vertical nature and shallow depths of the holes drill hole deviation is not considered to significantly affect the down-hole location of samples. |
| | *Specification of the grid system used.* | WGS84 UTM Zone 36 South. |
| | *Quality and adequacy of topographic control.* | DGPS pickups are considered to be high quality topographic control measures. |
| ***Data spacing & distribution*** | *Data spacing for reporting of Exploration Results.* | The AC and HA collars are spaced at approximately 100m along drill lines. It is thought that these holes intercepts should be broadly representative of the mineralisation style in the general area. Closer spaced drilling is required to more accurately determine the variability of the mineralisation across the Bua Channel Prospect. |
| | *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.* | Not applicable, no Mineral Resource or Ore Reserve estimations are covered by the data in this report. |
| | *Whether sample compositing has been applied.* | Individual 1-metre AC intervals have been composited over a determined interval of interest for the 37 holes reported in order to obtain a primary sample of ~1.5kg mass for mineralogical analysis.<br><br>HM AC sinks have also been composited between broader lithology zones down-hole. The composite mineralogy results are deemed to represent the clear lithology units present at the Bua Channel Prospect. Profiling mineralogy of lithological units is consistent with industry standard practice.<br><br>Individual 1-metre HA intervals have been composited over a determined interval of interest for the 49 auger holes drilled in order to obtain a primary sample of ~1kg mass for mineralogical analysis. |
| ***Orientation of data in relation to geological structure*** | *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known considering the deposit type* | No bias attributable to orientation of sampling has been identified. |
| | *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.* | All holes were drilled vertically as the nature of the mineralisation is horizontal. No bias attributable to orientation of drilling has been identified. |
| ***Sample security*** | *The measures taken to ensure sample security* | Samples were stored in secure storage from the time of drilling. The samples were sealed as soon as site preparation was completed, and again securely stored during shipment and while at Australian laboratories. |
| ***Audits or reviews*** | *The results of any audits or reviews of sampling techniques and data* | 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 |
|---|---|---|
| ***Mineral tenement & land tenure status*** | *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environment settings.* | The Company owns 100% of 8 Exclusive Prospecting Licences (EPLs) in Malawi. EPL0355 renewed in 2019 for 2 years, EPL0372 (under renewal application) and EL0413 renewed in 2019 for 2 years. EPL0492 and EPL0528 were granted in 2018 for an initial period of three years (renewable). EPL0537 and EPL0545 were granted in 2019 for an initial period of three years (renewable). EL0561 was granted in January 2020 for an initial 3 years (renewable) with field work permits subject to an acceptable Environmental and Social Management Plan – a new requirement under the Mining Act 2019.<br><br>The information contained within this announcement relates to EPL0492. |
| | *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.* | The tenements are in good standing and no known impediments to exploration or mining exist. |
| ***Exploration done by other parties*** | *Acknowledgement and appraisal of exploration by other parties.* | No other parties were involved in exploration. |
| ***Geology*** | *Deposit type, geological setting and style of mineralisation* | The rutile deposit type could be termed a fluvial placer where eroded heavy minerals have been deposited in a meandering to braided, wide river channel. |
| ***Drill hole information*** | *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: easting and 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* | All collar and composite data are provided in the body and Appendices of this report. All holes were drilled vertically. |
| | *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* | No information has been excluded. |
| ***Data aggregation methods*** | *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high-grades) and cut-off grades are usually Material and should be stated.* | 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. |
| | *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.* | No significant aggregate intercepts with short zones of high grade or longer lengths of low grade have been reported. |
| | *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | No metal equivalent values are used in this report. |
| ***Relationship between mineralisation widths & intercept lengths*** | *These relationships are particularly important in the reporting of Exploration Results.* | It is considered that the mineralisation lies in a shallow channel type form and hence the intercepts approximate true widths. |
| | *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* | It is considered that the mineralisation lies in a shallow channel type form and hence the intercepts approximate true widths. |
| | *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'.* | Down-hole widths approximate true widths. |
| ***Diagrams*** | *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being* | Refer to figures in the body of this report. |

| Criteria | Explanation | Commentary |
|---|---|---|
| | *reported. These should include, but not be limited to a plan view of the drill collar locations and appropriate sectional views.* | |
| ***Balanced reporting*** | *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high-grades and/or widths should be practiced to avoid misleading reporting of exploration results.* | All results have been reported in this report. |
| ***Other substantive exploration data*** | *Other exploration data, if meaningful and material, should be reported including (but not limited to: geological observations; geophysical survey results; geochemical survey results; bulk samples - size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.* | There is no other substantiative exploration data to report. |
| ***Further work*** | *The nature and scale of planned further work (e.g. test for lateral extensions or depth extensions or large-scale step-out drilling).* | Laboratory processing of the large number of drill samples from the late 2019 and early 2020 drilling at Bua Channel is now complete. Further drilling is planned in 2020, particularly in the area to the north of the current drill lines. |
| | *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.* | Refer to diagrams in the body of this report. |