

This document comprises a prospectus relating to Rainbow Rare Earths Limited prepared in accordance with the Prospectus Rules. This document has been approved by the FCA in accordance with Part VI of the Financial Services and Markets Act 2000 (as amended) and has been filed with the FCA and made available to the public in accordance with Rule 3.2 of the Prospectus Rules.

Applications have been made to the UK Listing Authority and the London Stock Exchange for all of the New Ordinary Shares to be admitted to the standard segment of the Official List and to trading on the London Stock Exchange's Main Market for listed securities, respectively. Admission to trading on the Main Market constitutes admission to trading on a UK regulated market. It is expected that Admission will become effective and that unconditional dealings in the New Ordinary Shares will commence on 22 July 2019. Dealings on the London Stock Exchange before Admission will only be settled if Admission takes place. All dealings before the commencement of unconditional dealings will be of no effect if Admission does not take place and such dealings will be at the sole risk of the parties concerned.

The Company and each of the Directors, whose names appear on page 28 of this document, accept responsibility for the information contained in this document. To the best of the knowledge of the Company and the Directors (who have taken all reasonable care to ensure that such is the case), the information contained in this document is in accordance with the facts and does not omit anything likely to affect the import of such information.

Prospective investors should read this document in its entirety. In particular, your attention is drawn to Part 2 of this document, "Risk Factors" for a discussion of the risks that might affect the value of your shareholding in the Company. Prospective investors should be aware that an investment in the Company involves a degree of risk and that, if certain of the risks described in this document occur, investors may find their investment materially adversely affected. Accordingly, an investment in the Ordinary Shares is only suitable for investors who are particularly knowledgeable in investment matters and who are able to bear the loss of the whole or part of their investment.



### **Rainbow Rare Earths Limited**

*(Incorporated in Guernsey as a non-cellular company limited by shares) (Registration number 53831)*

**Placing of 121,207,778 new Ordinary Shares at a price of 3 pence per share and the issue of a further 42,768,106 new Ordinary Shares**

**and**

**Admission of the New Ordinary Shares to the Official List (by way of a Standard Listing under Chapter 14 of the Listing Rules) and to trading on the London Stock Exchange's Main Market for listed securities**

*Joint Brokers*

**Arden Partners Plc**

**Turner Pope Investments Limited**

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The New Ordinary Shares have not been, and will not be, registered under the United States Securities Act of 1933, or under the securities laws or with any securities regulatory authority of any state or other jurisdiction of the United States or of any province or territory of Australia, Canada, the Republic of South Africa or Japan. Securities may not be offered or sold in the United States absent: (i) registration under the US Securities Act; or (ii) an available exemption from registration under the US Securities Act. The New Ordinary Shares have not been and will not be offered or sold in the United States, Australia, Canada, the Republic of South Africa or Japan or to or for the account or benefit of any person resident in the United States, Australia, Canada, the Republic of South Africa or Japan and this document does not constitute an offer to sell or a solicitation of an offer to purchase or subscribe for New Ordinary Shares in such jurisdictions or in any jurisdiction in which such offer or solicitation is unlawful or would impose any unfulfilled registration, publication or approval requirements on the Company.

The distribution of this document and the offer, sale and/or issue of New Ordinary Shares in certain jurisdictions may be restricted by law. No action has been or will be taken by the Company, the Directors, Arden Partners Plc or Turner Pope Investments Limited to permit a public offer or sale of New Ordinary Shares in any jurisdiction or possession or distribution of this document (or any other offering or publicity material or application form relating to the New Ordinary Shares) in any jurisdiction, other than in the UK. Persons into whose possession this document comes are required by the Company, the Directors, Arden Partners Plc and Turner Pope Investments Limited, to inform themselves about and to observe any such restrictions. This document does not constitute or form part of an offer to sell, or the solicitation of an offer to buy, New Ordinary Shares to any person in any jurisdiction to whom or in which such offer or solicitation is unlawful. Accordingly, neither this document, nor any advertisement, nor any other offering material may be distributed or published in any jurisdiction except under circumstance that will result in compliance with any applicable law and regulations.

Application has been made for the New Ordinary Shares to be admitted to the standard segment of the Official List. A Standard Listing affords investors in the Company a lower level of regulatory protection than that afforded to investors in companies whose securities are admitted to the premium segment of the Official List, which are subject to additional obligations under the Listing Rules.

It should be noted that the UK Listing Authority will not have the authority to (and will not) monitor the Company's compliance with any of the Listing Rules or those aspects of the Disclosure and Transparency Rules which the Company has indicated herein that it intends to comply with on a voluntary basis, nor to impose sanctions in respect of any failure by the Company to so comply.

Without prejudice to any obligation of the Company to publish a supplementary prospectus pursuant to section 87G of FSMA or Rule 3.4 of the Prospectus Rules, the publication of this document does not create any implication that there has been no change in the affairs of the Group since, or that the information contained herein is correct at any time subsequent to, the date of this document. Notwithstanding any reference herein to the Company's website, the information on the Company's website does not form part of this document.

Arden Partners Plc and Turner Pope Investments Limited are authorised and regulated in the UK by the FCA and are acting exclusively for the Company and for no other person in connection with the Placing and will not regard any other person (whether or not a recipient of this document) as its client in relation to the Placing and will not be responsible to anyone other than the Company for providing the protections afforded to its clients or for providing advice in relation to Admission or any transaction or arrangement referred to in this document.

Arden Partners Plc and Turner Pope Investments Limited and/or any of their respective affiliates may have engaged in transactions with, and provided various investment banking, financial advisory and other services for the Company, for which they would have received customary fees. Arden Partners Plc and Turner Pope Investments Limited and/or any of their respective affiliates may provide such services to the Company and any of its respective affiliates in the future.

Apart from the responsibilities and liabilities, if any, which may be imposed on Arden Partners Plc and Turner Pope Investments Limited by FSMA, or the regulatory regime established thereunder, or under the regulatory regime of any other jurisdiction where exclusion of liability under the relevant regulatory regime would be illegal, void or unenforceable, Arden Partners Plc and Turner Pope Investments Limited do not accept any responsibility whatsoever, and make no representation or warranty, express or implied, for the contents of this document, including its accuracy or completeness, or for any other statement made or purported to be made by it, or on behalf of it, the Company or any other person in connection with the Company or the New Ordinary Shares and nothing contained in this document is or shall be relied upon as a promise or representation in this respect, whether as to the past or future. Arden Partners Plc and Turner Pope Investments Limited accordingly disclaim all and any responsibility or liability whether arising in tort, contract or otherwise (save as referred to above) which it may otherwise have in respect of this document or any such statement.

#### **Guernsey Financial Services Commission**

Neither the Guernsey Financial Services Commission nor the States of Guernsey take any responsibility for the financial soundness of the Company or for the correctness of any of the statements made or opinions expressed with regard to it.

#### **Information to distributors**

Solely for the purposes of the product governance requirements contained within: (a) EU Directive 2014/65/EU on markets in financial instruments, as amended ("MiFID II"); (b) Articles 9 and 10 of Commission Delegated Directive (EU) 2017/593 supplementing MiFID II; and (c) local implementing measures (together, the "MiFID II Product Governance Requirements"), and disclaiming all and any liability, whether arising in tort, contract or otherwise, which any "manufacturer" (for the purposes of the MiFID II Product Governance Requirements) may otherwise have with respect thereto, the Ordinary Shares have been subject to a product approval process, which has determined that the Ordinary Shares are: (i) compatible with an end target market of highly knowledgeable or professionally advised retail investors and investors who meet the criteria of professional clients and eligible counterparties, each as defined in MiFID II; and (ii) eligible for distribution through all distribution channels as are permitted by MiFID II ("Target Market Assessment").

Notwithstanding the Target Market Assessment, Distributors should note that: (a) the price of the Ordinary Shares may decline and investors could lose all or part of their investment; (b) the Ordinary Shares offer no guaranteed income and no capital protection; and (c) an investment in the Ordinary Shares is compatible only with investors who do not need a guaranteed income or capital protection, who (either alone or in conjunction with an appropriate financial or other adviser) are capable of evaluating the merits and risks of such an investment and who have sufficient resources to be able to bear any losses that may result therefrom.

For the avoidance of doubt, the Target Market Assessment does not constitute: (a) an assessment of suitability or appropriateness for the purposes of MiFID II; or (b) a recommendation to any investor or group of investors to invest in, or purchase, or take any other action whatsoever with respect to the Ordinary Shares.

#### **Company's website**

Information contained on the Company's website or the contents of any website accessible from hyperlinks on the Company's website are not incorporated into and do not form any part of this document.

#### **Interpretation**

Certain terms used in this document are defined in Part 1 of this document, "Definitions".

References to the singular in this document shall include the plural and vice versa, where the context so requires. References to sections or Parts are to sections or Parts of this document. All references to time in this document are to London time unless otherwise stated.

#### **Exchange rates**

Throughout this document, unless indicated otherwise, the following exchange rate, correct as at the Last Practicable Date, has been used:

£: US\$ -£1.26/US1.00

**Dated:** 15 July 2019

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## PART 1 - SUMMARY

Summaries are made up of disclosure requirements known as “Elements”. These elements are numbered in Sections A – E (A.1 – E.7).

This summary contains all the Elements required to be included in a summary for this type of security and issuer. Because some Elements are not required to be addressed, there may be gaps in the numbering sequence of the Elements.

Even though an Element may be required to be inserted in the summary because of the type of security and issuer, it is possible that no relevant information can be given regarding the Element. In this case, a short description of the Element is included in the summary with the mention of “not applicable”

| <b>SECTION A - Introduction and warnings</b> |                                   |  |
|--|-----------------------------------|--|
| <b>Element</b>                               | <b>Disclosure requirement</b>     | <b>Disclosure</b>  |
| <b>A.1</b>                                   | <b>Introduction</b>               | This summary must be read as an introduction to the Prospectus. Any decision to invest in Ordinary Shares should be based on consideration of the Prospectus as a whole by the investor. Where a claim relating to the information contained in the Prospectus is brought before a court, the plaintiff investor might, under the national legislation of the Member States, have to bear the costs of translating the Prospectus before the legal proceedings are initiated. Civil liability attaches only to those persons who have tabled the summary, including any translation thereof, but only if the summary is misleading, inaccurate or inconsistent when read together with other parts of the Prospectus or it does not provide, when read together with the other parts of the Prospectus, key information in order to aid investors when considering whether to invest in such securities. |
| <b>A.2</b>                                   | <b>Consent for intermediaries</b> | Not applicable. The Company has not given its consent to the use of this document for the resale or final placement of Ordinary Shares by financial intermediaries.  |

| <b>SECTION B - Issuer</b> |  |  |
|---------------------------|--|--|
| <b>Element</b>            | <b>Disclosure requirement</b>                                      | <b>Disclosure</b>  |
| <b>B.1</b>                | <b>Legal and commercial name</b>                                   | Rainbow Rare Earths Limited  |
| <b>B.2</b>                | <b>Domicile/ legal form/ legislation/ country of incorporation</b> | The Company was incorporated and registered in Guernsey on 5 August 2011 as a non-cellular company limited by shares with company registration number 53831.   |
| <b>B.3</b>                | <b>Current operations/ principal activities and markets</b>        | The Company is a mining company engaged in the exploration, mining and production of rare earths from the Gakara Project, in Burundi, East Africa. The Company's sole asset, the Gakara Project, is held through the Company's Subsidiary Rainbow Mining Burundi SM, a company incorporated in Burundi with company registration number 04992. |
| <b>B.4a</b>               | <b>Significant recent trends</b>                                   | The most significant recent trends affecting the Company and the rare earth industry are as follows:<br>Global demand for rare earth elements (“REEs”) has grown significantly in  |

| SECTION B - Issuer                   |  |  |                    |                                  |   |                               |            |       |                                      |            |      |                                |            |      |                              |           |      |                                  |           |      |
|--------------------------------------|--|--|--------------------|----------------------------------|---|-------------------------------|------------|-------|--------------------------------------|------------|------|--------------------------------|------------|------|------------------------------|-----------|------|----------------------------------|-----------|------|
|                                      |  | <p>recent years, driven by the increased use of rare earth permanent magnets (the most powerful in the world), particularly neodymium and praseodymium, in key markets including electric vehicles, mobile phones and renewable/green technologies such as wind turbines.</p> <p>Supply of REEs continues to be dominated by China which accounts for approximately 71 per cent. of newly mined supply including both official and unlicensed production. Unlicensed production has contributed to an oversupply of certain rare earth elements and the government of China is acting to restrict both unlicensed and official supplies in future.</p> <p>REE prices have risen sharply in 2019 in response to the ongoing trade war between the US and China and a perceived move by the US away from Chinese REEs products. 80 per cent. of the US's REEs imports came from China in 2018, with its three other largest suppliers all deriving their product from Chinese REEs. In Q2 2019, China moved to ban the import of REEs from Myanmar in response to concerns that this was a "black-market" supplying the Chinese industry. This ongoing uncertainty has driven growth in demand for REEs from producers outside of China.</p>   |                    |                                  |   |                               |            |       |                                      |            |      |                                |            |      |                              |           |      |                                  |           |      |
| <b>B.5</b>                           | <b>Group structure</b>                               | <p>The Company is the parent company of the Group. It has two wholly owned Subsidiaries, Rainbow International Resources Limited, which holds the Group's interest in the Mining Licence through its 90 per cent. owned Subsidiary, Rainbow Mining Burundi SM; and Rainbow Rare Earths UK Limited, a service company.</p> <p>Rainbow International Resources Limited has the following Subsidiaries:</p> <p>Rainbow Burundi SPRL (97 per cent.)</p> <p>Rainbow Mining Burundi SM (90 per cent.)</p>  |                    |                                  |   |                               |            |       |                                      |            |      |                                |            |      |                              |           |      |                                  |           |      |
| <b>B.6</b>                           | <b>Major Shareholders</b>                            | <p>As at the Last Practicable Date, the Company is aware of the following Shareholders that, directly or indirectly, hold interests in 3 per cent. or more of the Company's share capital or voting rights:</p> <table> <thead> <tr> <th><b>Shareholder</b></th><th><b>Number of Ordinary Shares</b></th><th><b>Percentage of the issued share capital</b></th></tr> </thead> <tbody> <tr> <td>Adonis Pouroulis<sup>1</sup></td><td>48,343,303</td><td>23.25</td></tr> <tr> <td>Hargreaves Lansdown Stockbrokers Ltd</td><td>14,674,745</td><td>7.06</td></tr> <tr> <td>Lind Partners LLC<sup>2</sup></td><td>10,980,295</td><td>5.28</td></tr> <tr> <td>Shawn McCormick<sup>3</sup></td><td>8,552,684</td><td>4.11</td></tr> <tr> <td>Alpha Future Investments Limited</td><td>6,389,232</td><td>3.07</td></tr> </tbody> </table> <p><sup>1</sup> Adonis Pouroulis' aggregate interest is held through Pella Ventures Limited, Agulhas Nominees Pty Limited and Artemis Nominees Limited.</p> <p><sup>2</sup> Lind Partners LLC holds its interest through The Australian Special Opportunity Fund LP.</p> <p><sup>3</sup> Shawn McCormick's interest is held through Malinova Holdings LLC.</p> <p>There are no differences between the voting rights enjoyed by the Shareholders described above and those enjoyed by the holders of Ordinary Shares generally.</p> | <b>Shareholder</b> | <b>Number of Ordinary Shares</b> | <b>Percentage of the issued share capital</b> | Adonis Pouroulis <sup>1</sup> | 48,343,303 | 23.25 | Hargreaves Lansdown Stockbrokers Ltd | 14,674,745 | 7.06 | Lind Partners LLC <sup>2</sup> | 10,980,295 | 5.28 | Shawn McCormick <sup>3</sup> | 8,552,684 | 4.11 | Alpha Future Investments Limited | 6,389,232 | 3.07 |
| <b>Shareholder</b>                   | <b>Number of Ordinary Shares</b>                     | <b>Percentage of the issued share capital</b>  |                    |                                  |   |                               |            |       |                                      |            |      |                                |            |      |                              |           |      |                                  |           |      |
| Adonis Pouroulis <sup>1</sup>        | 48,343,303   | 23.25  |                    |                                  |   |                               |            |       |                                      |            |      |                                |            |      |                              |           |      |                                  |           |      |
| Hargreaves Lansdown Stockbrokers Ltd | 14,674,745   | 7.06   |                    |                                  |   |                               |            |       |                                      |            |      |                                |            |      |                              |           |      |                                  |           |      |
| Lind Partners LLC <sup>2</sup>       | 10,980,295   | 5.28   |                    |                                  |   |                               |            |       |                                      |            |      |                                |            |      |                              |           |      |                                  |           |      |
| Shawn McCormick <sup>3</sup>         | 8,552,684  | 4.11   |                    |                                  |   |                               |            |       |                                      |            |      |                                |            |      |                              |           |      |                                  |           |      |
| Alpha Future Investments Limited     | 6,389,232  | 3.07   |                    |                                  |   |                               |            |       |                                      |            |      |                                |            |      |                              |           |      |                                  |           |      |
| <b>B.7</b>                           | <b>Selected historical key financial information</b> | <p>The table below sets out summary financial information of the Group as derived from the audited consolidated financial statements of the Group as at and for the years ended 30 June 2018, 30 June 2017 and 30 June 2016 which has been extracted without material adjustment from the audited financial statements incorporated by reference into this document, and from the</p>  |                    |                                  |   |                               |            |       |                                      |            |      |                                |            |      |                              |           |      |                                  |           |      |

**SECTION B - Issuer**

Group's unaudited interim consolidated financial statements for the periods ending 31 December 2018 and 31 December 2017:

|  | 6 mths to 31 December 2018 | 6 mths to 31 December 2017 | 12 mths to 30 June 2018 | 12 mths to 30 June 2017 | 12 mths to 30 June 2016 |
|--|----------------------------|----------------------------|-------------------------|-------------------------|-------------------------|
|  | US\$'000                   | US\$'000                   | US\$'000                | US\$'000                | US\$'000                |
|  | Unaudited                  | Unaudited                  | Audited                 | Audited                 | Audited                 |
| Revenues   | 1,230                      | -                          | 992                     | -                       | -                       |
| Royalty and transport costs  | (208)                      | -                          | -                       | -                       | -                       |
| Production costs   | (1,557)                    | -                          | (992)                   | -                       | -                       |
| <b>Gross margin</b>  | <b>(535)</b>               | -                          | -                       | -                       | -                       |
| Stockpile movement   | (188)                      | -                          | -                       | -                       | -                       |
| Administration expenses  | (779)                      | (1,213)                    | (2,753)                 | (1,565)                 | (623)                   |
| Exploration expenditure  | -                          | -                          | -                       | (95)                    | (51)                    |
| Depreciation   | (1,688)                    | -                          | -                       | -                       | -                       |
| <b>Total operating expense</b>                                     | <b>(2,655)</b>             | <b>(1,213)</b>             | <b>(2,753)</b>          | <b>(1,660)</b>          | <b>(674)</b>            |
| <b>Loss from operating activities</b>                              | <b>(3,190)</b>             | <b>(1,213)</b>             | <b>(2,753)</b>          | <b>(1,660)</b>          | <b>(674)</b>            |
| Finance income   | 131                        | 160                        | 317                     | 414                     | -                       |
| Finance costs  | (79)                       | (18)                       | (79)                    | (156)                   | (526)                   |
| <b>Loss before tax</b>   | <b>(3,138)</b>             | <b>(1,071)</b>             | <b>(2,515)</b>          | <b>(1,402)</b>          | <b>(1,200)</b>          |
| Income tax expense   | (58)                       | -                          | (96)                    | -                       | -                       |
| <b>Total loss after tax and comprehensive expense for the year</b> | <b>(3,196)</b>             | <b>(1,071)</b>             | <b>(2,611)</b>          | <b>(1,402)</b>          | <b>(1,200)</b>          |

|                          | 31 December 2018 | 31 December 2017 | 30 June 2018  | 30 June 2017 | 30 June 2016 |
|--------------------------|------------------|------------------|---------------|--------------|--------------|
|                          | US\$'000         | US\$'000         | US\$'000      | US\$'000     | US\$'000     |
|                          | Unaudited        | Unaudited        | Audited       | Audited      | Audited      |
| Non-current assets       | 10,715           | 8,748            | 11,249        | 5,793        | 3,828        |
| Current assets           | 601              | 3,561            | 1,304         | 3,220        | 70           |
| Trade and other payables | (1,178)          | (365)            | (1,415)       | (429)        | (765)        |
| Borrowings               | (945)            | (298)            | (760)         | (20)         | (1,653)      |
| <b>Net assets</b>        | <b>9,193</b>     | <b>11,646</b>    | <b>10,378</b> | <b>8,774</b> | <b>1,480</b> |

There were no significant changes to the Group's financial condition and operating results: (i) during the period covered by the historical financial information; or (ii) since 30 June 2018.

| SECTION B - Issuer |  |   |
|--------------------|--|---|
| <b>B.8</b>         | <b>Selected key pro forma financial information</b>  | Not applicable; this document does not contain pro forma financial information.   |
| <b>B.9</b>         | <b>Profit forecast</b>   | Not applicable; this document does not contain profit forecasts or estimates.   |
| <b>B.10</b>        | <b>Description of the nature of any qualifications in the audit report on the historical financial information</b> | <p>The audit reports on the consolidated financial statements of the Group as at and for the years ended 30 June 2018, 30 June 2017 and 30 June 2016 do not contain any qualifications. Shareholders' attention was drawn to the consolidated financial statements of the Group for the year ended 30 June 2016, by way of emphasis of matter to the disclosure on "going concern", more fully set out below.</p> <p>"In forming our opinion on the financial information, which is not modified, we have considered the adequacy of the disclosures made in Note 1 to the financial information concerning the Group's ability to continue as a going concern. The Group's ability to meet its liabilities and commitments as they fall due is dependent on successfully raising sufficient net proceeds from its Initial Public Offering and admission to the Official List of the London Stock Exchange, together with the Group generating sufficient revenue receipts from concentrate. Whilst the Group has secured binding commitments for \$8.0 million from investors which are conditional on admission scheduled for 30 January 2017, the Group's ability to meet its liabilities as they fall due for the next twelve months remains dependent on it generating sufficient revenue receipts and there can be no guarantee that such revenue receipts will be realised or mitigating actions will be sufficient for the Group to meet its liabilities as they fall due without raising additional debt or equity funding. These conditions indicate the existence of a material uncertainty which may cast significant doubt about the Company's ability to continue as a going concern. The financial information does not include the adjustments that would result if the Group was unable to continue as a going concern."</p> |
| <b>B.11</b>        | <b>Working capital explanation</b>   | Taking into account the Net Proceeds, the Company is of the opinion that the Group has sufficient working capital for its present requirements, that is for at least 12 months following the date of this document.   |

| SECTION C - Securities |   |   |
|------------------------|---|---|
| Element                | Disclosure requirement                                      | Disclosure  |
| <b>C.1</b>             | <b>Type and class of the securities admitted to trading</b> | The securities being admitted to trading are the Ordinary Shares of the Company, which have no par value. The ISIN of the Ordinary Shares is GG00BD59ZW98.                              |
| <b>C.2</b>             | <b>Currency of the securities issue</b>                     | The Ordinary Shares are quoted on the London Stock Exchange in British Pounds Sterling and following Admission the New Ordinary Shares shall also be quoted in British Pounds Sterling. |
| <b>C.3</b>             | <b>Issued share capital</b>                                 | On Admission, the Company will have an issued share capital of 380,314,884 fully paid Ordinary Shares.  |

| SECTION C - Securities |   |   |
|------------------------|---|---|
| C.4                    | <b>Rights attaching to the securities</b>                     | <p>The Ordinary Shares rank equally for voting purposes. On a show of hands, each Shareholder present in person or by proxy has one vote subject to any special voting powers and restrictions and on a poll each Shareholder present in person or by proxy has one vote per Ordinary Share held subject to any special voting powers and restrictions.</p> <p>The Ordinary Shares rank equally for dividends declared and for any distributions on a winding-up.</p> <p>The Ordinary Shares rank equally in the right to receive a relative proportion of the Company's assets upon dissolution.</p> |
| C.5                    | <b>Restrictions on free transferability of the securities</b> | The Ordinary Shares are freely transferable and there are no restrictions on transfer.  |
| C.6                    | <b>Admission to trading</b>                                   | Application has been made to the UK Listing Authority and the London Stock Exchange for all of the New Ordinary Shares to be admitted to the standard segment of the Official List and to trading on London Stock Exchange's Main Market for listed securities. It is expected that Admission will become effective and that unconditional dealings in the New Ordinary Shares will commence at 8.00 a.m. on 22 July 2019.  |
| C.7                    | <b>Dividend policy</b>  | The Company has never declared or paid any dividends on the Ordinary Shares. Any decision to declare and pay dividends will be made at the discretion of the Board and will depend on, among other things, the Group's results of operations, financial condition, solvency and such other factors that the Board may consider relevant. However, it is the Board's intention that capital be efficiently returned to Shareholders as soon as the Company is sufficiently cash flow positive.   |

| SECTION D - Risks |  |   |
|-------------------|--|---|
| Element           | Disclosure requirement                                   | Disclosure  |
| D.1               | <b>Key risks specific to the Company or its industry</b> | <ul style="list-style-type: none"> <li>The Group's sole asset and projected source of income is the Gakara Project, any adverse development affecting the Gakara Project or the Mining Licence would have a material adverse effect on the Group.</li> <li>Future mining at the Gakara Project is based on an Exploration Target. Whilst all forms of mineral extraction and mineral reserve and resource estimation are inherently prone to variability, investors should be aware that mining of the Gakara Project may carry greater risk.</li> <li>The Group sells a rare earth concentrate that is subject to a number of factors which may impact its saleability, specifically: variable market demand, variable mineralisation at the Gakara Project which may cause concentrate to fall outside of the specification required under the Distribution and Offtake Agreement; and increased presence of radioactive elements in the</li> </ul> |

| SECTION D - Risks |   |   |
|-------------------|---|---|
|                   |   | <p>vein material at Gakara which may impact the marketability of the concentrate.</p> <ul style="list-style-type: none"> <li>Following and extracting the vein material without excessive dilution may be more difficult than expected and experienced to date due to the pinch-and-swell nature, a lack of continuity along strike and down-dip and minor variations in the REEs concentrations of the REEs veins.</li> <li>The Group's revenues, profitability and future rate of growth will depend substantially on the prevailing market price of REEs/REOs, which have historically been subject to a high degree of volatility.</li> <li>Global demand for REEs is driven by industrial use and demand for individual elements within the REEs complex has varied significantly over recent years. There can be no certainty that the industries underlying current demand will continue to grow or that competitor technologies will not gain prevalence.</li> <li>The vast majority of mine production of REEs is supplied by mines within China, which accounted for approximately 71 per cent. of global supply in 2018. Accordingly, China effectively controls the global supply of REEs and actions by China may lead to an oversupply of one or more REE, which may impact the market price.</li> <li>The Group sells a high-grade rare earth concentrate, which is consumed by downstream processing companies for conversion into finished rare earth oxides ("REOs") product. The market for rare earth concentrates is relatively opaque compared to the market for finished REOs. The Group has entered into the Distribution and Offtake Agreement under which tk Materials Trading's obligation to purchase the Gakara concentrate and the price it pays for the concentrate is, <i>inter alia</i>, conditional on tk Materials Trading being able to find purchasers of the concentrate and on the price such customers of tk Materials Trading are willing to pay, which could be less than that anticipated by the Company.</li> </ul> |
| D.3               | <b>Key risks specific to the securities</b> | <ul style="list-style-type: none"> <li>External perceptions of the jurisdiction in which the Group operates with respect to political and economic instability and civil unrest may have an adverse effect on the market value of securities of issuers operating in that jurisdiction, including the Ordinary Shares.</li> <li>The market price of the Ordinary Shares could be negatively affected by sales or an additional offering of substantial numbers of Ordinary Shares in the public market, or the perception or any announcement that such sales or an additional offering could occur.</li> <li>The issuance of additional Ordinary Shares in connection with convertible equity securities, any share incentive or share option plan or otherwise may dilute all other shareholdings and their voting interest.</li> <li>The market price for the Ordinary Shares may be volatile and subject to wide fluctuations in response to numerous factors, many of which are beyond the Group's control. Financial markets have experienced significant price and volume fluctuations in the last several years that have particularly affected the market price of equity securities of companies and that have, in many cases, been unrelated to the operating performance, underlying asset values or prospects of such companies.</li> <li>Any decision to pay dividends on the Ordinary Shares will be</li> </ul>  |

| SECTION D - Risks |  |   |
|-------------------|--|---|
|                   |  | <p>made at the discretion of the Board and will depend on, among other things, the Group's results of operations, financial condition, solvency and such other factors as the Board consider relevant and will be subject to the ability of the Subsidiaries to pay dividends/make distributions to the Company. Accordingly, the Company cannot guarantee its ability to pay dividends in the future.</p> <ul style="list-style-type: none"> <li>The Ordinary Shares have not been registered in the United States under the US Securities Act or any other applicable securities laws and are subject to restrictions on transfer contained in such laws, which may make it difficult to resell the Ordinary Shares.</li> </ul> |

| SECTION E – Fundraising |   |   |
|-------------------------|---|---|
| Element                 | Disclosure requirement  | Disclosure  |
| E.1                     | <b>Net proceeds/ estimate of expenses</b>                                 | The net proceeds of the Placing, taking into account expenses of US\$340,610 (£270,325) directly related to Admission, are US\$4.2 million <sup>1</sup> (£3.3m) <sup>2</sup> .  |
| E.2a                    | <b>Reasons for the Fundraising/use of proceeds/net amount of proceeds</b> | <p>The Net Proceeds will, in order of priority, be used by the Company to:</p> <ul style="list-style-type: none"> <li>purchase of new mining fleet to replace and expand the capacity of the existing rented equipment and to allow for additional mining areas (US\$1.8 million);</li> <li>mine development and exploration costs to bring additional mining areas into production (US\$1.6 million); and</li> <li>working capital for operational and corporate purposes (US\$800,000).</li> </ul>  |
| E.3                     | <b>Terms of the fundraising</b>   | <p>The Placing was made at the Placing Price. The Placing is conditional on, inter alia:</p> <ul style="list-style-type: none"> <li>Admission having become effective at or before 8.00 a.m. on 22 July 2019, or such later time and date as the Company and the Joint Brokers may agree (not being later than 8.00 a.m. on 22 July 2019);</li> <li>the Placing Agreement becoming wholly unconditional and not having been terminated in accordance with its terms, at any time prior to Admission; and</li> <li>a special resolution being passed at the Extraordinary General Meeting, to provide the Directors with the necessary authority to allot the Placing Shares.</li> </ul> <p>If the special resolution to allot and issue the Placing Shares is not passed at the Extraordinary General Meeting then the Placing will not proceed and Admission will not take place. Neither the Joint Brokers, nor the Company, can waive the requirement for the resolutions to be passed at the Extraordinary General Meeting.</p> |
| E.4                     | <b>Interests</b>  | Not applicable; there are no interests, known to the Company, material to Admission or which are conflicting interests.   |

<sup>1</sup> The exact amount was US\$4,241,044

<sup>2</sup> The exact amount was £3,365,908

| SECTION E – Fundraising |  |   |
|-------------------------|--|---|
|                         | <b>material to the issue/conflicting interests</b> |   |
| <b>E.5</b>              | <b>Name of the offeror/lock-up agreements</b>      | Not applicable.   |
| <b>E.6</b>              | <b>Dilution</b>                                    | <p>On Admission, 121,207,778 new Ordinary Shares will be issued pursuant to the Placing, at a price of 3p per share (resulting in a dilution of 31.87 per cent.), 18,636,040 new Ordinary Shares will be issued pursuant to the conversion of the Pella Ventures Loan (resulting in a dilution of 4.90 per cent.), 17,843,891 new Ordinary Shares will be issued pursuant to the Lind Facility (resulting in a dilution of 4.69 per cent.), 4,859,603 new Ordinary Shares will be issued to certain directors/management in lieu of fees or bonuses due as at 30 June 2019 (resulting in a dilution of 1.28 per cent.) and 1,428,571 new Ordinary Shares to Align Research in lieu of payment of invoices which remain outstanding as at 30 June 2019 (resulting in a dilution of 0.38 per cent.).</p> <p>At Admission the New Ordinary Shares will result in a dilution to the Ordinary Shares previously in issue of 43.12 per cent..</p> |
| <b>E.7</b>              | <b>Estimated expenses charged to the investor</b>  | Nil   |

## PART 2 - RISK FACTORS

**The Group's business, financial condition or results of operations could be materially and adversely affected by the risks described below. In such cases, the market price of the Ordinary Shares may decline due to any of these risks and investors may lose all or part of their investment. The Company considers the following risks to be the material risks for potential investors in the Company, but the risks listed do not necessarily comprise all those associated with an investment in the Company.**

Any investment in the Ordinary Shares may not be suitable for all recipients of this document and is subject to a high degree of risk. Prior to investing in the Ordinary Shares, prospective investors should carefully consider the risks and uncertainties associated with any investment in the Ordinary Shares, the Group's business and the industry in which it operates, together with all other information contained in this Prospectus, including, in particular, the risk factors described below. Any of the risks described below, as well as other risks and uncertainties discussed in this Prospectus, could have a material adverse effect on the Group's business and could therefore have a negative effect on the trading price of the Ordinary Shares. Prospective investors should note that the risks relating to the Group, its industry and the Ordinary Shares summarised in Part 1 of this document, "Summary" are the risks that the Company believes to be the most essential to an assessment by a prospective investor of whether to consider an investment in the Ordinary Shares. However, as the risks which the Group faces relate to events and depend on circumstances that may or may not occur in the future, prospective investors should consider not only the information on the key risks summarised in Part 1 of this document, "Summary" but also, among other things, the risks and uncertainties described below.

The following factors do not purport to be a complete list or explanation of all the risk factors involved in investing in the Ordinary Shares and should be used as guidance only. The factors listed under a single heading may not provide a comprehensive view of all risks relevant to the subject to which the heading relates. Additional risks and uncertainties that are not currently known to the Group, or that it currently deems immaterial, may individually or cumulatively also have an adverse effect on the Group's business, results of operations, financial condition and prospects. In particular, the Group's performance might be affected by changes in market and/or economic conditions and in legal, regulatory and tax requirements. If such changes were to occur, the price of the Ordinary Shares may decline and investors could lose all or part of their investment. Prospective investors should also consider carefully whether an investment in the Ordinary Shares is suitable for them in light of the information in this Prospectus and their personal circumstances.

The information contained in this Prospectus is based upon current legislation and tax practice and any changes in the legislation or in the levels and bases of, and reliefs from, taxation may affect the value of an investment in the Ordinary Shares.

### RISKS RELATING TO THE GROUP'S BUSINESS

#### *The Group is totally reliant on the Gakara Project*

The Group is entirely dependent upon the Gakara Project, which is the Group's sole source of near-term revenue, and any adverse development affecting the Gakara Project would have a material adverse effect on the Group, its business, prospects, results of operations and financial condition.

The Group may, in the future, be subject to curtailments of production that are outside of its control. Any adverse developments at or affecting the Gakara Project or the Mining Licence, which lead to a prolonged and material interruption to or cessation of production or sales in the future may have a material adverse effect on the Group's business, results of operations and financial condition.

#### *Anticipated future mining on the Gakara Property is based on an Exploration Target.*

As outlined in the Competent Person's Report, MSA Group has identified an Exploration Target of 16,550t to 64,000t TREO in the area covered by the Mining Licence that the Directors intend will support the Company's long term strategy to reach a steady state annual production target of approximately 7,000tpa of high-grade ROM ore. Given the nature of the Gakara Project, multiple mine sites will have to be developed and exploited at any one time to mitigate the risks that are associated with the complexity of the deposits and the unpredictable nature of the veins and thereby providing production flexibility.

As defined in the JORC Code, an Exploration Target is a statement or estimate of the exploration potential of a mineral deposit in a defined geological setting where the statement or estimate, quoted as a range of tonnes and a range of grade, relates to mineralisation for which there has been insufficient exploration to estimate a Mineral Resource. As such, the potential quantity and grade of the Exploration Target is conceptual in nature, there being insufficient exploration to estimate a Mineral Resource and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.

As a result of this uncertainty, estimates of the Exploration Target available for mining may change significantly in the future when new information becomes available or new factors arise and interpretations and deductions on which such estimates are based prove to be inaccurate. Should the Group encounter mineralisation different from that predicted by past sampling and similar examination, the Directors' current strategy for the exploitation of the Gakara Project may be negatively impacted.

Whilst all forms of mineral extraction and mineral reserve and resource estimation are inherently prone to variability, investors should be aware that mining of those areas of the Gakara Project which are identified as an Exploration Target may carry greater risk.

#### ***The Group's ability to market its product is subject to a number of risks***

The Group produces and sells a rare earth concentrate that is principally sold indirectly, via the Distribution and Offtake Agreement, to downstream rare earth processors globally. The saleability of the concentrate is subject to a number of factors including, in particular:

- the market for concentrate is much thinner and market pricing far less transparent than for separated REMs or REOs. Consequently, despite existing long term sales contracts, the Company may experience periods during which there is less than expected demand for its product and/or where the price obtainable for its product is less than would be expected by reference to the prevailing market prices for separated REMs and REOs;
- the mineralisation within the veins at the Gakara Project varies considerably with observed grades of contained REOs of between 47 per cent. and 67 per cent.. The specification required for the concentrate under the Distribution and Offtake Agreement is a minimum of 54 per cent. REOs, subject to maximum contents of Lanthanum and Cerium oxide of 81.45 per cent. combined of such REO content. Whilst processing at the Group's process plant and blending of the run-of-mine material has allowed the Gakara Project to consistently produce a product within these specifications, any prolonged period where run-of-mine material is outside of specification may impact the marketability of the concentrate; and
- in common with the majority of rare earth deposits, the vein material at Gakara contains radioactive elements, in particular uranium and thorium. Whilst levels of uranium and thorium within the concentrate have to date proven to be well within export and import limits, increases in the radioactive content of the concentrate, or changes to limits on allowed radioactive content may impact the marketability of the concentrate.

If any or all of the above risks materialise, all of which are outside of the Company's control, the Company's ability to sell its product may be adversely affected with a consequential impact on revenue generation which may be lower than anticipated and which may impact the future profitability and scope of the Group's operations.

#### ***Future mining of the Gakara Project may be more difficult than experienced to date***

Mining of the Gakara Project veins is subject to a number of risks. In particular the pinch-and-swell nature, a lack of continuity along strike and down-dip and minor variations in the REE concentrations of the REE veins, all of which can impact negatively on the available tonnage and grade of an individual mining area.

Following and extracting the vein material without excessive dilution may be more difficult than expected and experienced to date. In such circumstances the rate and/or cost of production may be adversely affected with a consequential impact on revenue generation which may be lower than anticipated and which may impact the future profitability and scope of the Group's operations.

#### ***Development of the Gakara Project***

The Group's future success depends on the Group's ability to manage the Gakara Project and to take advantage of further opportunities that may arise. In particular, the Group's success is dependent upon the Directors' ability to implement the Group's exploration strategy and to maintain production at the site.

Production at the Gakara Project could be delayed or experience interruptions or increased costs, or may not continue at all due to a number of factors, including but not limited to:

- changes in the regulatory environment;
- non-performance by third party contractors;
- inability to attract and retain a sufficient number of qualified workers;
- inability to attract, train and retain a sufficient number of unqualified workers;
- changes in environmental compliance requirements;

- unfavourable weather conditions, in particular, rain events;
- unforeseen escalation in anticipated costs of development, or delays in construction, or adverse currency movements resulting in insufficient funds being available to complete planned development;
- increases in extraction costs including fuel, material and labour costs;
- lack of availability of mining equipment, fuel and other services;
- shortages or delays in obtaining critical mining and processing equipment;
- catastrophic events such as fires, storms or explosions;
- the breakdown or failure of equipment or processes;
- performance of the processing plant and ancillary operations falling below expected levels of output or efficiency;
- the political stability of Burundi;
- civil unrest in and around the mine site and supply routes; and
- taxes and imposed royalties.

Some of the risks associated with these factors are discussed in more detail elsewhere in this section. Any of these factors may have a material adverse effect on the Group's business, results of operations and activities, financial condition and prospects.

#### ***Risk of adverse weather***

Burundi has a humid, equatorial climate with a rainy season from October to May. The dry season lasts from June to September. The average annual rainfall for Burundi is approximately 1,300 mm.

The Gakara Project is served by variably maintained dirt roads, which, due to the rugged terrain, become difficult to negotiate during the rainy season. Whilst the Company's production plan has been adjusted to reflect Burundi's rainy season and to allow for stoppages and delays due to rain, any adverse variation to the conditions anticipated could mean that the Company's mining fleet is unable to negotiate the roads and, in consequence, production at the Gakara Project could be delayed or could experience interruptions or increased costs or may not continue at all.

#### ***Fuel costs***

In order to improve efficiency of production at the Gakara Project, in line with the proposals set out in the CPR, the Company plans to purchase new mining fleet to replace and expand on the capacity of existing rented equipment and to allow for additional mining areas.

This planned expansion of the Company's mining fleet will mean an increase in the Company's fuel requirements and costs. Supply of fuel in Burundi can be uncertain and in the event that the Company is unable to secure sufficient quantities of fuel in-country, it may be required to import fuel from neighbouring countries like Uganda at additional cost and delay to production.

Further, fuel prices in Burundi are set by the Government based on prevailing market rates marked-up for taxes and distribution costs. As a result, any significant variation in the underlying oil price will impact fuel costs and therefore the profitability of the Company's operations.

### **RISKS RELATING TO THE GROUP'S INDUSTRY**

***The market prices for REEs have experienced a high degree of volatility and future fluctuations in the market prices for these products could adversely affect the Group.***

Due to its reliance on the sales of production from the Gakara Project as the Group's sole source of income, the Group's revenues, profitability and future rate of growth will depend substantially on the prevailing market price of REEs/REOs and the ability to market the Gakara Project's product, namely a mixed rare earth concentrate. A sustained downward movement in the market price for REOs, or the Gakara concentrate, will negatively affect the Group's profitability and cash flows.

The future market price for REOs will be determined by, amongst other things, the relative balance of global demand for, and supply of, individual REOs. Market prices of individual REOs and the basket of REOs that the Group expects its product to contain have historically experienced volatility.

The market price for the Gakara concentrate will depend on both the market prices of REOs and the demand for the concentrate from downstream processors. These factors are beyond the Group's control and there

can be no assurance that the market price of the Group's concentrate will not decline in the future or that such price will otherwise remain at sufficiently high levels to support the Group's profitability.

A fall in the price received for the Gakara concentrate may result in a material decrease in the Group's net production revenue and the financial resources available to it to make planned capital expenditures, resulting in a material adverse effect on the Group's business, results of operations and activities, financial condition and prospects.

***Global demand for REEs has varied considerably in the recent past and may in the future differ significantly from current levels and expectations***

Industrial use and demand for individual elements within the REEs complex has varied significantly over recent years. The chemical and physical properties of the individual REEs and REOs vary significantly and they can be employed in a wide range of industrial applications. The demand for REOs from each application is driven by the growth characteristics of the application industry, by the emergence of new technologies (which may include a greater or lesser content of REOs) and by substitution for other technologies (which itself may be influenced by the relative price of REOs compared to the price of the substitute technology).

The Directors believe that the use of rare earths in permanent magnets is likely to continue to account for the large majority of the value in the REEs/REOs market and to continue to be the principal driver of growth in the market. However, there can be no certainty that the industries underlying this demand will continue to grow or that competitor technologies to rare earth magnets will not gain prevalence.

***Market supply is dominated by China***

Although some rare earth concentrate originates from the US or other countries outside China, the vast majority of mine production of REOs is supplied by mines within China, which are estimated to have accounted for approximately 71 per cent. of global supply in 2018. In addition, a significant percentage of known in situ reserves and resources of REEs are located in China. The Chinese government has sought, over recent years, to impose greater control over the supply of REEs/REOs both domestically and internationally. It has sought to stop "illegal mining" of Chinese deposits by placing control of the country's mines into the hands of six state-controlled companies, and has periodically imposed export quotas limiting the amount of REEs/REOs that can be exported. Accordingly, despite some rare earth concentrate originating outside of China, China effectively controls the global supply of REEs. Whilst it is expected that this control will ordinarily be used, if at all, to maintain a degree of balance in the supply and demand of REEs, actions by China may, as they have in the past, lead to an oversupply of one or more REEs, which may impact the market price. It should also be noted that REEs occur and are extracted together and, as a result, increased production of one, or more REEs, to satisfy demand, may lead to oversupply of other REEs.

***REEs prices could be affected by China's response to the ongoing trade dispute between China and the US***

Currently, around 80 per cent. of the REEs imported by the US come from China and, whilst Estonia, France and Japan also supply processed rare earths to the US, much of the original ore comes from China. China has recently signalled that it may restrict the export of REEs to the US as the trade conflict between the two countries escalates.

REEs prices have recently risen sharply in response to the ongoing trade dispute between China and the US and a perceived move by the US away from Chinese REEs products. Whilst this ongoing uncertainty has driven growth in demand for REEs product from producers outside of China, China's dominant position in the market means that any actions it takes in the future may have an adverse effect on REEs prices and consequently on the price received by the Group from tk Materials Trading, which is derived from the underlying price of REEs.

**RISKS RELATING TO THE GROUP'S FINANCIAL POSITION**

***The Group may require additional funding in order to fund capital expenditure and operating expenses and may not be able to obtain such financing on acceptable terms, or at all***

To the extent that the Group is unable to fund any shortfall in working capital, outside of the Working Capital Period, the Group may enter into borrowing arrangements and/or seek to raise further equity finance to fund its future exploration, development, production or acquisition plans or to repay indebtedness. The future ability of the Group to arrange such financing will depend in part upon prevailing financing market conditions as well as the business performance of the Group, all of which may be outside of the Company's control. There can be no assurance that such debt or equity financing will be available. If debt or equity financing is available, it may not be on terms acceptable to the Group.

Furthermore, any additional debt financing may involve re-financing costs or penalties or restrictive covenants, which may limit or affect the Group's operating flexibility.

***Shareholders may be exposed to fluctuations in currency exchange rates***

The Group is exposed to currency and exchange rate fluctuations which may affect the Group's results of operations. The majority of the Group's capital expenditures and revenues are in US dollars and the proceeds of the Placing will be in pounds sterling. However the majority of production costs are in Burundian Francs, and the Group has both bank and trade creditors in Burundian Francs. In the foreseeable future, the principal areas of currency exposure are: (a) the repayment of the Finbank overdraft which is in Burundian Francs; and (b) ongoing operating costs, including fuel costs, rentals, and salaries, which will be incurred in Burundian Francs, together with balances due to Finbank and trade creditors. On or prior to Admission, the Group may seek to enter foreign exchange transaction or contracts to reduce or remove the currency risks associated with the capital expenditure programme.

***The mining industry is subject to a number of laws and governmental regulations, compliance with which may be burdensome***

Exploration, development and operational activities in the mining industry are subject to extensive laws and regulations governing various matters. These include, but are not limited to, laws and regulations relating to taxation, environmental protection, management and use of hazardous substances and explosives, management of natural resources, licences over resources owned by governments, exploration, development of mines, production and post-closure reclamation, the employment of expatriate labour, and occupational health and safety standards, including mine safety.

Mining companies are required to seek and to comply with the terms of governmental licences, permits, authorisations and other approvals in connection with their exploration, construction and operating activities, for example in relation to their, mining licences, environmental management, water supply and discharge, and use of hazardous chemicals and explosives. Obtaining the necessary governmental permits can be a complex and time-consuming process and may involve costly undertakings. The duration and success of permit applications are contingent on many factors that are outside the Group's control. The Company believes that the Group has all of the material permits required to conduct its current operations.

The costs associated with compliance with these laws, regulations and licences are substantial, and possible additional future laws and regulations, changes to existing laws and regulations (including, but not restricted to, the imposition of higher licence fees, mining royalties or taxes) or more stringent enforcement or restrictive interpretation of current laws and regulations by governmental authorities, or of rulings or clearances obtained from such governmental authorities, could cause additional expenditure (including capital expenditure) to be incurred or impose restrictions on, or suspensions of, the Group's operations and cause delays in the development of its properties. Moreover, these laws and regulations may allow governmental authorities and private parties to bring lawsuits based upon damages to property and injury to persons resulting from the environmental, health and safety impacts of the Group's past and current operations, and could lead to the imposition of substantial fines, penalties or other civil or criminal sanctions. The occurrence of any of these factors may have a material adverse effect on the Group's business, results of operations and financial condition and the price of the Ordinary Shares.

***The Group's compliance with health and safety laws and regulations may require increased capital expenditures, and non-compliance may subject the Group to penalties***

The Group is required to comply with a range of health and safety laws and regulations in connection with its mining, processing and logistics activities. A violation of health and safety laws relating to a mine, at a processing plant or in the course of transportation of minerals, or a failure to comply with the instructions of the relevant health and safety authorities, could lead to, among other things, a temporary shutdown of all or a portion of the Group's mining, processing or logistics operations, a loss of the Group's right to mine, operate a processing plant or transport mineral products, or the imposition of costly compliance measures, criminal sanctions and/or monetary penalties. The Group has in place a health and safety committee, and has implemented an operational health and safety plan, overseen by a full time experienced senior health and safety manager. There can be no assurance, however, that the Group's health and safety programme will be effective, will comply with applicable laws or that costs of implementation will not increase significantly. If health and safety authorities were to require the Group to shut down all or a portion of its mining, processing or logistics operations, or to implement costly compliance measures, whether pursuant to existing or new health and safety laws and regulations, or the more stringent enforcement of existing laws and regulations, such measures could have a material adverse effect on the Group's business, financial condition and results of operations.

***The Group's insurance and indemnities may not adequately cover all risks or expenses***

The Group maintains insurance of the type and in the amounts that the Directors consider necessary for the

Group's operations. However, the Group is unable to insure against all risks and may be exposed under certain circumstances to uninsurable hazards and risks which may result in financial liability, property damage, personal injury or other hazards or liability for the acts or omissions of sub-contractors, operators and other third parties. Although indemnities may have been provided by sub-contractors, operators and other third parties, such indemnities may be difficult to enforce given the financial positions of those giving the indemnities or due to the jurisdiction in which the Group seeks to enforce the indemnities, leaving the Group exposed to claims by third parties.

There is also no assurance that the Group will be able to maintain adequate insurance in the future at rates the Group considers reasonable. Accordingly, the Group could incur substantial losses if an event which is not fully covered by insurance occurs, which would have a material adverse effect on the Group's business, results of operations and financial condition.

***The Group's mining and processing operations are subject to Burundian environmental legislation and regulations***

The Group's exploration and mining activities are dependent upon maintaining appropriate licences, permits, rights and regulatory consents which may be granted for a defined period of time, may not be granted, be withdrawn subject to a regulatory process, or be subject to statutory restrictions. The Group may require additional licences, permits, rights and regulatory consents for the conduct of any new mining or beneficiation operations. Whilst the Group has not experienced any issues with the grant or renewal of permits or licences, there can be no assurance that such rights will be granted or renewed (as the case may be) in the future or as to the terms of such grants or renewals.

The Group's mining and processing operations at the Gakara Project are subject to Burundian environmental legislation and regulations, including but not limited to Law no 1/21 of 15 October 2013 regarding the Mining Code of Burundi and Law n.1/010 of 30 June 2000 regarding the Environmental Code of the Republic of Burundi.

In addition, mining companies operating in Burundi are subject to extensive environmental laws and regulations with respect to environmental matters such as:

- limitations on land use;
- prospecting and mining rights requirements;
- reclamation and restoration of mining properties after mining is completed;
- management of materials generated by mining operations;
- the storage, treatment and disposal of wastes;
- remediation of contaminated soil and groundwater;
- use of hazardous substances;
- use, storage and transportation of explosives;
- air quality standards;
- water pollution;
- protection of human health, plant life and wildlife, including endangered or threatened species;
- protection of wetlands;
- the discharge of materials into the environment; and
- the effects of mining on surface water and groundwater quality and availability.

Non-payment of the costs associated with these laws and regulations, and possible future laws and regulation and/or changes to existing laws and regulations (including the imposition of higher taxes and mining royalties), could cause additional expense and capital expenditures. It could also cause restrictions on or suspension of the Group's operations. Moreover, these laws and regulations may allow governmental authorities and private parties who have a substantial and direct interest in the mining operations or the consequences of the mining operations to bring lawsuits based upon damages to property and injury to persons resulting from the environmental and health and safety impacts of the Group's past and current operations. This could lead to the imposition of fines, penalties or other civil or criminal sanctions, including personal sanctions for directors. If the Group's environmental compliance obligations in Burundi were to vary as a result of changes to the legislation, or if certain assumptions it makes to estimate liabilities are incorrect, or if unanticipated conditions were to arise in its operations, the Group's expenses and provisions could increase, which could materially and adversely affect the Group's business, financial condition and results of

operations.

***The Group is dependent on its executive management, senior management team and employees with relevant experience***

The Group is dependent upon its executive management, as well as its senior management team and employees having relevant mining, processing, logistics and trading experience. While the Group is not aware of the planned departure of any member of the executive management or its senior management team, the loss of any such member of executive or senior management, with the concomitant loss of institutional and operational knowledge, experience and expertise, and the ability to deliver the strategy of the Group could have a disproportionate and material adverse effect on the Group.

Furthermore, the Group has no key-man insurance policy in place, and, therefore, there is a risk that the unexpected loss of the services of any member of its key personnel (through serious injury, death or resignation) could have a material adverse effect on the Group.

The loss of or diminution in the services of qualified mining specialists or of members of the Group's senior management team or an inability to attract and retain additional senior management and/or mining personnel could have a material adverse effect on the Group's business, financial condition and results of operations.

There is no assurance that the Group will successfully continue to retain existing specialised personnel and senior management or attract additional qualified senior management and/or mining personnel required to successfully execute and implement the Group's business plan, which will be particularly important as the Group expands. Competition for such personnel is intense. The loss of such personnel and the failure to successfully recruit replacements in a timely manner, or at all, would have a material and adverse effect on the Group's business, prospects, financial condition and results of operations.

***The use of foreign subsidiaries by the Group may affect the Company's ability to pay dividends or make distributions***

The Group conducts most of its operations through the Subsidiaries and the Company's ability to pay dividends on the Ordinary Shares is reliant on the ability of its Subsidiaries to pay dividends or make other distributions to the Company. The ability of a Subsidiary to make payments to the Company may be constrained by, among other things: (i) the level of taxation, particularly corporate profits and withholding taxes, in the jurisdiction in which it operates; (ii) the introduction of exchange controls or repatriation restrictions or the availability of hard currency to be repatriated; and (iii) local law requirements in relation to the payments of distributions.

**RISKS RELATING TO GUERNSEY**

***The Company may be subject to the Guernsey Income Tax (Substance Requirements) (Implementation) Regulations 2018, as amended ("Guernsey Substance Regulations")***

In response to the review carried out by the European Union Code of Conduct Group (Business Taxation), the States of Guernsey has introduced minimum substance requirements for Guernsey tax resident companies.

The Income Tax (Substance Requirements) (Guernsey) (Amendment) Ordinance, 2018 was approved by the States of Deliberation in Guernsey on 28 November 2018 and provides the ability for the Policy & Resources Committee to make regulations requiring companies carrying on, or undertaking, relevant activities to have substance in Guernsey. The detail of the substance requirement is contained in the Guernsey Substance Regulations, which were made by the Policy & Resources Committee on 13 December 2018, taking effect from 1 January 2019. The Guernsey Substance Regulations were amended by the Income Tax (Substance Requirements) (Implementation) (Amendment) Regulations, 2018, which were made by the Policy & Resources Committee on 19 December 2018, taking effect from 1 January 2019. Certain further amending regulations are expected to be made by the Policy & Resources Committee in July 2019, coming immediately into operation.

If the Company is subject to the Guernsey Substance Regulations, the Company would be required to demonstrate 'adequate' economic substance in Guernsey. To do so, the Company may be required to employ additional individuals or engage additional service providers in Guernsey, which may result in increased annual administrative costs for the Company. If the Company could not demonstrate that it has adequate substance in Guernsey in an accounting period, it would be subject to sanctions. These sanctions include exchange of information with competent authorities in other jurisdictions, financial penalties and, ultimately, striking off the companies register in Guernsey.

***The Company may be subject to reporting and withholding requirements under the United States Foreign Account Tax Compliance Act, Common Reporting Standard or similar legislation***

Under FATCA, certain payments made to the Company on or after 1 July 2014 may be subject to a 30 per

cent. withholding tax, or "FATCA Deduction", unless the Company complies with the requirements of the intergovernmental agreement between the United States and Guernsey (which seeks to implement the requirements of FATCA) and any legislation enacted in Guernsey to implement the US-Guernsey intergovernmental agreement.

While the Company will seek to satisfy its obligations under FATCA, the US-Guernsey intergovernmental agreement and the associated implementing legislation in Guernsey to avoid the imposition of any FATCA Deductions, the ability of the Company to satisfy such obligations will depend on receiving relevant information and/or documentation about each Shareholder and the direct and indirect beneficial owners of the Ordinary Shares (if any). The Company intends to satisfy such obligations, although there can be no assurances that it will be able to do so. There is therefore a risk that the Company may be subject to one or more FATCA Deductions, any of which may have a material adverse effect on the market price of Ordinary Shares.

Guernsey has also implemented the Common Reporting Standard or "CRS" regime with effect from 1 January 2016. Accordingly, reporting in respect of periods commencing on or after 1 January 2016 is required in accordance with the CRS (as implemented in Guernsey).

Under the CRS and legislation enacted in Guernsey to implement the CRS, certain disclosure requirements are imposed in respect of certain investors who are, or are entities that are controlled by one or more natural persons who are, residents of any of the jurisdictions that have also adopted the CRS, unless a relevant exemption applies. Where applicable, information to be disclosed will include certain information about investors, their ultimate beneficial owners and/or controllers, and their investment in and returns from the Company. The CRS will be implemented through Guernsey's domestic legislation in accordance with guidance issued by the Organisation for Economic Co-operation and Development as supplemented by guidance notes in Guernsey. Under the CRS, disclosure of information will be made to the Director of Revenue Services in Guernsey for transmission to the tax authorities in other participating jurisdictions.

The requirements under FATCA, the CRS and similar regimes and any related legislation, IGAs and/or regulations may impose additional burdens and costs on the Company or Shareholders. There is no guarantee that the Company will be able to satisfy such obligations and any failure to comply may materially adversely affect the Company's business, financial condition, results of operations and/or the market price of the Ordinary Shares. In addition, there can be no guarantee that any payments in respect of the Ordinary Shares will not be subject to withholding tax under FATCA. To the extent that such withholding tax applies, the Company is not required to pay any additional amounts.

In subscribing for or acquiring Ordinary Shares, each Shareholder is agreeing, upon the request of the Company or its delegate, to provide such information as is necessary to comply with FATCA, the CRS and other similar regimes and any related legislation and/or regulations.

Investors should consult with their respective tax advisers regarding the possible implications of FATCA, the CRS and similar regimes concerning the automatic exchange of information and any related legislation, IGAs and/or regulations.

## **RISKS RELATING TO BURUNDI**

### ***Burundi has a nascent mining industry***

The mining industry in Burundi is in its early stages and is not as developed as the mining industries which exist in other African jurisdictions. As such, Burundi currently has limited resources, infrastructure and experience to support mining operations, as a result of this there is a lack of trained and experienced staff, a lack of available machines and equipment and a lack of skills within Government departments to interact with, or to support mining companies with disputes. The Group needs to both develop and train workers and supply sufficient qualified workers to operate the Gakara Project. Further, due to the lack of historical mining operations in Burundi, the legislative and regulatory framework (and application and interpretation thereof) under which the Group operates is largely untested both by operators but also the Government, relevant ministries and regulatory bodies that regulate such operations and, consequently, may be subject to further development, amendment, interpretation, litigation or change in a relatively short space of time and such changes may have a material and adverse effect on the Group's operations or planned development, in particular as a result of the Group's reliance on a sole asset which will be wholly exposed to such changes.

### ***Investments in developing markets are generally subject to increased risk***

Investors in the securities of issuers in developing markets such as Burundi should be aware that these investments are generally subject to greater risk than investments in the securities of issuers from more developed countries and carry risks that are not typically associated with investing in more mature markets. These risks include, but are not limited to, higher volatility and more limited liquidity in respect of the Ordinary Shares, greater political risk, a narrow export base, budget deficits, lack of adequate infrastructure

necessary to sustain economic growth and changes in the political and economic environment.

In addition, international investors' reactions to events occurring in one emerging market, country or region sometimes appear to demonstrate a 'contagion' effect, in which an entire region or class of investment is disfavoured by such investors. If such an effect occurs, Burundi could be adversely affected by negative economic or financial developments in other emerging market countries.

Prospective investors should also note that developing economies such as Burundi's are subject to rapid change and that the information set out in this document may become outdated relatively quickly. Accordingly, prospective investors should exercise particular care in evaluating the risks involved and must decide for themselves whether, in light of those risks, their investment is appropriate. Generally, investment in emerging markets is suitable only for sophisticated investors who fully appreciate the significance of the risks involved. Prospective investors are urged to consult their own legal and financial advisers before making an investment decision.

***The Group cannot control the performance or actions of the Burundi Government***

The Company owns 90 per cent. of Rainbow Mining, which owns 100 per cent. of the Mining Licence. The Burundi Government owns the remaining 10 per cent. of Rainbow Mining. The Company cannot control the performance or actions of the Burundi Government, and it is possible that the interests of the Company and the Burundi Government may not be aligned, which may result in project delays, additional costs or disagreements. The actions of the Burundi Government, or a disagreement with the Burundi Government, could result in the Group losing the Mining Licence, additional costs, levies or taxes being imposed, or restrictions or conditions being placed on operations. In the event that any of these circumstances arise the financial condition and results of operations of the Group could be materially and adversely affected.

***Possible disruptions to operations at the Gakara Project by members of the local community could have a material and adverse effect on the Group***

Notwithstanding the efforts taken by the Group to build good relations with the local community, there can be no assurance that relations will not deteriorate in the future. It is possible that the local community may object to the progress of the Group's initiatives or the continued operations at the Gakara Project, or that they may have other unaddressed grievances and this in turn could lead to disruption of the Group's operations as a result of actions by the local community. Such disruption could materially and adversely affect the Group's business, financial condition and results of operations.

***Political, social and economic instability in Burundi may affect the Group and its operations and personnel***

Burundi has a history of political and social instability which has resulted in and continues to result in security problems which may affect the Group, its operations and personnel. Consequently, there may be a material adverse effect on the Group's business, financial condition, results of operations and prospects caused in varying degrees by regime change, political and economic instability, economic or other sanctions imposed by other countries or regions, criminal activities, terrorism, civil wars, social unrest, border disputes, guerrilla activities, military repression, civil disorder, refugee crises, crime, instability of the workforce, extreme fluctuations in currency exchange rates and high inflation.

To date, the Group's operations have not been affected by any civil unrest in Burundi. However, it is possible that future unrest or protests may impact on the Group's activities in Burundi, including amongst other things, lack of availability of workforce, equipment and supplies, security concerns, access to fuel, labour disputes, government policy with respect to mining, labour, monetary and fiscal issues changes to government regulations with respect to restrictions on production, price controls, export controls, income taxes, expropriation of property, nationalisation of assets, maintenance of claims, environmental legislation, land use, land claims, water use and mine safety. Any or a combination of any of these factors could materially and adversely impact the Group's business, financial condition and results of operations and prospects.

There can be no assurance that the Group will be able to obtain or maintain effective security of any of the Group's assets or personnel in the country in which it operates. If the Group is unable to maintain effective security over its assets or personnel, this could have a material and adverse effect on the Group's business, results of operations, financial condition or reputation. In addition, the possible threat of criminal actions against the Group, in particular its properties, facilities or third party infrastructure, could have a material and adverse effect on the Group's ability to generate revenue or adequately staff its operations, or could materially increase the cost of doing so (please see the Risk Factor entitled: "The Group is totally reliant on the Gakara Project" for further information).

***The Ebola outbreak in West Africa could affect the Company's operation***

West Africa is currently suffering its second- largest Ebola outbreak in its history. Since August 2018 more than 1,400 people have died predominantly in the Democratic Republic of Congo but also in neighbouring

Uganda and more than 2,000 have been infected. Whilst not yet declared an emergency, the World Health Organization's Emergency Committee stressed that the outbreak remains an "extraordinary event" in the region and has advised neighbouring "at risk" countries (which included Burundi) to improve their preventative measures. Whilst there have been no reported cases of Ebola in Burundi, the country neighbours the Democratic Republic of Congo and consequently the government has initiated preventative measures after the virus spread to Uganda.

An outbreak of Ebola in Burundi has the potential to have a severe impact on the population and economy of the country which would have a material adverse effect on the Company's operations through potential loss or illness of existing employees, repatriation of foreign nationals, suspension of travel, operations and infrastructure and difficulty in securing critical supplies. In order to help mitigate this risk the Company is undertaking a program of health education amongst employees to provide guidance on the prevention of infection.

#### ***Risks relating to bribery and corruption***

In certain jurisdictions, fraud, bribery and corruption are more common than in others. In addition, the mining industry has, historically, been shown to be vulnerable to corrupt or unethical practices. The Group operates in Burundi which has been allocated a low (i.e. less favourable) score on Transparency International's "Corruption Perceptions Index". While the Group maintains an anti-bribery policy, anti-corruption training programmes, codes of conduct, procedures and other safeguards designed to prevent the occurrence of fraud, bribery and corruption, and no members of the Group or the Directors have been subject to fraud, bribery or corruption proceedings, it may not be possible for the Group to detect or prevent every instance of fraud, bribery and corruption in every jurisdiction in which its employees, agents, sub-contractors or joint venture partners are located. The Group may, therefore, be subject to civil and criminal penalties and to reputational damage. Instances of fraud, bribery and corruption, and violations of laws and regulations in the jurisdictions in which the Group operates, including the UK Bribery Act 2010, could have a material and adverse effect on its results of operations and financial condition.

### **RISKS RELATING TO THE TAXATION OF THE GROUP**

#### ***The Group seeks to structure its affairs in a tax efficient manner***

A number of tax arrangements entered into by companies within the Group have been structured in a tax efficient manner. If any of these arrangements were to be successfully challenged by the relevant tax authorities, the Group could incur additional tax liabilities which could adversely affect the Group's business, financial condition and results of operations.

#### ***Change in the Company's tax status or in taxation law could negatively affect the Company's ability to provide returns to Shareholders***

Statements in this document concerning the taxation of the Group or of Shareholders are based on current tax law and practice which remains subject to change. The taxation of an investment in the Company also depends on the individual circumstances of the relevant Shareholder. Any Shareholder who is in doubt as to its tax position should consult an appropriate adviser.

Any change in the Company's tax status or any change in taxation law affecting the Company could affect the Company's ability to provide returns to Shareholders.

Statements in this document concerning the United Kingdom taxation of Shareholders are based on current United Kingdom tax law and practice, which are subject to change. The taxation of an investment in the Company depends on the individual circumstances of Shareholders.

The Company is not incorporated in the United Kingdom. Accordingly, the Company should not be treated as being resident in the United Kingdom for corporation tax purposes unless its central management and control is exercised in the United Kingdom. The concept of central management and control is indicative of the highest level of control of a company, which is wholly a question of fact. The Company intends to manage its affairs so that it is not resident in the United Kingdom for United Kingdom tax purposes.

A company not resident in the United Kingdom for corporation tax purposes can, nevertheless, be subject to United Kingdom corporation tax if it carries on a trade through a permanent establishment in the United Kingdom, but the charge to United Kingdom corporation tax is limited to profits (including revenue profits and capital gains) attributable directly or indirectly to such permanent establishment.

The Company intends to operate in such a manner that it does not carry on a trade through a permanent establishment in the United Kingdom. Nevertheless, because neither case law nor United Kingdom statute completely defines the activities that constitute trading in the United Kingdom through a permanent establishment, HMRC might contend successfully that the Company is trading in the United Kingdom through a permanent establishment in the United Kingdom.

If the Company was treated as being resident in the United Kingdom for United Kingdom corporation tax purposes, or if the Company was to be treated as carrying on a trade in the United Kingdom through a permanent establishment or otherwise subject to United Kingdom income tax, the results of the Group's operations could be materially and adversely affected.

## **RISKS RELATING TO THE ORDINARY SHARES**

### ***External perceptions of the jurisdiction in which the Group operates may adversely affect the market price of the Ordinary Shares, and increase the Group's cost of capital***

External perceptions of the jurisdiction in which the Group operates with respect to political and economic instability and civil unrest may have an adverse effect on the market value of securities of issuers operating in that jurisdiction, including the Ordinary Shares. This could adversely affect the market price of the Ordinary Shares, and could also make it more difficult for the Group to gain access to the capital markets and finance its operations in the future on acceptable terms or at all and otherwise have a material and adverse effect on its business.

#### ***The Majority Shareholder***

Following Admission, Adonis Pouroulis will be interested in approximately 17.44 per cent. of the Company's issued share capital.

Notwithstanding the Relationship Agreement described in paragraph 15(c) of Part 14 of this document, "Additional Information", there is no guarantee that Adonis Pouroulis's interests will coincide with the interests of other Shareholders. Adonis Pouroulis will be in a position to exert significant influence over the Company's affairs, and will be able to significantly influence the outcome of any Shareholders' resolution, irrespective of how other Shareholders may vote.

Adonis Pouroulis may cause the Company to take actions that are not in the interests of the Company or its other Shareholders. In the event that the interests of Adonis Pouroulis conflict with those of the other Shareholders, or if Adonis Pouroulis chooses to cause the Company to pursue objectives that would conflict with the interests of the other Shareholders, such other shareholders could be left in a disadvantageous position as a result of the actions caused by Adonis Pouroulis.

### ***Substantial future sales of Ordinary Shares, or the perception that such sales might occur or additional offerings of Ordinary Shares could depress the market price of Ordinary Shares***

The Company cannot predict what effect, if any, future sales of Ordinary Shares, or the availability of Ordinary Shares for future sale, or the offer (by way of further issuance) of additional Ordinary Shares in the future, will have on the market price of Ordinary Shares. Sales or an additional offering of substantial numbers of Ordinary Shares in the public market, or the perception or any announcement that such sales or an additional offering could occur, could adversely affect the market price of Ordinary Shares and may make it more difficult for Shareholders to sell their Ordinary Shares at a time and price which they deem appropriate and could also impede the Company's ability to raise capital through the issue of equity securities in the future.

#### ***The issuance of additional Ordinary Shares may dilute all other shareholdings***

The Company may issue additional equity whether in connection with convertible equity securities, share incentive or option plans or otherwise. As a matter of Guernsey law, there is no requirement for the Directors to issue additional shares on a pre-emptive basis at any time. However, the Articles do include pre-emption rights.

### ***There may be volatility in the value of an investment in Ordinary Shares and the market price for Ordinary Shares may fluctuate***

The market price for the Ordinary Shares may be volatile and subject to wide fluctuations in response to numerous factors, many of which are beyond the Group's control, including the following: (i) actual or anticipated fluctuations in the Group's results of operations; (ii) actual or anticipated changes in REEs prices and/or in the capital markets; (iii) recommendations by securities research analysts; (iv) changes in the economic performance or market valuations of other companies that investors deem comparable to the Company; (v) addition or departure of the Company's executive officers and other key personnel; (vi) sales or perceived sales of additional Ordinary Shares; (vii) significant acquisitions or business combinations, strategic partnerships, joint ventures or capital commitments by or involving the Group or its competitors; (viii) changes in laws, rules and regulations applicable to the Group and its operations; (ix) general economic, political and other conditions, in particular in Burundi; (x) the Group's involvement in any litigation or dispute, or threat of any litigation or dispute; and (xi) news reports relating to trends, concerns, technological or competitive developments, regulatory changes and other related issues in the Group's industry or target markets.

Financial markets have experienced significant price and volume fluctuations in the last several years that have particularly affected the market prices of equity securities of companies and that have, in many cases, been unrelated to the operating performance, underlying asset values or prospects of such companies. Accordingly, the market price of the Ordinary Shares may decline even if the Group's operating results, underlying asset values or prospects have not changed. Additionally, these factors, as well as other related factors, may cause decreases in asset values that are deemed to be other than temporary, which may result in impairment losses. Also, certain institutional investors may base their investment decisions on consideration of the Group's environmental, governance and social practices and performance against such institutions' respective investment guidelines and criteria, and failure to meet such criteria may result in a limited or no investment in the Ordinary Shares by those institutions, which could adversely affect the trading price of the Ordinary Shares. There is no assurance that continuing fluctuations in the price and volume of publicly traded equity securities will not occur. If such increased levels of volatility and market turmoil continue, the Group's operations could be materially and adversely impacted and the trading price of the Ordinary Shares may be adversely affected.

***The Company cannot guarantee its ability to pay dividends in the future***

Any decision to pay dividends on the Ordinary Shares will be made by the Board and will depend, among other things, on the Group's results of operations, financial condition, solvency and such other factors that the Board may consider relevant. Further any decision to pay dividends will be subject to the ability of the Subsidiaries to pay dividends/make distributions to the Company. If any distributions or dividends are made, they will at all times be subject to compliance with the solvency test prescribed by the Companies Law. Accordingly, the Company cannot guarantee its ability to pay dividends in the future. See paragraph 21 of Part 7 of this document, "Dividend Policy".

***If the Company is wound up, distributions to Shareholders will be subordinated to the claims of creditors***

On a winding-up of the Company, holders of the Ordinary Shares will be entitled to be paid a distribution out of the assets of the Company available to its shareholders only after the claims of all creditors of the Company have been met.

***The rights afforded to Shareholders are governed by Guernsey law***

As the Company is a Guernsey registered company, the rights of Shareholders will be governed by Guernsey law and the Articles. The rights of Shareholders under Guernsey law may differ from the rights of shareholders of companies incorporated in other jurisdictions. Not all rights available to shareholders under English law will be available to the Shareholders. Guernsey law limits the circumstances under which shareholders of companies may bring derivative actions.

***Enforcement of judgements against the Company may be difficult***

A number of the Directors and officers of the Company are not residents of the United Kingdom and substantially all of the Group's assets are located in Burundi. As a result, it may be difficult for Shareholders to effect service of process on those persons in the United Kingdom or to enforce in the United Kingdom judgements obtained in UK courts against the Company or those persons who may be liable under the laws of England and Wales.

The current position with regard to enforcement of judgements in Guernsey is as follows, but this may be subject to change.

A final and conclusive judgment under which a sum of money is payable (not being a sum payable in respect of taxes or other charges of a like nature or in respect of a fine or penalty) obtained in the superior courts in the reciprocating countries set out in the Judgments (Reciprocal Enforcement) (Guernsey) Law, 1957 (the "1957 Law"), after a hearing on the merits would be recognised as a valid judgement by the Guernsey courts and would be enforceable in accordance with and subject to the provisions of the 1957 Law.

The Guernsey courts would also recognise any final and conclusive judgement under which a sum of money is payable (not being a sum payable in respect of taxes or other charges of a like nature or in respect of a fine or other penalty) obtained in a court not recognised by the 1957 Law provided such court is deemed to have jurisdiction in accordance with the principles of private international law as applied by Guernsey and such judgement would be sufficient to form the basis of proceedings in the Guernsey courts for a claim for liquidated damages in the amount of such judgement. In such proceedings, the Guernsey courts would not re-hear the case on its merits save in accordance with such principles of private international law.

***Restrictions on sale for Shareholders in the United States may make it difficult to resell the Ordinary Shares or may have an adverse impact on the market price of the Ordinary Shares***

The Ordinary Shares have not been registered in the United States under the US Securities Act or under any

other applicable securities laws and are subject to restrictions on transfer contained in such laws.

There are additional restrictions on the resale of Ordinary Shares by Shareholders who are in the United States and on the resale of Ordinary Shares by any Shareholders to any person who is in the United States. These restrictions will make it more difficult to resell the Ordinary Shares in many instances and this could have an adverse effect on the market value of the Ordinary Shares. There is no assurance that Shareholders in the United States will be able to locate acceptable purchasers or obtain the required certifications to effect a sale.

## **PART 3 - FORWARD LOOKING STATEMENTS AND PRESENTATION OF FINANCIAL AND OTHER INFORMATION**

### **1. General**

This document comprises a prospectus for the purpose of Article 5 of the Prospectus Directive and is issued in compliance with the Listing Rules. Investors should only rely on the information in this document. No person has been authorised to give any information or to make any representations in connection with Admission, other than those contained in this document and, if given or made, such information or representations must not be relied upon as having been authorised by or on behalf of the Company, the Directors, or the Joint Brokers. No representation or warranty, express or implied, is made by the Joint Brokers, any of their affiliates or any selling agent as to the accuracy or completeness of such information, and nothing contained in this document is, or shall be relied upon as, a promise or representation by the Joint Brokers, as to the past, present or future performance of the Company. Further, the Company does not accept any responsibility for the accuracy or completeness of any information reported by the press or other media, nor the fairness or appropriateness of any forecasts, views or opinions expressed by the press or other media regarding the Company. The Company makes no representation as to the appropriateness, accuracy, completeness or reliability of any such information or publication other than this document.

Without prejudice to any obligation of the Company to publish a supplementary Prospectus pursuant to FSMA, the delivery of this document shall not under any circumstances, create any implication that there has been no change in the business or affairs of the Group since the date of this document, or that the information contained herein is correct as of any time subsequent to its date.

The contents of this document or any subsequent communications from the Company, the Group or any of their respective affiliates, officers, advisers, directors, employees or agents, are not to be construed as legal, business or tax advice. Each prospective investor should consult its, his or her own lawyer, financial intermediary or tax adviser for legal, financial or tax advice. In making an investment decision, each investor must rely on its, his or her own examination, analysis and enquiry of the Company, including the merits and risks involved.

This document is not intended to provide the basis of any credit or other evaluation and should not be considered as a recommendation by any of the Company, the Directors, the Joint Brokers or any of their representatives that any recipient of this document should subscribe for or purchase Ordinary Shares. Prior to making any decision as to whether to subscribe for or purchase Ordinary Shares, prospective investors should read this document. Investors should ensure that they read the whole of this document carefully and not just rely on key information or information summarised within it. In making an investment decision, prospective investors must rely upon their own examination of the Group and the terms of this document, including the risks involved.

### **2. Presentation of financial information**

The financial information incorporated by reference into this document includes the audited consolidated financial statements for the Group for the years ended 30 June 2018, 30 June 2017 and 30 June 2016, together with the unaudited interim consolidated financial statements of the Group for the six months ended 31 December 2018.

The annual and interim financial statements are prepared in accordance with IFRS. Unless otherwise indicated, the financial information presented in this document has been prepared in accordance with IFRS.

### **3. Currencies**

In this document, references to "Franc", "Burundian Franc", or "F" are to the lawful currency of Burundi; references to "Rand" are to the lawful currency of the Republic of South Africa; references to "British Pounds Sterling", "£", "pence" or "p" are to the lawful currency of the UK; and references to "US dollars", "USD", "US\$", or "\$" are to the lawful currency of the United States.

### **4. Rounding**

Percentages and certain amounts in this document, including financial, statistical and operating information, have been rounded to the nearest thousand whole number or single decimal place for ease of presentation. As a result, the figures shown as totals may not be the precise sum of the figures that precede them. In addition, certain percentages and amounts contained in this document reflect calculations based on the underlying information prior to rounding, and, accordingly, may not conform exactly to the percentages or amounts that would be derived if the relevant calculations were based upon the rounded numbers.

## **5. Third party information**

The Company confirms that all third party information contained in this document has been accurately reproduced and, so far as the Company is aware and is able to ascertain from information published by that third party, no facts have been omitted that would render the reproduced information inaccurate or misleading. Where third party information has been used in this document, the source of such information has also been identified.

## **6. Reserves and resources reporting – basis of preparation**

MSA Group, South Africa has estimated the potential tonnage and grade ranges following the reporting guidelines for an Exploration Target as stipulated in the JORC Code in compliance with the Prospectus Rules and the CESR.

An Exploration Target is a statement for the exploration potential of a mineral deposit in a defined geographical setting for which there has been insufficient exploration to estimate a Mineral Resource. The reporting of such information is common in the early stages of exploration when the quantity of data available is generally not sufficient to allow for any reasonable estimates of Mineral Resources but does not come with the implication that there are reasonable prospects for eventual economic exploitation. Estimates of the Exploration Target available for mining may change significantly in the future when new information becomes available or new factors arise and interpretations and deductions on which mineral reserves and mineral resources estimates are based may prove to be inaccurate. Consequently whilst all forms of mineral extraction and mineral reserve and resource estimation are inherently prone to variability, investors in the Company should be aware that mining of the Gakara Project may carry greater risk than a mining project for which an Ore Reserve or Mineral Resource exists.

The Exploration Target provided in this document complies with the exploration target definition in the JORC Code. The relevant definitions from the 2012 edition of the JORC Code can be found in Part 17 of this document, "Glossary of Technical Terms", exploration target estimates are reported as at 4 June 2019, unless otherwise stated. For the purposes of Prospectus Rule 5.5.3R(2)(f) MSA Group declares that to the best of its knowledge and belief, having taken all reasonable care to ensure that such is the case, the information contained herein is in accordance with the facts and does not omit anything likely to affect the import of such information.

## **7. Forward-looking statements**

Certain statements contained in this document constitute forward-looking statements. These statements relate to future events or the future performance of the Group. All statements other than statements of historical fact may be forward-looking statements. Forward-looking statements are often, but not always, identified by the use of words such as "seek", "anticipate", "plan", "continue", "estimate", "expect", "forecast", "may", "will", "project", "predict", "potential", "targeting", "intend", "could", "might", "should", "believe", "expect" or similar expressions. These statements involve numerous assumptions, known and unknown risks, uncertainties and other factors that may cause actual results or events to differ materially from those expressed, anticipated or implied in such forward-looking statements. The Company believes that the expectations reflected in forward-looking statements contained herein are reasonable but no assurance can be given that such expectations will prove to be correct or accurate and accordingly, such forward-looking statements included in, or incorporated by reference into, this document should not be unduly relied upon. These statements speak only as of the date of this document. Actual operational and financial results or events may differ materially from the Company's expectations contained in the forward-looking statements as a result of various factors, many of which are beyond the control of the Company.

## **8. Forward Looking Statements**

Forward-looking statements in this document include, but are not limited to, statements with respect to the following:

- adverse changes in the markets for and pricing of the Group's products;
- currency exchange rate fluctuations;
- increasing costs and declining productivity;
- risks associated with labour unrest;
- challenges in complying with the Group's obligations under local legislation;
- unanticipated production disruptions (including as a result of safety-related stoppages, labour or community unrest or interruptions in the Company's electricity and water supply) and other

operational difficulties (including delays in commissioning and bringing into production new mining areas);

- changes in mining, environmental, tax and other laws and regulations and the impact of current Burundian laws concerning areas such as exchange control restrictions and rezoning of land for mining purposes;
- the impact on the Group's business of inflation and other macroeconomic conditions;
- the capital intensive nature of the mining business and the Group's ability to fund further exploration and new business plans;
- insufficient insurance coverage;
- adverse changes in social, legal, economic or political conditions in Burundi or neighbouring countries or the effect of governmental efforts to address present or future economic or social problems;
- competition in the mining industry for workers and for senior management;
- the concentration of substantially all of the Group's mining and processing operations in Burundi;
- employee health and safety issues;
- environmental laws, regulations and rehabilitation obligations;
- the Group's ability to realise and maximise its business plan, exploration activities, joint ventures and acquisition opportunities;
- the impact of investments, acquisitions and dispositions (including related financing), any delays, unexpected costs or other problems experienced in connection with dispositions or with integrating acquisitions and achieving expected savings and synergies;
- uncertainties inherent in estimating the Group's mineral reserves and mineral resources, specifically that the Company might not ever be able to estimate a mineral reserve or resource; and
- criminal acts, bribery, theft, fraud and corruption.

With respect to forward-looking statements contained in this document, the Company has made assumptions regarding:

- production levels;
- price levels for its product;
- transportation and export allocations, disruptions and losses;
- foreign exchange rates;
- exploration and development costs;
- future currency and interest rates;
- the Group's ability to generate sufficient cash flow from operations and to access existing or future credit facilities and capital markets to meet its future financial obligations;
- availability of labour and mining equipment;
- general economic and financial market conditions; and
- government regulation in the areas of taxation, royalty rates and environmental protection.

These factors should not be considered exhaustive. The forward-looking statements contained in this document are expressly qualified by this cautionary statement.

Investors are cautioned that forward-looking statements are not guarantees of future performance. The Company makes no representation, warranty or prediction that the results predicted by such forward-looking statements will be achieved and these forward-looking statements represent, in each case, only one of many possible scenarios and should not be viewed as the most likely or standard scenario. Forward-looking statements may, and often do, differ materially from actual results. Any forward-looking statements in this document speak only as at the date of this document, reflect the Group's current view with respect to future events and are subject to risks relating to future events and other risks, uncertainties and assumptions relating to the Group's operations, results of operations, growth strategy, liquidity and the availability of new credit. Investors should specifically consider the factors identified in this document that could cause actual

results to differ. All of the forward-looking statements made in this document are qualified by these cautionary statements.

Subject to the requirements of the Prospectus Rules, the Disclosure Guidance and Transparency Rules and the Listing Rules, or applicable law, the Company explicitly disclaims any intention or obligation or undertaking publicly to release the result of any revisions to any forward-looking statements in this document that may occur due to any change in the Group's expectations or to reflect events or circumstances after the date of it.

## **9. No incorporation of website**

The contents of the Company's website, any website mentioned in this document or any website directly or indirectly linked to these websites have not been verified and do not form part of this document and investors should not rely on such information.

## **10. Definitions and technical terms**

A list of defined terms and technical terms used in this document is set out in Part 15, "Definitions" and Part 16, "Glossary of Technical Terms".

## **11. Data Protection**

The information that a prospective investor in the Company provides in documents in relation to a subscription for New Ordinary Shares or subsequently by whatever means which relates to the prospective investor (if it is an individual) or a third party individual ("personal data") will be held and processed by the Company (and any third party in Guernsey or the UK to whom it may delegate certain administrative functions in relation to the Company) in compliance with: (a) the relevant DP Legislation and any related regulatory requirements applicable in Guernsey and/or the UK as appropriate; and (b) the Company's privacy notice, a copy of which is available for consultation on the Company's website at [www.  
http://rainbowrareearths.com/privacy-policy/](http://rainbowrareearths.com/privacy-policy/) ("Privacy Notice") (and if applicable any other third party delegate's privacy notice as set out in the Company's Privacy Notice).

Without limitation to the foregoing, each prospective investor acknowledges and consents that such information will be held and processed by the Company (or any third party, functionary, or agent appointed by any member of the Group, which will include, without limitation, the Registrar) in accordance with and for the following purposes:

- verifying the identity of the prospective investor to comply with statutory and regulatory requirements in relation to anti-money laundering procedures;
- carrying out the business of the Group and the administering of interests in the Group;
- meeting the legal, regulatory, reporting and/or financial obligations of the Company in Guernsey, the UK or elsewhere; and
- disclosing personal data to other third party functionaries of, or advisers to, the Group to operate and/or administer the Group.

The foregoing processing of personal data is required in order to perform the contract with the prospective investor, to comply with the legal and regulatory obligations of the Company or otherwise is necessary for the legitimate interests of the Company.

Each prospective investor acknowledges and consents that where necessary to fulfil the purposes set out above and in the Company's Privacy Notice the Group (or any third party, functionary, or agent appointed by any member of the Group, which may include, without limitation, the Registrar) may:

- disclose personal data to third party service providers, affiliates, agents or functionaries appointed by the Group or its agents to operate and/or administer the Group; and
- transfer personal data outside of Guernsey and the EEA states to countries or territories which do not offer the same level of protection for the rights and freedoms of prospective investors as are afforded in Guernsey or the UK (as applicable) provided that suitable safeguards are in place for the protection of such personal data, details of which shall be set out in the Privacy Notice or otherwise notified from time to time.

Prospective investors are responsible for informing any third party individual to whom the personal data relates of the disclosure and use of such data in accordance with these provisions. Individuals have certain rights in relation to their personal data; such rights and the manner in which they can be exercised are set out in the Company's Privacy Notice.

## PART 4 - CONSEQUENCES OF A STANDARD LISTING

Application will be made for the New Ordinary Shares to be admitted to the standard segment of the Official List. A Standard Listing affords Shareholders and investors in the Company a lower level of regulatory protection than that afforded to investors in companies whose securities are admitted to the premium segment of the Official List, which are subject to additional obligations under the Listing Rules.

It should be noted that the UK Listing Authority does not have the authority to (and will not) monitor the Company's compliance with any of the Listing Rules or those aspects of the Disclosure Guidance and Transparency Rules which the Company has indicated herein that it intends to comply with on a voluntary basis, nor to impose sanctions in respect of any failure by the Company to so comply.

Subject to the passing of the special resolution at the Extraordinary General Meeting, the New Ordinary Shares will be admitted to listing on the standard segment of the Official List pursuant to Chapter 14 of the Listing Rules, which sets out the requirements for Standard Listings and does not require the Company to comply with, *inter alia*, the provisions of Chapters 6 to 13 of the Listing Rules (excluding Listing Principles 1 and 2). As a result, the Company's securities are not eligible for inclusion in the UK series of the FTSE indices.

### **1. Listing Rules which are not applicable to a Standard Listing**

Such non-applicable Listing Rules include, in particular:

- Chapter 8 of the Listing Rules regarding the appointment of a listing sponsor to guide the Company in understanding and meeting its responsibilities under the Listing Rules in connection with certain matters. In particular, the Company is not required to appoint a sponsor in relation to the publication of this document or Admission;
- Chapter 9 of the Listing Rules relating to further issues of shares, issuing shares at a discount in excess of 10 per cent. of market value, notifications and contents of financial information;
- Chapter 10 of the Listing Rules relating to significant transactions which requires Shareholder consent for certain acquisitions;
- Chapter 11 of the Listing Rules regarding related party transactions;
- Chapter 12 of the Listing Rules regarding purchases by the Company of its Ordinary Shares; and
- Chapter 13 of the Listing Rules regarding the form and content of circulars to be sent to Shareholders.

### **2. Listing Rules with which the Company must comply under a Standard Listing**

There are, however, a number of continuing obligations set out in Chapter 14 of the Listing Rules that are applicable to the Company. These include requirements as to:

- the forwarding of circulars and other documentation to the UKLA for publication through the document viewing facility and related notification to a regulatory information service;
- the provision of contact details of appropriate persons nominated to act as a first point of contact with the UKLA in relation to compliance with the Listing Rules and the Disclosure Guidance and Transparency Rules;
- the form and content of temporary and definitive documents of title;
- the appointment of a registrar;
- the making of regulatory information service notifications in relation to a range of debt and equity capital issues; and
- at least 25 per cent. of the Ordinary Shares being held by the public in the EEA or the jurisdiction in which the Ordinary Shares are listed.

In addition, as a company whose securities are admitted to trading on an EU regulated market, the Company will be required to comply with the Disclosure Guidance and Transparency Rules.

## PART 5 - EXPECTED TIMETABLE OF PRINCIPAL EVENTS AND STATISTICS

### TIMETABLE

|  |                              |
|--|------------------------------|
| Notice of Extraordinary General Meeting sent to Shareholders   | 3 July 2019                  |
| Prospectus published   | 15 July 2019                 |
| Extraordinary General Meeting  | 19 July 2019                 |
| Admission and commencement of unconditional dealings of the New Ordinary Shares on the London Stock Exchange | 8.00 am on 22 July 2019      |
| Despatch of definitive share certificates (where applicable)   | No later than 12 August 2019 |

*These dates and times are indicative only, subject to change and may be brought forward as well as moved back, in which case new dates and times will be announced. The times referred to above are references to the time in London, UK*

### PLACING AND CONVERSION STATISTICS

|  |  |
|--|--|
| Price (per Placing Share)  | 3 pence  |
| Number of Ordinary Shares in issue before Admission  | 216,339,000  |
| Number of Placing Shares being issued pursuant to the Placing  | 121,207,778  |
| Number of Conversion Shares being issued pursuant to the conversion of the Pella Ventures Loan                             | 18,636,040   |
| Number of Lind Facility Shares being issued pursuant to the Lind Facility  | 17,843,891   |
| Other new Ordinary Shares being issued to certain directors/management   | 4,859,603  |
| Number of new Ordinary Shares to Align Research in lieu of payment of invoices which remain outstanding as at 30 June 2019 | 1,428,571  |
| Aggregate number of New Ordinary Shares  | 163,975,884  |
| Total number of Ordinary Shares in issue on Admission  | 380,314,884  |
| Placing Shares as a percentage of the Company's issued share capital on Admission  | 31.87 per cent.  |
| Conversion Shares as a percentage of the Company's issued share capital on Admission                                       | 4.69 per cent.   |
| Number of Ordinary Shares on a fully diluted basis following Admission (1)   | 408,430,575  |
| Gross cash proceeds of the Placing receivable by the Company   | (£3.6 million) <sup>3</sup> US\$4.5 million <sup>4</sup> |
| Estimated cash proceeds of the Placing receivable by the Company (net of commissions and expenses)                         | (£3.3 million) US\$4.2 million                           |
| Market capitalisation of the Company on Admission at the Placing Price   | (£11.4 million) US\$14.4 million                         |
| ISIN   | GG00BD59ZW98   |

<sup>3</sup> Exact amount was £3,636,233

<sup>4</sup> Exact amount was US\$4,581,653

(1) This assumes the exercise of all options granted pursuant to the Share Option Plan, the Corporate Options and the Warrants.

## **PART 6 - DIRECTORS, SECRETARY, REGISTERED AND HEAD OFFICE AND ADVISERS**

|   |  |
|---|--|
| Directors                                   | Adonis Pouroulis (Non-Executive Chairman)<br>Martin Eales (Chief Executive Officer)<br>Shawn McCormick (Non-Executive Director)<br>Robert Sinclair (Non-Executive Director)<br>Alexander Lowrie (Non-Executive Director)<br>Atul Bali (Non-Executive Director) |
| Company Secretary                           | Artemis Secretaries Limited Trafalgar Court,<br>Second Floor East Wing, Admiral Park<br>St Peter Port<br>Guernsey GY1 3EL  |
| Registered & Head office of the Company     | Artemis Secretaries Limited Trafalgar Court,<br>Second Floor East Wing, Admiral Park<br>St Peter Port<br>Guernsey GY1 3EL  |
| Joint Brokers to the Company                | Arden Partners Plc<br>125 Old Broad Street<br>London, EC2N 1AR<br>United Kingdom   |
|   | Turner Pope Investments Limited<br>Becket House, 36 Old Jewry<br>London EC2R 8DD<br>United Kingdom   |
| English legal advisers to the Company       | Memery Crystal LLP<br>165 Fleet Street,<br>London, EC4A 2DY<br>United Kingdom  |
| English legal advisers to the Joint Brokers | Pinsent Masons<br>30 Crown Place<br>Earl Street<br>London, EC4A 2ES<br>United Kingdom  |
| Burundi legal advisers to the Company       | Legal Solution Chambers<br>1 <sup>st</sup> Floor New Space Building<br>Imbo Avenue   |

P.O.Box 2155  
Bujumbura  
Burundi

Guernsey and British Virgin Islands legal advisers to the Company      Ogier (Guernsey) LLP  
Redwood House  
St Julian's Avenue  
St Peter Port  
Guernsey GY1 1WA

Reporting Accountants and Independent Auditors to the Company      BDO LLP  
55 Baker Street  
London, W1U 7EU  
United Kingdom

Registrar to the Company      Computershare Investor Services (Guernsey) Limited  
1<sup>st</sup> Floor Tudor House  
Le Bordage St Peter Port  
Guernsey GY1 1DB

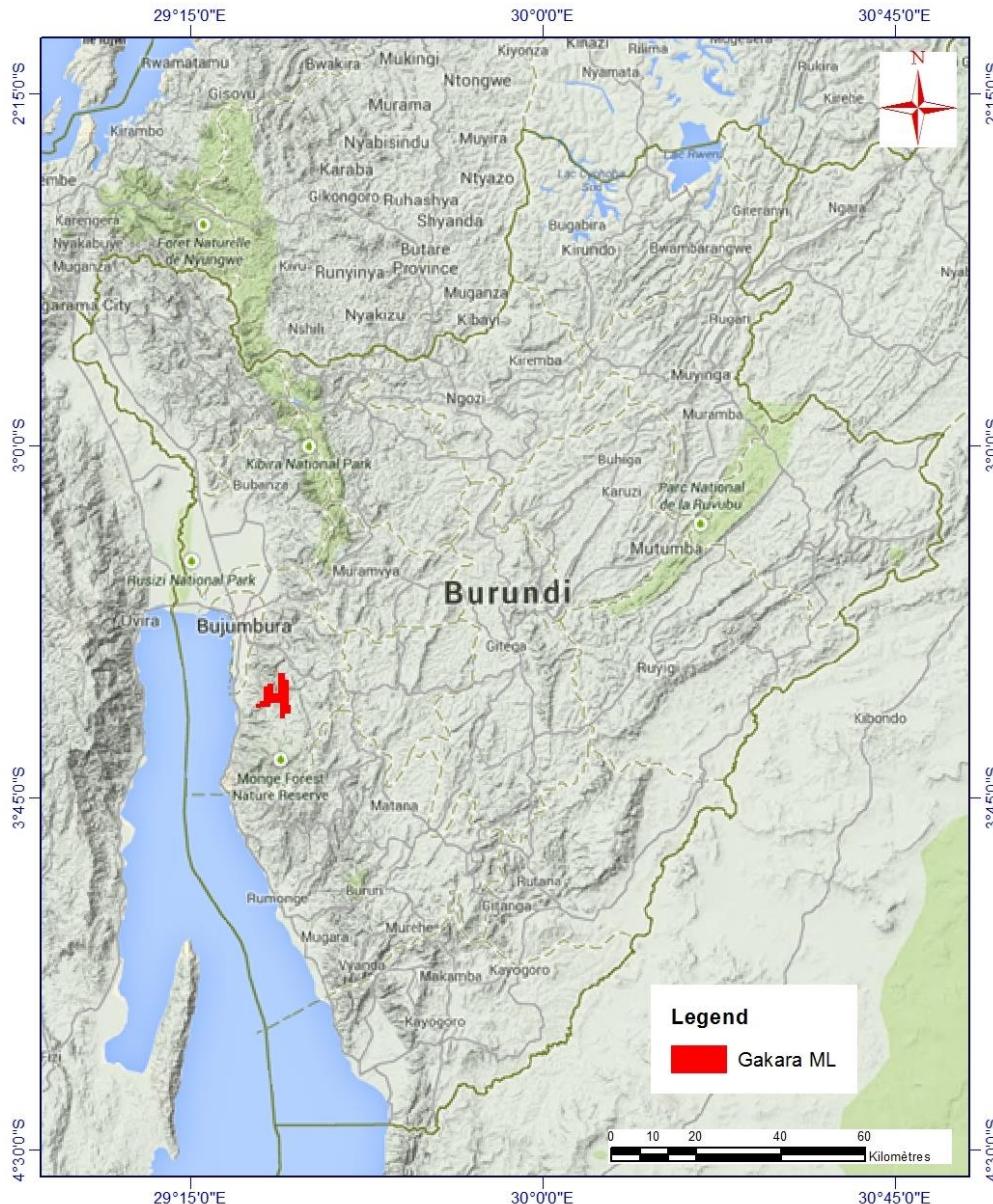
## PART 7 - INFORMATION ON THE GROUP

Investors should read this Part 7, 'Information on the Group" in conjunction with the more detailed information contained in this document, including the financial and other information appearing in Part 11 of this document, "Operating and Financial Review".

### 1. Introduction

The Company is a company limited by shares, registered and incorporated in Guernsey under the Companies Law on 5 August 2011, with registration number 53831.

The Group's primary asset is the Gakara Project, located in the Bujumbura Province in western Burundi. The Mining Licence which constitutes the Gakara Project is located approximately 35 km by road south-southeast of Bujumbura and covers a combined area of approximately 39 km<sup>2</sup>.



The Gakara Project is one of the highest grade (47 per cent.-67 per cent. TREO) rare earths projects globally and the only African producer. The deposit consists of rare earth element mineralisation hosted in a system of narrow veins, predominantly made up of the minerals bastnaesite and monazite. Rare earth elements have distinctive individual physical properties (including magnetism, high thermal and electrical conductivity, luminosity, and catalytic and optical properties) that allow them to be used in a wide range of applications and high technology industries.

Following its IPO, the Company began production of rare earth concentrates in Q4 2017 and exported 575 tonnes in the financial year ending 30 June 2018 and 650 tonnes in the 9 months to 31 March 2019.

As set out in the CPR, the Gakara Project has an Exploration Target of 16,550 to 64,000 TREO across the

Mining Licence that will support the Company's long term strategy. In line with MSA Group's recommendations, the Company is focusing on four prospects: Gasagwe, Murambi South, Gomvi Centre and Kiyenzi out of a total of 28 prospects across the Gakara Project which make up the Exploration Target.

The Gakara basket is weighted heavily towards the magnet rare earths, including neodymium and praseodymium, which are driving demand and account for approximately 70 per cent. of annual global REEs sales value due to their use in vital components in motors, generators, wind turbines, and electric vehicles.

The Directors expect that use in the manufacture of magnets will continue to be the principal market by value for REEs over the coming years as the penetration of electric and hybrid vehicles grows and the use of electric motors and generators generally increases.

Rainbow has a ten-year distribution and offtake agreement with multinational thyssenkrupp Materials Trading GmbH, secured for the sale of at least 5,000tpa of concentrate produced.

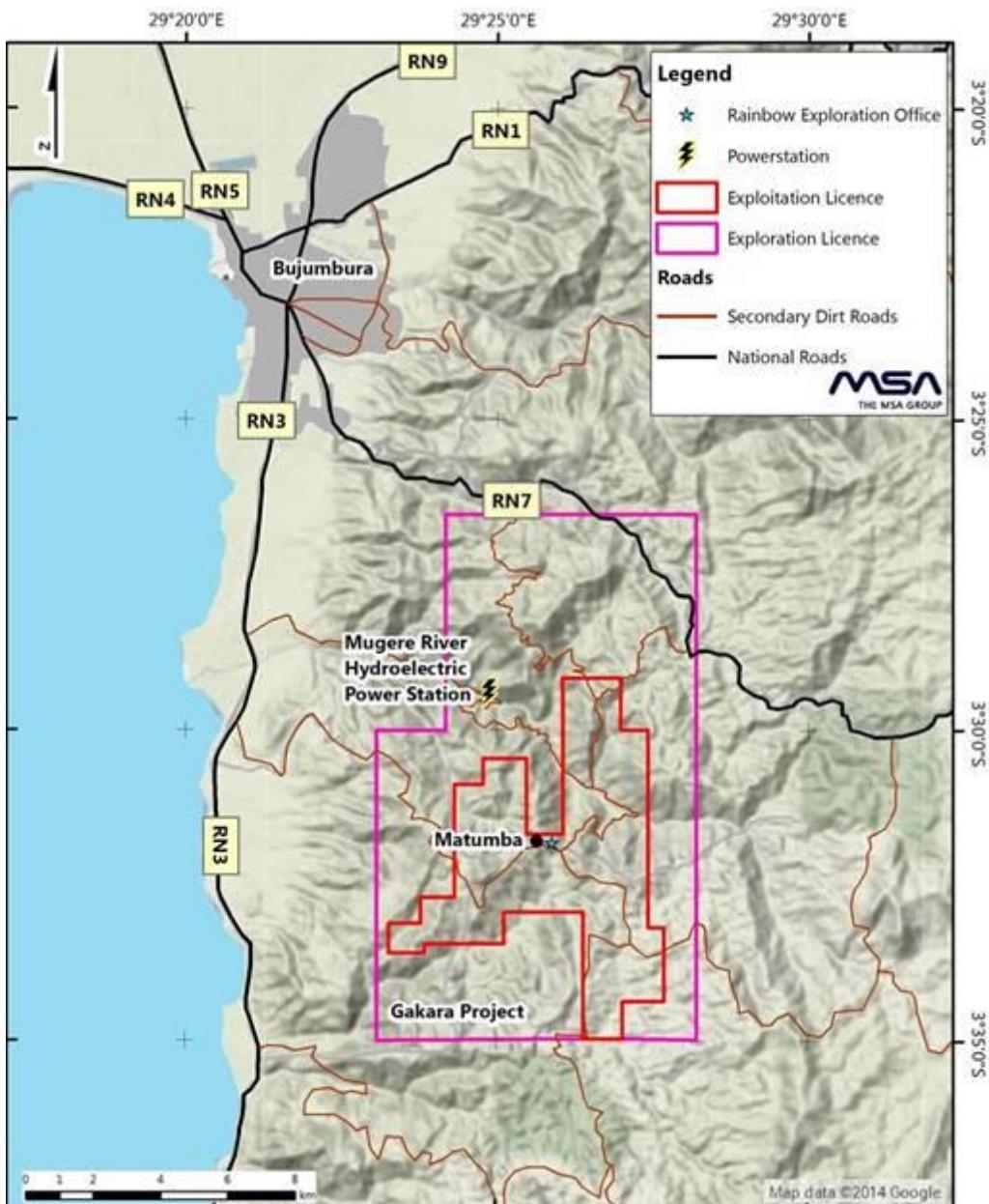
## **2. Gakara Project overview**

The Gakara Project was discovered in 1936 by Somuki, a private Belgian company, and was mined periodically between 1948 and 1978 by Somuki and Sobumines (a joint venture company between another private Belgian company and the Burundi government).

The mineralised veins at the Gakara Project are discrete and narrow, and the mineralised material separates easily from the less dense host rock which, in itself, is amenable to manual digging.

The veins range in thickness from a few centimetres to a few tens of centimetres. The veins have been shown to typically extend laterally for tens of metres, the longest recorded being around 40 metres, and individual veins have been observed to extend for up to 25 metres in a down-dip direction. The veins outcrop at surface on steep slopes or river incisions but are frequently under cover.

The Gakara Project area previously covered an area of approximately 135 km<sup>2</sup>, historically comprising an exploration licence and the existing Mining Licence. The exploration licence expired in July 2018 and the Gakara Project area now covers only the Mining Licence (39 km<sup>2</sup>). The Group does not own the surface rights covered by the Mining Licence but has free and unrestricted access to the Gakara Project area, following statutory consultation with the local communities.



Rainbow's exploration programme at the Gakara Project began in 2011 and the Group has been mining the deposit since mid-2017. During this period, Rainbow has constructed mining areas at the Gasagwe site and the Murambi South site.

Rainbow's ore processing plant was commissioned in Q1 2018 and has been in production mode since then. The plant has principally treated material from the Gasagwe mine but additional material has been mined from Murambi South since December 2018. The plant has consistently managed to generate a high grade REEs concentrate, grading on average 57 per cent. TREO based on concentrate exported from December 2017 to March 2019.

The Company has announced the following sales of rare earth concentrate in last 5 reported quarters:

| Period                       | Q3      | Q4      | Q1      | Q2      | Q3      |
|------------------------------|---------|---------|---------|---------|---------|
|                              | 2017-18 | 2017-18 | 2018-19 | 2018-19 | 2018-19 |
| Tonnes sold                  | 125     | 350     | 350     | 300     | 100     |
| Average grade TREO per cent. | 61      | 55      | 59      | 56      | 56      |

In December 2018, Rainbow commenced mining at the Murambi South site using a similar open pit bench mining method to that currently used at the Gasagwe mine. The mining method combines mobile mining equipment to strip the waste and manual mining to mine the veins. This is also the proposed mining method to be used for the remaining high grade vein deposits.

Whereas the mining of the first site, Gasagwe, has had to face technical aspects (namely geological variations of the veins and mining method challenges), which were not fully appreciated before the operation started, Rainbow has proved its capability in mining such a complex deposit. These learnings will be invaluable in mining future sites within the Gakara Project and are currently being applied at Murambi South. The unpredictable nature of the ore deposit has been exacerbated by the poor performance of locally-rented mining machinery which saw the operation fail to move targeted volumes of waste material, thereby restricting vein exposure that could be mined. Consequently the Company announced in both January and May 2019 that production of concentrate from the existing operations had fallen below initial expectations.

The processing plant, which has a capacity to treat 5 tonnes per hour, produces a concentrate by separating light material gangue from the heavy REEs minerals through the use of one jig and two shaking tables. Crushers, conveyor belts, filter press, pumps and tanks complete the basic equipment at the plant. Power is produced via 2 diesel generators. In addition to processing material from Gasagwe and Murambi South, the Rainbow processing plant has also been used to carry out performance tests on REEs mineralisation from the additional mining site at Kiyenzi.

Rainbow is currently also evaluating the feasibility to re-treat the tailings, which are running at grades between 10 per cent. and 15 per cent. TREO. As at 30 November 2018 a total of 214.8 tonnes of tailings (from the shaking tables) have so far been retreated and 17 tonnes of concentrate were recovered at a grade of 48.2 per cent. TREO and Rainbow has an ongoing programme focused on improving concentrate grade and TREO recovery from the processing plant at Kabezi.

The Company is targeting a steady state annual ROM production target of approximately 7,000tpa of high-grade ore. In order to achieve this target and, in line with MSA Group's recommendations, multiple mine sites will have to be developed and exploited at any one time.

In line with the Company's previously stated expectations, it is likely that mining at Gasagwe will cease before 30 June 2020; although new vein discoveries are continually being made which may delay this date. The Company has commenced mining at Murambi South and is planning commencing operations at Kiyenzi and Gomvyi Centre. Such a multiple mine site operation will strongly mitigate the risks that are associated with the complexity of the deposits and with the actual mining of thin veins. The Rainbow production plan envisages four mines sites being mined simultaneously. MSA Group recommends that an additional mine sites are continuously being made available due to the unpredictable nature of the veins.

### **3. Key strengths**

Based on the Company's work to date, the Directors believe the Gakara Project has the following key strengths:

- The demand for REEs (particularly NdPr usage in magnets, used in growth areas such as electric vehicles and wind turbines) is growing.
- Gakara's stockwork of veins are extremely high-grade, with 54.9 per cent total. REOs at the Gasagwe, Murambi South and Gomvyi deposits. Most other REEs deposits are below 5 per cent. TREO.
- The Gakara Project is fully permitted. The Mining Licence was granted in 2015 with a term of 25 years and is in good standing.
- The contained rare earth mix is weighted strongly towards elements used in the manufacture of strong permanent magnets, the most important market for REEs, with neodymium and praseodymium comprising approximately 19 per cent. of the contained REOs.
- The mine has strong environmental credentials, using minimal fuel (compared to larger, more mechanised mines), and no reagents at all. This aligns the mine with the demand for REEs from increasingly 'green technology' applications, and may be seen as a significant benefit if end-users seek to source REEs from environmentally-sound producers.
- The mine is a fully-permitted producing non-Chinese source of REEs, which may be of interest to end-users seeking to reduce reliance on China, particularly at a time when trade tensions between China and the US are escalating.

#### 4. Key events

##### Key events in the Group's History

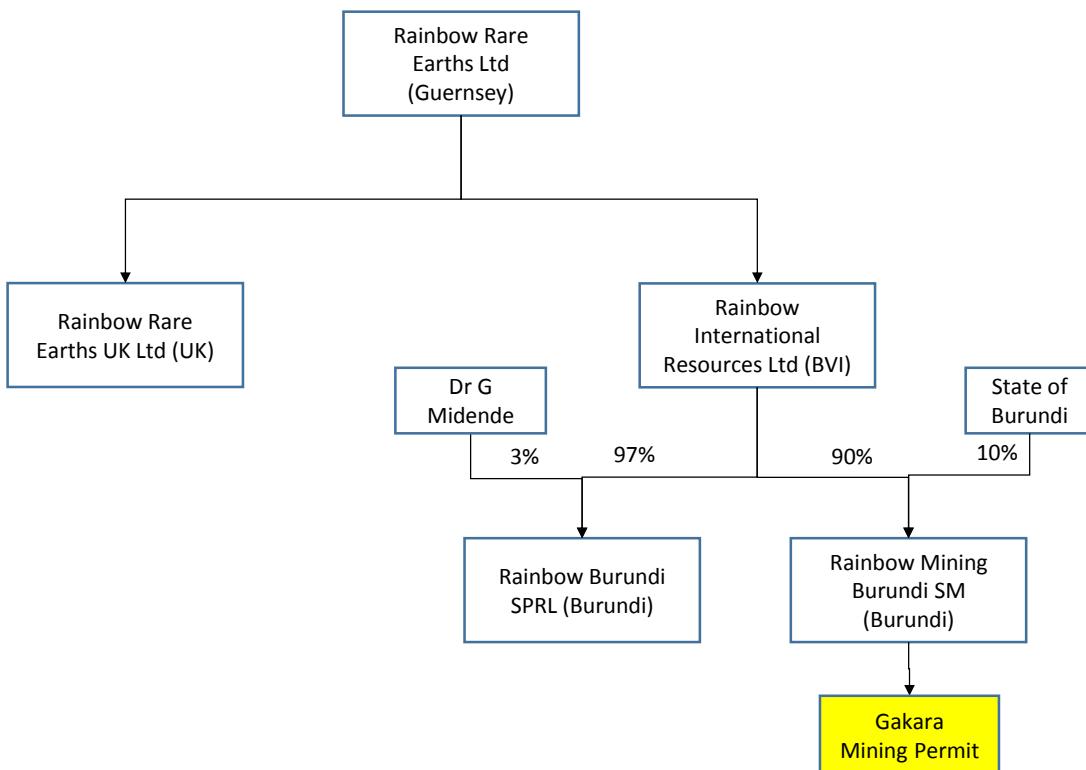
| Date                      | Event   |
|---------------------------|---|
| August 2011               | Company incorporated  |
| April 2013                | Completion of first phase exploration work programme  |
| December 2014             | Signing of Distribution and Offtake Agreement with tk Materials Trading (previously named tk Raw Materials) |
| March 2015                | Award of Mining Licence   |
| April 2015                | Incorporation of Rainbow Mining   |
| October 2015 - March 2016 | Trial bench mining fieldwork, test processing, process plant design work                                    |
| October 2016              | Second renewal of Exploration Licence   |
| January 2017              | Initial Public Offering and listing on LSE  |
| June 2017                 | Commencement of construction of plant at Kabezi   |
| June 2017                 | Commencement of mining at Gasagwe   |
| December 2017             | First export of RE concentrate  |
| March 2018                | Final Commissioning of plant at Kabezi  |
| December 2018             | Commencement of mining at Murambi South   |

#### 5. Group Structure

The Company acts as the holding company of the Group. The Company has the following significant subsidiary undertakings:

| Name of Subsidiary                  | Place of incorporation and registered office  | Proportion of ownership interest and issued share capital (per cent.) | Principal activity   |
|-------------------------------------|---|---|--|
| Rainbow International Resources Ltd | 263 Main Street<br>PO Box 2196<br>Road Town<br>Tortola VG1110<br>British Virgin Islands | 100<br>100 shares   | Exploration and evaluation activities                          |
| Rainbow Mining Burundi SM           | Quartier Kabondo<br>Boulevard du Japon 3<br>Bujumbura<br>Burundi                        | 90<br>100 shares  | Exploration, evaluation, development and production activities |
| Rainbow Burundi SPRL                | Quartier Kabondo<br>Boulevard du Japon 3<br>Bujumbura<br>Burundi                        | 97<br>100 shares  | Service and Administration Company                             |
| Rainbow Rare Earths UK Ltd          | 29 Lincoln's Inn Fields<br>London WC2A 3EG<br>United Kingdom                            | 100<br>100 shares   | Service and Administration Company                             |

## Group structure diagram



## 6. Competent Person's Report and strategy

### Gasagwe

The Gasagwe deposit is the area within the Mining Licence area where mining began during 2017. As such, much more is known about this deposit, and it therefore represents a fundamental benchmark for the other prospects within the Mining Licence.

The knowledge in relation to the Gasagwe vein structures and their mineralisation include the following:

- Vein Thicknesses: 2,181 channel samples were cut at Gasagwe using 2m spacing per 1m level of exploitation. The thicknesses of each channel sample were measured using differential global positioning system. The variation of the vein widths over tens of vertical metres have now been established and are well understood.
- Vein Morphology: the channel samples have allowed for a greater understanding of the morphology of every vein (with cm accuracy), their continuation (and lack of continuation) laterally and at depth, and have enabled the creation of a model that can be applied with confidence to other similar stockworks in the Mining Licence.
- Grade: with some 183 samples analysed from all mining levels (from initial surface to current mine level, c.40m below surface), the consistency of grades between surface and samples at depth has been clearly established.
- Density (or specific gravity): in all previous, historic tonnage calculations, an assumed specific gravity of 4t/m<sup>3</sup> was used. With the treatment of the Gasagwe ore at the Kabezi plant, real specific gravity data have been determined, that can now be applied to volumes at Gasagwe but also on ores from other sites of the same type.
- Ore Processing: all the ore mined at Gasagwe has been processed through the Kabezi plant. The final concentrate for every single batch exported has been sampled and the grade has proved to be consistently above the specified tenor of 54 per cent. TREO. Criteria such as recovery, yield, losses, mass balance, tailings etc. are now well established and can be used for ore from other mine sites.
- Mining: the exploitation of the Gasagwe deposit started in mid-2017. The Company has reviewed the mining methods on several occasions with the aim of optimising the process. Such reviews are ongoing. The mining experience gained at Gasagwe, which includes other key aspects such as the emplacement of waste dumps, the construction of access roads, the establishment of mining

infrastructure, the process of expropriating land for mining purpose and the environmental measures applicable to the mining processes will all be applied to future mine sites.

It is likely that mining at Gasagwe will cease before 30 June 2020, although new vein discoveries are continually being made

### ***Murambi South***

The Murambi mine site was first accessed in August 2018 with mining commencing in December 2018 and the trial mining and brownfields exploration undertaken to date have been very effective in providing high-quality geological and resource data.

As announced by the Company in January and May 2019, targeted production of ore during 2019 had been hampered by the delayed completion of the waste dump haul road and again by poor performance of locally-rented machinery which failed to operate efficiently in wet conditions.

As at 4 June 2019 some 53 REEs veins have been uncovered by the development works (trenching, trial mining). Most of the occurrences have been sampled as well as mapped (thicknesses, directions, dips, appearances etc.). The recorded lateral extents of the veins vary from a mere metre up to 45m, the average being approximately 9m at this stage. Similarly, the thicknesses of every vein has been measured (from some 452 precise channel sampling data points) and vary from 1cm up to 24cm, the present average being c.7cm.

A detailed ground gravity survey covering the southwestern half of the mining block has generated a series of NW-SE lineaments some of which having been confirmed to be coinciding with bastnaesite/monazite veins, generally trending in the same direction as the gravity lineaments. If such correlation can be further proved through more trenching, then some of the veins could have strike lengths of over 125-150m. Such possibility was used in the calculation of the Exploration Target tonnage at Murambi South.

### ***Gomvyi Centre***

The Gomvyi Centre prospect has been selected as a potential near-future mine site because of the following factors:

- The bastnaesite/monazite veins indentified are of high grade and, more importantly, there is a population of large veins (>50cm) for which an in-situ source has not been established yet.
- The veins appear to be structurally controlled and continuous over significant distances (50-100m if not more).
- The site is easily accessible as it is situated a mere 300m from an existing road.
- The outlined mine site is sparsely populated, which should result in lower compensation costs.

Rainbow's current plan is also to commence exploitation of the Gomvyi Centre prospect in 2019.

### ***Kiyenzi***

The Kiyenzi deposit is characterised by the presence of REEs mineralisation in the form of breccias. Kiyenzi can, in simple terms, be described as a lower grade but large volume deposit.

The REEs-bearing bastnaesite/monazite are present in large breccia units, but also as large cleaner veins, as thin to microscopic veins and perhaps as xenocrysts within the host rocks. The 'invasion' of REEs-rich fluids in the aplites and gneiss has generated a large mineralised body, in the form of a voluminous intrusion such as a pipe. The host rocks (gneiss and aplite) are hard, but heavily fractured, such fragmentation being likely the effect of a violent hydrothermal or phreatomagmatic process which would have also caused the formation of the breccias. The morphology of such complex deposit can be visualised as a 'breccia pipe', commonly described in the literature as a form of manifestation of a carbonatite system.

At present, the Company has identified this deposit type only at Kiyenzi within the Mining Licence area.

The Company has already achieved some encouraging yields and recoveries from test processing of Kiyenzi ore and intends to commence exploitation of this deposit during 2019. It is therefore intended to process the Kiyenzi material through the existing processing plant, however the larger, lower grade ore body may well be amenable to further beneficiation, if further testwork and mineralogical tests prove positive. Furthermore, the large volume, lower grade resource will likely require a mining methodology very different to the methodology adopted to date to mine very high-grade veins within a friable, free-digging saprolitic country rock.

### ***Exploration target***

The Exploration Target for the Gakara Project as at 4 June 2019 is shown below as a range of potential

grades and quantities as required by JORC.

| Area                    | Tonnes        |                | TREO Grade  |             | TREO Tonnes   |               |
|-------------------------|---------------|----------------|-------------|-------------|---------------|---------------|
|                         | (t)           |                | (per cent.) |             | (t)           |               |
|                         | Lower         | Upper          | Lower       | Upper       | Lower         | Upper         |
| Gasagwe                 | 1,400         | 2,600          | 58.9        | 58.9        | 800           | 1,500         |
| Murambi South           | 1,500         | 2,400          | 57.2        | 57.2        | 900           | 1,400         |
| Gomvyi Centre           | 1,100         | 4,200          | 56.9        | 56.9        | 600           | 2,400         |
| Other (1)               | 23,000        | 94,000         | 55.0        | 60.0        | 13,000        | 56,000        |
| <b>Total high grade</b> | <b>27,000</b> | <b>103,200</b> | <b>56.7</b> | <b>59.4</b> | <b>15,300</b> | <b>61,300</b> |
| Kiyenzi                 | 50,000        | 90,000         | 2.5         | 3.0         | 1,250         | 2,700         |
| <b>Total</b>            | <b>77,000</b> | <b>193,200</b> | <b>21.5</b> | <b>33.1</b> | <b>16,550</b> | <b>64,000</b> |

(1) Includes the range of potential grades and quantities of the remaining 24 exploration targets

MSA Group has identified an Exploration Target of 16,550 to 64,000 tonnes of TREO (27,000 to 103,200 tonnes of ore at grades between 56.7 per cent. and 59.4 per cent.) at the Gakara Project that will support the Company's long term strategy, in accordance with its production plan, of reaching a steady state annual ROM production target of approximately 7,000tpa of high-grade ROM ore material, achieved sustainably.

It should be noted that the potential quantity and grade of the Exploration Target is conceptual in nature, there being insufficient exploration to estimate a Mineral Resource, and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.

The Exploration Target was estimated as a range as required by the JORC. The Exploration Target is based on data of varying quantity and quality, although is based largely on actual Exploration Results as detailed in the Competent Person's Report.

### **Strategy**

The strategy for the Group is based on three fundamental areas: first, expanding production from existing high-grade veins in the near term by opening four pits in parallel; second, to grow the Company's understanding of the overall Gakara Deposit, in particularly the low-grade areas, and to assess the extent to which processing can be improved to treat lower-grade ores; and thirdly, to look at options to process REE concentrate still further, in order to increase the sales value of the product sold.

#### ***Near-term growth – the “four-pit strategy”***

In line with MSA Group's recommendations, the Directors believe that in order to meet the Company's production plan, the Company needs to address inefficiencies in its current mining operations, and to open up four pits in parallel at any one time.

Historically, mining production has suffered during the rainy season in Burundi (roughly October to May) as a result of underperforming and expensive locally-rented haul trucks proving unable to work in wet conditions, as well as a number of other sub-optimal practices (including timing of shifts, re-handling waste etc).

Following completion of the Fundraising, the Company is proposing to replace all hired mining equipment with a new mining fleet. The Directors anticipate that the payback for bought versus rented equipment can be as short as six months, however more importantly, new imported machines have performed considerably better in the prevailing conditions of the Gakara Project.

By addressing the operating inefficiencies at the same time as sourcing new equipment, the Directors believe that the Company can rapidly increase its production levels from pits in operation compared to recent results.

In addition, the Company plans to ensure that at any time, four pits will be operating in parallel (with the opening of the Gomvyi Centre and Kiyenzi mines in addition to current operations at Gasagwe and Murambi South). Not only is this intended to increase overall supply of ore to the plant, it is also expected to mitigate against short-term variability of ore availability from any given pit, thus providing greater consistency.

Opening up new pits requires an increase in the mining fleet, as well as investment in access roads, site preparation, compensation, preliminary exploration work, and pre-stripping.

### ***Expanding the deposit and developing a low-grade production option***

A key component of the future production plan is the 24 remaining prospects across the Gakara Project which do not include Gasagwe, Murambi South, Gomvyi Centre and Kiyenzi. The ability to execute the production plan is dependent on multiple exploration sites being available for mining providing production flexibility.

Gaining a better understanding of the scale and nature of the deposit at Gakara is critical to all production scenarios, and consequently the Company is seeking to undertake continual exploration work across the permit areas aimed at defining 5,000t to 10,000t of potentially mineable mineralisation every year.

This work will vary from area to area, depending on the nature of the orebody and its place within the host rock, but will include drilling, trenching, ground gravity and radiometric analysis, and potentially underground adits.

High-grade veins have to date been found in stockwork structures, such as at Gasagwe and Murambi, and such bodies are difficult to identify precisely using existing techniques.

However recent results from Kiyenzi have identified the potential for larger, lower-grade areas around the main veins, which are expected to be much larger in volume, and therefore easier to drill but also to mine.

More work needs to be done to identify such deposits, as well as to undertake testing work to establish the optimal treatment strategy.

### ***Downstream separation***

The Company currently produces and sells a REE mineral concentrate with a minimum grade of 54 per cent. TREO. The price received from tk Materials Trading is derived from the underlying published prices of REOs contained in the concentrate, but is subject to reduction of approximately 70 per cent. to account for subsequent separation costs incurred by the buyer, who further processes the material into individual REOs.

By undertaking further separation of the concentrate, Rainbow could significantly reduce the discount rate, and thus increase revenues from sales. In order to achieve this, work needs to be completed on determining and defining a processing solution.

### ***10 year estimated capital expenditure plan***

As noted by MSA Group, the main capital items in the ten year production plan are to purchase and sustain the mining fleet and meet future exploration costs which are critical components to the achievability and sustainability of the production plan. The other key items are the compensation for the local villagers to enable access to mining exploration sites and construction of access roads:

| Item                                    | Cost to June 2020 | July 2020 to June 2028 | Total             |
|---|-------------------|------------------------|-------------------|
|   | US\$              | US\$                   | US\$              |
| Mining fleet                            | 1,660,000         | -                      | 1,660,000         |
| Mining fleet sustaining capex/spares    | 115,000           | 1,664,999              | 1,779,999         |
| <b>Mining equipment total</b>           | <b>1,775,000</b>  | <b>1,664,999</b>       | <b>3,439,999</b>  |
| Site and infrastructure                 | 34,949            | -                      | 34,949            |
| Land and compensation                   | 791,987           | 1,000,000              | 1,791,987         |
| Roads                                   | 183,445           | 700,000                | 883,445           |
| Consultants – survey                    | 201,460           | 1,121,760              | 1,323,220         |
| Exploration costs                       | 387,126           | 2,210,769              | 2,597,895         |
| <b>Mine development and exploration</b> | <b>1,598,967</b>  | <b>5,032,529</b>       | <b>6,631,496</b>  |
| <b>Total</b>                            | <b>3,373,967</b>  | <b>6,697,528</b>       | <b>10,071,495</b> |

Source: Competent Person's Report, 10 year estimated capital expenditure plan.

In order to deliver the production plan as set out in the CPR, the Company shall use a portion of the Net

Proceeds, to cover the capex and development costs of US\$3.4 million in the first year of the plan, in addition to working capital requirements over this period as operations ramp up production.

Capex requirements over the subsequent years of the plan are expected to be covered by cashflows generated by the operations themselves.

## 7. The Placing and use of proceeds

The Company has raised US\$4.5 million<sup>5</sup> (£3.6 million<sup>6</sup>) via the Placing of 121,207,778 Ordinary Shares at a price of 3 pence per share. The Net Proceeds will, in order of priority, be used by the Company to:

- purchase of new mining fleet to replace and expand the capacity of the existing rented equipment and to allow for additional mining areas (US\$1.8 million);
- mine development and exploration costs to bring additional mining areas into production (US\$1.6 million); and
- working capital for operational and corporate purposes (US\$800,000).

The Placing is conditional upon: (a) Admission; (b) the Placing Agreement becoming unconditional in all respects and not having been terminated in accordance with its terms before Admission; and (c) the special resolution being passed at the Extraordinary General Meeting to authorise the allotment of the Placing Shares (as well as the other New Ordinary Shares).

On 3 July 2019, the Company announced that a general meeting of the shareholders of the Company would be held, at which a special resolution would be proposed to authorise the Directors to allot the Placing Shares (as well as the other New Ordinary Shares), as well as the Ordinary Shares arising as a result of any exercise of the Corporate Options. A notice of the Extraordinary General Meeting has been sent to Shareholders.

## 8. Conversion of the Pella Ventures Loan

Pursuant to the Pella Ventures Loan, Pella Ventures advanced US\$700,000 to the Company for a period of 12 months at an interest rate of 15 per cent. per annum from drawdown. The terms of the loan agreement, dated 7 May 2019, provide that the principal amount of US\$700,000 and the outstanding interest shall convert into new Ordinary Shares on the same terms as apply to the next equity fundraising undertaken by the Company.

Therefore, subject to completion of the Placing, the Pella Ventures Loan shall be converted into 18,636,040 new Ordinary Shares which shall be issued to Pella Ventures at Admission.

## 10. Lind Facility Shares

The Company announced on 10 June 2019 that it had received an exercise notice from Lind, in respect of the conversion of the full outstanding amount of the convertible loan advanced to the Company under the Lind Facility and that due to the Prospectus Rules (which limit the number of new shares that a company can admit to trading (and in effect issue) in any 12 month period), the Company would only be able to allot the Lind Facility Shares once this prospectus was published. Accordingly, the Lind Shares will be allotted to Lind after the date of this document and will be issued to Lind upon Admission.

## 11. Settlement of amounts due in Ordinary Shares-Directors and Senior Management

In addition, the Board of Directors and certain Senior Managers of the Company have agreed to accept new Ordinary Shares at the Placing Price in lieu of outstanding fees and deferred cash bonuses due as at 30 June 2019, as follows:

| Name             | Position               | Amount (£) | New Ordinary Shares |
|------------------|------------------------|------------|---------------------|
| Adonis Pouroulis | Chairman               | 14,167     | 472,222             |
| Shawn McCormick  | Non-Executive Director | 9,167      | 305,555             |
| Atul Bali        | Non-Executive Director | 9,167      | 305,555             |
| Robert Sinclair  | Non-Executive Director | 9,167      | 305,555             |
| Martin Eales     | CEO                    | 35,477     | 1,182,563           |

<sup>5</sup> The exact amount was US\$4,581,653

<sup>6</sup> The exact amount was £3,636,233

|                 |                           |                |                  |
|-----------------|---------------------------|----------------|------------------|
| Jim Wynn        | CFO                       | 25,341         | 844,688          |
| Gilbert Midende | Director General, Burundi | 24,094         | 803,150          |
| Cesare Morelli  | Technical Director        | 19,209         | 640,315          |
| <b>TOTAL</b>    |                           | <b>145,788</b> | <b>4,859,603</b> |

Further, Alex Lowrie subscribed for 333,333 new Ordinary Shares as part of the Placing.

## **12. Anti-corruption and Conflict Minerals**

Due to the nature of the industry sector and the region in which the Group operates, the Group is potentially exposed to accusations of poor practice when it comes to the requirements introduced by the UK Bribery Act 2010. As a Guernsey company, the Company is also subject to the Prevention of Corruption (Bailiwick of Guernsey) Law, 2003. Violations of the applicable legislation may result in a criminal case against the Company, members of the Group and/or the Group's employees, leading to reputational damage, possible imprisonment and fines. The Group believes that it has appropriate procedures in place to mitigate the risk of bribery and that all employees, agents and other associated persons are made fully aware of the Group's policies and procedures with regard to ethical behaviour, business conduct and transparency.

'Conflict Minerals' is a term generally understood to refer to natural resources mined from the Democratic Republic of Congo, principally the "3 Ts" (tin, tantalum, tungsten) and gold. Whilst Burundi is one of eight countries sharing a border with the Democratic Republic of Congo, it has not been identified as having any conflict minerals problems and nor have rare earths been considered a conflict mineral by the Organisation for Economic Co-operation and Development, or for the purposes of the Dodd-Frank Wall Street Reform and Consumer Protection Act in the United States of America.

## **13. Health, Safety and the Environment**

The safety of the Group's employees, contractors and those in the local communities in which it operates is critical to the effective running of its operations. The Group has developed processes and procedures and safety practices are of a high standard. A summary of the terms of the Group's Health, Safety and Environment Committee is set out in Part 9 of this document, "Directors, Senior Management and Corporate Governance".

## **14. Competition**

The Directors believe that the primary competitors of the Group are other producers of rare earth concentrate, located principally in China.

## **15. Corporate and social responsibility**

By implementing a number of local employment and training initiatives, the Company expects to ensure the sustainability of its operations in Burundi through the skills of its workforce. In addition, Rainbow has contributed financial assistance to a range of local community projects in the areas adjacent to its operations and has financed and managed repairs to local public roads.

## **16. Insurance**

The Group's operations are subject to numerous operating risks normally associated with exploration and mining activities. The Directors believe that its existing insurance coverage is reasonable to cover all general material risks associated with the Group's operations.

## **17. Employees**

In the past three financial years, the Group has employed, on average, the following numbers of people:

| Category                  | Year ending June 2016 | Year ending June 2017 | Year ending June 2018 |
|---------------------------|-----------------------|-----------------------|-----------------------|
| Office and management     | 8                     | 12                    | 13                    |
| Technical and operational | -                     | 16                    | 211                   |

As at the Last Practicable Date, the number of employees of the Group in: (i) office and management; and

(ii) technical and operational roles was 12 and 264 respectively.

#### **18. Properties, leases, plant and mining equipment**

The Group's material assets are its Mining Licence (further details of which are set out in paragraph 15(a) of Part 14 of this document "Additional Information") and its processing plant at Kabezi, and its mining equipment.

#### **19. Tax**

Further details relating to taxation are set out in Part 13 of this document, "Taxation".

#### **20. Working capital**

Taking into account the Net Proceeds, the Company is of the opinion that the Group has sufficient working capital for its present requirements, that is for at least 12 months following the date of this document.

#### **21. Dividend Policy**

The Company has never declared or paid any dividends on the Ordinary Shares. Any decision to declare and pay dividends will be made at the discretion of the Board and will depend on, among other things, the Group's results of operations, financial condition, solvency and such other factors that the Board may consider relevant. However, it is the Board's intention that capital be efficiently returned to Shareholders as soon as the Company is sufficiently cash flow positive. If any distributions or dividends are made, they will at all times be subject to compliance with the solvency test prescribed by the Companies Law.

## PART 9 - DIRECTORS, SENIOR MANAGEMENT AND CORPORATE GOVERNANCE

### 1. Directors

The following table lists the names, positions and ages of the Directors and the year they were appointed:

| Name             | Age | Position                | Appointed |
|------------------|-----|-------------------------|-----------|
| Adonis Pouroulis | 49  | Non-Executive Chairman  | 2011      |
| Martin Eales     | 47  | Chief Executive Officer | 2014      |
| Shawn McCormick  | 52  | Non-Executive Director  | 2016      |
| Alexander Lowrie | 44  | Non-Executive Director  | 2016      |
| Robert Sinclair  | 69  | Non-Executive Director  | 2011      |
| Atul Bali        | 48  | Non-Executive Director  | 2017      |

#### ***Adonis Pouroulis (Non-Executive Chairman)***

Adonis is an entrepreneur whose expertise lies in the discovery, exploration and development of natural resources across Africa. Having worked in the sector for over 25 years he has extensive experience and a wide network of industry relationships across the continent. Adonis is founder and chairman of Petra Diamonds (LSE:PDL), founder and director of Chariot Oil & Gas (AIM:CHAR) and founder and chairman of the Pella Resources Group. Adonis holds a Bachelor of Science Degree (Honours).

#### ***Martin Eales (Chief Executive Officer)***

After qualifying as a Chartered Accountant in 1997 Martin embarked on a 15 year career in corporate finance, corporate broking and equity capital markets in the City, rising to the position of Managing Director at RBC Capital Markets in London. With long experience of natural resources companies and transactions Martin joined the Pella Resources Group as Business Development Director in early 2014 and was then appointed Managing Director (later CEO) of Rainbow later that year.

#### ***Shawn McCormick (Non-Executive Director)***

Shawn is an International Affairs specialist with more than 25 years' political and extractive industries sector experience having served in The White House as Director for African Affairs on the National Security Council (Washington), Political Affairs Director of BP (London) and Vice President of TNK-BP (Moscow). He is currently Managing Director of Connaught Strategies Ltd.

#### ***Alexander Lowrie (Non-Executive Director)***

Alex is the co-founder of Telemark Capital LLP, a partnership focusing on capital advisory, trade finance and asset management. He is also a director and board advisor to several companies in the technology metals sector. Prior to this Alex worked for 13 years in investment banking. He was a director at Deutsche Bank and then RBS having started his banking career in 1998 at ABN AMRO. Through these positions he has gained extensive market experience in primary and secondary equity offerings including bringing companies to market through IPOs (including structuring, marketing and distribution). Alex graduated from Durham University with a BA (hons) in Combined Social Sciences.

#### ***Robert Sinclair (Non-Executive Director)***

Robert is a consultant to Artemis Trustees Limited. He has over 50 years' experience in finance and accountancy of which 40 years have been spent in the Guernsey financial services industry. Robert is a director of and chairman of the Audit Committee of Chariot Oil & Gas Limited, which is listed on AIM. He is a fellow of the Institute of Chartered Accountants in England & Wales and a Member of the Institute of Chartered Accountants of Scotland and the Society of Trust and Estate Practitioners. Robert is a resident of Guernsey.

#### ***Atul Bali (Non-Executive Director)***

Atul is a corporate CEO with extensive experience in tech, government contracting and regulated industries operating on six continents. Over more than 20 years he has led more than 50 M&A and JV transactions in more than 25 countries and both managed and served on the boards of several highly regulated businesses. Currently he serves as a consultant to several technology companies, including as Chairman of

Meridian Gaming, regulated and operating in more than 30 countries, with a large footprint in Africa, Central and South America and Central and Eastern Europe. He has previously held divisional CEO or President positions with IGT (NYSE), Aristocrat (ASX), and Real Networks (NASDAQ), as well as a venture capital firm. He previously trained as a Chartered Accountant with KPMG in the UK.

## 2. Senior Managers

The Company's current Senior Managers, in addition to the Directors listed above, are as follows:

| Name            | Age | Position              | Appointed |
|-----------------|-----|-----------------------|-----------|
| Cesare Morelli  | 56  | Technical Director    | 2011      |
| Gilbert Midende | 66  | General Manager       | 2011      |
| Peter Connery   | 57  | Project Manager       | 2019      |
| Jim Wynn        | 46  | Chief Finance Officer | 2017      |

### ***Cesare Morelli (Technical Director)***

Cesare Morelli has over 30 years' experience in minerals exploration in Africa including 18 years in diamond exploration with De Beers managing projects in south, west and central Africa. Following his time with De Beers, he spent four years with BHP Billiton as Minerals Exploration Manager for Africa. At BHP Billiton he directed exploration projects in a variety of commodities, namely iron ore, aluminium bauxite, manganese, copper and base metals, nickel and potash. Cesare has been affiliated with Rainbow since its inception and has been responsible for project managing all of Rainbow's exploration work to date. He is a Director of Benzu Minerals (Pty) Ltd, a consulting company based in South Africa. Cesare is a member of the South African Geological Society and the South African Council for Natural Scientific Professions.

### ***Gilbert Midende (General Manager)***

Gilbert Midende has a doctorate in Geological Science, which he obtained in 1984 at the Universite Libre de Bruxelles, Belgium. He was appointed Burundi Director General of Geology and Mines in 1987 and was Minister of Mines between 1988 and 1993. He has been a consultant to the World Bank since 2007. From 1996 to 2001, he was Principal of the University of Burundi and Minister of Higher Education and is currently Professor in Economic Geology at the University of Burundi. Gilbert is responsible for all of the Group's administration and Government relations in Burundi.

### ***Peter Connery (Project Manager)***

Peter has nearly twenty years' experience of mine management on the African continent and has significant experience in leading and implementing the development of safe and reliable facilities in some of the most challenging commercial environments in the world. He has successfully held senior executive positions within competitive and diverse multinational organisations operating across Africa and has held management positions with Anglo American and BHP Billiton. Prior to his career in mining, Peter had a distinguished career in the British and French military.

### ***Jim Wynn (CFO)***

Jim is a Chartered Accountant and was previously employed by Anglo American Plc where he held a number of roles within the finance, business development, and strategy departments of Anglo Industrial Minerals. Jim was also Finance Director of Avocet Mining PLC where he developed extensive experience in francophone Africa as well as the London public company market.

## 3. Corporate Governance

### ***Board of Directors***

The Company has one Executive Director and five Non-Executive Directors. All major decisions relating to the Group are made by the Board as a whole. Operations are conducted by the subsidiaries of the Company (principally Rainbow Mining) under the direction of the Chairman of each of the subsidiary companies. The Company is represented on the board of Rainbow Mining by M Eales, J Wynn, C Morelli and G Midende.

The Board reviews key business risks regularly, including the financial risks facing the Group in the

operation of its business. These matters include, but are not limited to, the following:

- Determining the strategy for the Company;
- Approving the annual Budget;
- Discussing and approving financing, including new debt and equity;
- Setting the Dividend policy;
- M&A activity and significant transactions;
- Risk management; and
- Considering and, if appropriate, approving the recommendations of Board Committees.

As a Guernsey-registered company trading on the Standard List of the Main Market of the London Stock Exchange, the UK Corporate Governance Code published by the Financial Reporting Council does not apply to the Company. However, whilst the Company does not apply the UK Corporate Governance Code the Directors recognise the importance of good corporate governance and have implemented corporate governance practices having consideration to the recommendations and principles of the UK Corporate Governance Code as far as is appropriate having regard to the size and nature of the Group.

The Company does not consider Adonis Pouroulis to be independent by virtue of being a significant shareholder. The other non-executive directors are considered to be independent, in terms of character and judgment, notwithstanding the following:

- All the non-executives are shareholders in the Company;
- All the non-executives held share options during the year; and
- Robert Sinclair has a beneficial interest in Artemis Trustees Limited, which provides corporate administration and secretarial services to the Group.

The Board oversees the performance of the Group's activities. It comprises experienced board members who have held senior positions in a number of public and private companies. The Board is responsible to Shareholders for the proper management of the Group. The Non-Executive Directors have particular responsibility to ensure that the strategies proposed by the Executive Director are carefully considered.

The Board meets regularly throughout the year, and met seven times in the year to 30 June 2018. Prior to such meetings taking place, an agenda and board papers are circulated to the Directors so that they are adequately prepared for the meetings.

To enable the Board to discharge its duties, all Directors have full and timely access to all relevant information.

There is no agreed formal procedure for the Board (or members thereof) to seek independent professional advice but, pursuant to their letters of appointment, the Non-Executive Directors may, where appropriate, take independent professional advice at the Group's expense.

In accordance with the Articles, the directors submit themselves for re-election every three years at the Company's annual general meeting.

The composition of the Board will be reviewed regularly to ensure that the Board has the appropriate mix of expertise and experience. The Articles provide that the number of directors that may be appointed cannot be fewer than two. Two directors present at a board meeting will constitute a quorum.

The Board ensures it is aware of the views of major shareholders through regular meetings in person (where appropriate), as well as through discussions with the Company's brokers and market analysts. Where such information has been obtained by the CEO, this information is normally fed back to the rest of the Board in a timely manner.

### **Committees**

The Company's Board committees are constituted as follows:

| Name             | Audit | Remuneration | Nomination | SHEC  |
|------------------|-------|--------------|------------|-------|
| Adonis Pouroulis | -     | Member       | Chair      | -     |
| Shawn McCormick  | -     | Chair        | -          | Chair |

|                  |        |        |        |        |
|------------------|--------|--------|--------|--------|
| Alexander Lowrie | Member | -      | Member | Member |
| Robert Sinclair  | Chair  | Member | -      | -      |
| Atul Bali        | Member | -      | Member | -      |
| Martin Eales     | -      | -      | -      | Member |

The deliberations of the various committees referred to below, do not reduce the individual and collective responsibilities of Board members with regard to their fiduciary duties and responsibilities, and they must continue to exercise due care and judgment in accordance with their statutory obligations.

These terms of reference are subject to the provisions of the Articles and any other applicable law or regulatory provision in force in Guernsey, and the Listings Rules.

In addition to the Audit, Remuneration, Nomination and Safety, Health and Environment Committees which have formally delegated duties and responsibilities within written terms of reference, the Board may set up additional committees as appropriate.

#### ***Audit Committee***

The Board has established an Audit Committee with formally delegated duties and responsibilities. The Audit Committee is chaired by Robert Sinclair and its other members Alexander Lowrie and Atul Bali.

The Company considers Robert Sinclair to have recent and relevant financial experience, by virtue of his role as a financial adviser and his experience as Audit Committee Chairman with other public companies.

The Audit Committee should meet not less than two times a year and is responsible for ensuring the financial performance of the Company is properly reported on and monitored, including reviews of the annual and interim accounts, results announcements, internal control systems and procedures and accounting policies.

It is also responsible for keeping the categorisation, monitoring and overall effectiveness of the Company's risk assessment and internal control processes under review.

The Audit Committee was formally established in January 2017 and met three times during 2017/18.

#### ***Remuneration Committee***

The Remuneration Committee is chaired by Shawn McCormick and its other members are Adonis Pouroulis and Robert Sinclair. It is expected to meet not less than two times a year. The Remuneration Committee has responsibility for determining, within agreed terms of reference, the Group's policy on the remuneration of senior executives and specific remuneration packages for executive directors and the non-executive chairman. The remuneration of non-executive directors is a matter for the Board. No director may be involved in any discussions as to their own remuneration.

The Remuneration Committee met twice during 2017/18 to discuss the terms of the management bonus plan.

#### ***Nomination Committee***

The Nomination Committee is chaired by Adonis Pouroulis and its other members are Alexander Lowrie and Atul Bali. The Nomination Committee is normally expected to meet at least once per year, or as required. The Nomination Committee is responsible for reviewing, within the agreed terms of reference, the structure, size and composition of the Board, undertaking succession planning, leading the process for new Board appointments and making recommendations to the Board on all new appointments and re-appointments of existing directors.

The Nomination Committee did not meet during 2017/18 as the Board did not consider any changes to Board composition to be required during the year.

#### ***Safety, Health, and Environment Committee ('SHEC')***

The SHEC is responsible for developing and reviewing the Group's framework, policies and guidelines on safety, health and environmental management, monitoring key indicators on accidents and incidents within the Group's operations and considering developments in relevant safety, health and environmental practices and regulations.

The SHEC Committee is chaired by Shawn McCormick. The other members of the committee are Martin Eales and Alexander Lowrie.

### ***Share Dealing Policy***

The Company has a share dealing policy requiring all Directors and senior executives to obtain prior written clearance from either the Chairman or the Chief Executive Officer to deal in linked shares. The Chairman requires prior written clearance from the Chairman of the Audit Committee. Close periods (as defined in the share dealing policy) are observed as required by MAR, the GFSC's Code of Market Conduct and other rules that apply to the Company by virtue of the market on which its shares are listed. During these periods, the Company's directors, executives and inside employees are not permitted to deal in the Company's securities. Additional close periods are enforced when the Company or its applicable employees are in possession of inside information.

### ***Anti-bribery***

The Company has adopted an anti-bribery policy and procedures, which applies to the Group and its officers and staff anywhere in the world. The policy and procedures have been developed following an assessment of the risks applicable to the Group's business and include a process for reporting suspicious conduct, financial limits on gifts and hospitality, procedures for financial record-keeping and for dealing with contracts with third parties, and a prohibition on charitable or political donations without Board approval.

Jim Wynn has been appointed as the Group's Anti-Bribery Officer and oversees the day-to-day operation of the anti-bribery policy and procedures. The Board also regularly reviews the operation of the anti-bribery Policy and procedures and the anti-bribery Officer reports to the Board on any specific issues that may arise.

All personnel are required to receive guidance and training in relation to the Group's anti-bribery policy and procedures. Senior staff have already received this training, and the roll-out to all junior staff continues as an ongoing process.

The Anti-Bribery Officer also undertakes due diligence on third parties as appropriate that are to be engaged by the Group to do business on its behalf. The Group requires third parties to take account of the anti-bribery policy and to act in accordance with its provisions.

### ***Relationship Agreement***

The Company has entered into a Relationship Agreement with the Majority Shareholder to regulate its degree of control over the Company. Please see paragraph 15(c) of Part 14 of this document, "Additional Information" for further details.

## PART 10 - BURUNDI OVERVIEW AND REGULATORY FRAMEWORK

### 1. Country Overview

#### Overview

The Republic of Burundi is a small, landlocked nation in Central Africa. The country has an area of approximately 27,830 km<sup>2</sup>, making it one of the smallest nations in continental Africa, with a similar size and population (approximately 11 million) to Belgium. The country borders the Democratic Republic of Congo to the west, Rwanda to the north, Tanzania to the east and Lake Tanganyika to the southwest.

The commercial capital, Bujumbura, is relatively small; it has a population of around 500,000. Bujumbura serves as the main port for the country, on Lake Tanganyika, which has daily sailings to Kigoma in Tanzania. Bujumbura Airport is the sole international airport in the country and has the only paved runway in the country. Direct flights operate from Brussels, Addis Ababa, Nairobi and Kigali (Rwanda).

Despite its equatorial location (just 3° south of the equator), the climate is moderate due to the country's high elevation, which varies from 772 metres above sea level on the shore of Lake Tanganyika to a peak of 2,670 metres above sea level. The average temperature varies with elevation; Bujumbura has an average annual temperature of 23° Celsius and the central plateau approximately 20° Celsius. There is little seasonal variation in temperature. Rainfall is relatively modest at approximately 1,300 to 1,600mm per annum for most of the country, mainly falling between October and May.

#### Economy

Burundi is an extremely poor country with the third lowest GDP per capita in the world (source: CIA World Factbook estimates). Human development is correspondingly low and the UN Development Programme ranks Burundi 184 out of the 188 countries covered by its composite Human Development Index. The economy has suffered from persistent periods of inter-ethnic conflict since independence, historic colonial rule, a lack of sizeable natural resources and an underdeveloped manufacturing sector.

Burundi is heavily dependent on aid from bilateral and multilateral international donors, which accounts for more than 40 per cent. of the country's national income. The country's economy was affected the re-election of President Nkurunziza for a third term in 2015 and the resulting political turmoil. Blocked transportation routes disrupted the flow of agricultural goods and donors, including the EU, withdrew direct financial aid, which increased Burundi's budget deficit. The longer-term impact of this disruption is yet to be seen.

It is estimated that agriculture contributes to approximately 40 per cent. of Burundi's GDP, that industry contributes 17 per cent. and services contribute around 43 per cent. (source: The Economist, World in Figures). However, these statistics do not give a true reflection of the importance of agriculture to the Burundi economy, since the sector employs more than 90 per cent. of the population and accounts for 90 per cent. of the country's foreign exchange earnings, mainly through exports of tea and coffee.

Mining in Burundi is currently limited to small-scale artisanal operations for gold, columbite-tantalite, tin and tungsten.

#### People

Burundi has a population of approximately 11.1 million, of which the majority (85 per cent.) belong to the Hutu ethnic group and a sizeable minority, 14 per cent., belong to the Tutsi group and approximately 1 per cent. to the Twa group. Burundi's official languages are Kirundi, French and English. Christianity is the dominant religion with Catholics and Protestants accounting for 62 per cent. and 24 per cent. of the population respectively.

Burundi is relatively densely populated at approximately 450 people per km<sup>2</sup>, which is the second highest population per km<sup>2</sup> in sub-Saharan Africa. The majority of people live in farming communities around areas of fertile volcanic soil and the rate of urbanisation is very low; just 12 per cent. of the population live in major towns (Gitega, Ngozi, Rumonge) or in Bujumbura.

#### History

Burundi has a history of over 500 years, and for much of this time has existed as an independent kingdom. In 1890, the kingdoms of Urundi (Burundi) and Ruanda (Rwanda) were incorporated, under German colonial rule, into German East Africa. The Belgian army occupied the area in 1916 during the First World War and Belgium was subsequently awarded the mandate to administer Ruanda-Urundi in 1923. The area remained under colonial rule until an independence drive between 1959 and 1961, which ultimately resulted in Urundi regaining its independence on 1 July 1962.

Tensions between the Tutsi and Hutu peoples escalated after independence. In 1966, army chief Michel Micombero ousted the king and declared himself president with the Republic of Burundi, before implementing a one party regime. Racial tensions continued and there were bouts of genocide against the Hutu people throughout the 1970s and 1980s. Violent power transitions occurred in 1972, 1976 and 1987.

In 1992, a new multiparty constitution was adopted and, in 1993, Melchior Ndadaye won the first multi-party poll and ended military rule. President Ndadaye was assassinated four months later, plunging the country into a prolonged civil war that cost over 300,000 lives before its end in 2005.

In August 2005, Pierre Nkurunziza, leader of the Hutu rebel group National Council for the Defence of Democracy – Forces for the Defence of Democracy ("CNDD-FDD"), was elected President of the Republic of Burundi by the two houses of parliament following CNDD-FDD's victory in earlier elections. A ceasefire between all the major rebel groups was signed in May 2008, leading to a period of relative stability. President Nkurunziza was re-elected in uncontested elections in 2010 because major opposition groups boycotted the election.

In 2015, President Nkurunziza won a ruling from the Constitutional Court to allow him to stand for a third term in office. Protests against the decision lead to an unsuccessful coup attempt in May 2015 and protests on the streets on Bujumbura. Postponed elections were held in July 2015 despite calls for further postponement from international groups and a boycott by many opposition parties. President Nkurunziza was re-elected to a third term in office with 70 per cent. of the national vote.

In March 2016, the EU suspended direct financial aid to Burundi on the basis that not enough had been done to quell the disturbance that has followed the 2015 election. The EU has also imposed individual sanctions on certain officials close to the president and certain opposition figures. The government and country continue to function following withdrawal of EU support, although international aid groups continue to warn of the impact of ongoing disturbances and lack of funding.

### ***Political system***

Burundi's political system is a presidential representative democratic republic based upon a multi-party state. The President of Burundi is the head of state and head of government. There are currently 21 registered parties in Burundi. Burundi's legislative branch is a bicameral assembly, consisting of: the National Assembly, which had 121 seats in the June 2015 election, comprising 100 members directly elected from multi-seat constituencies by a proportional representation vote and 21 co-opted members, including 3 Twas (original indigenous people of the region) and 18 women; and the Senate, which had 49 seats in the July 2015 election, comprising 34 seats for members indirectly elected by an electoral college of provincial councils using a three-round voting system, 4 seats reserved for former heads of state, 3 seats reserved for Twas, and 8 seats for women. Members of both the National Assembly and the Senate serve 5-year terms.

The past few years have seen Burundi withdrawing from international engagement: it opted out of the International Criminal Court in October 2017, and rejected UN Resolution 2303, which authorised the deployment of 228 UN police officers. In his January 2018 report, the UN's Special Envoy highlighted allegations of human rights abuses and the continued deterioration of the socioeconomic and humanitarian situation. The government refuted the findings of his report.

A referendum for a revision in Burundi's constitution took place in May 2018. The amended constitution extended the duration of Burundi's presidential term of office from five to seven years, though President Nkurunziza has said he will step down in the 2020 election.

## **2. Legal System**

Burundi operates a legal system of French-Belgian civil law with some customary law for specific issues. The highest courts are the Constitutional Court and the Supreme Court. Three Courts of Appeal sit beneath the Supreme Court. Tribunals of First Instance are used as judicial courts in each of Burundi's provinces as well as local tribunals.

Burundi was subject to the Hague-based International Criminal Court ("ICC") which investigates war crimes, genocide, and crimes against humanity. In October 2016, the government of Burundi withdrew from the ICC (and was swiftly followed by South Africa and Uganda) in protest at a UN decision to launch an inquiry into events around the 2015 election.

## **3. Regulatory Framework for Mining**

### ***Exploration, mining, environmental***

The Mining Code of Burundi (or "Code minier du Burundi") (Law No 1/21), which was enacted 15 October 2013 by President Pierre Nkurunziza on 15 October 2013 (the "2013 Mining Code"), after being approved by

Burundi's Senate on 10 October 2013. The 2013 Mining Code, which deals only with the mining sector, replaced the previous mining code which had been in force since 1976.

### **Mining licences**

The granting of a mining licence is subject to the technical and financial capacities of the applicant.

The applicant must submit to the Minister of Mines, a file complying with regulatory requirements and to include: a bankable feasibility study approved by the competent authority; a socio-economic impact study approved by the competent authority; an environmental impact study approved by the competent authority; a program of work equipment and preparation of the site for the mining; a mining plan.

An applicant for a mining licence must issue at least 10 per cent. of its shares, free of charge, to the State of Burundi. It must also provide for the possibility of the acquisition by the State of Burundi or Burundian investors of shares for purchase.

For the purpose of fulfilling the obligation of progressive rehabilitation of mining sites within the perimeter of a mining licence, the mining agreement must provide for the amount to be annually contributed to such progressive rehabilitation.

A mining licence has an initial term of twenty five years, renewable by periods of ten years each time. If the lifetime of the mine is less than twenty five years, the duration of the mining licence is that of the life of the mine.

### **Environmental obligations**

In accordance with the Law n°1/10 of 30 June 2000 regarding the environmental code of Burundi, the Decree n° 100/22 of 7 October 2010 regarding implementation measures of the environmental code in relation with the procedure for the environmental impact study and the mining code, mining and exploration licences are subject to a prior approved environmental impact study.

### **Fiscal regime**

Mining companies are subject to the fiscal and customs regime in place in Burundi. They can benefit from tax advantages and incentives in accordance with the applicable law. Both Burundi corporate tax residents (those incorporated under the law applicable in Burundi or having their head office in Burundi) and non-residents carrying on business activities in Burundi through a permanent establishment or fixed place of business are subject to a corporate income tax rate of 30 per cent. on income from a Burundi source.

Capital gains in Burundi are subject to a tax of 15 per cent.. Capital gains are defined as all gains realised at the occasion of the transfer of immovable or related rights, financial assets or movable collection items. The capital gains equal to the difference between the transfer price and the net fiscal value of the transferred good.

Dividends, interest, royalties and 'remunerations' paid to non-residents are generally subject to a final withholding tax at the rate of 15 per cent. on the gross amount.

Value Added Tax at 18 per cent. is levied on: the supply of goods and services by taxable persons in exchange for consideration; importation of goods into the territory of Burundi, and/or making goods which were placed under customs warehouses or customs free zones available for local consumption; and self-supply of goods and services.

The 2013 Mining Code provides for an ad valorem tax of 4 per cent. for base metals, 5 per cent. for precious metals, 7 per cent. for gemstones and 2 per cent. for other minerals.

Fixed fees to be paid for the granting or the renewal of a mining licence are BIF 200,000 per km with a minimum of BIF 100,000,000. There are also annual fees to be paid between BIF 2,000,000 per km and BIF 5,000,000 per km depending on the surface.

## PART 11 - OPERATING AND FINANCIAL REVIEW

This Part 11 summarises the significant factors and events affecting the results of operations and financial condition of the Group for 2018, 2017 and 2016 and for the six months to 31 December 2018. You should read this Part 11 in conjunction with Part 3 of this document, "Presentation of Financial and Other Information", Part 7 of this document, "Information on the Group" together with the Company's audited consolidated financial statements for 2018, 2017 and 2016 and for the six months to 31 December 2018 and 31 December 2017, including the notes thereto. A summary of the critical accounting policies that have been applied to these financial statements is set out under the section entitled 'Critical accounting estimates and judgments' in this Part 11.

The following discussion of the Group's results of operations and financial condition contains forward-looking statements that reflect the current view of the Group's management. The Group's actual results could differ materially from those anticipated in any forward-looking statements as a result of the factors discussed below and elsewhere in this Prospectus, particularly under Part 2 of this document, "Risk Factors".

Investors should carefully consider the following information, together with the other information contained in this Prospectus.

### 1. Overview

Rainbow is a rare earths mining and exploration group focused on the Gakara Project in the Republic of Burundi.

The Group's principal asset is the Mining Licence over the Gakara Project which is held by the Company's 90 per cent. Subsidiary Rainbow Mining. The Mining Licence is valid until 2040.

The Company listed on the London Stock Exchange in January 2017, raising gross proceeds of US\$8.0 million in the process, and began the construction of the mine at the Gasagwe deposit shortly thereafter.

Over the course of 2017, activities focused on bringing the Gasagwe mine into production. This included the recruitment and training of mining and plant operating crews, the design, importation and assembly of the processing plant at Kabezi, and other activities associated with the establishment of a fully-functioning mining company in Burundi.

Mining activities at Gasagwe began in earnest in August 2017, and by the end of 2017, the processing plant at Kabezi was sufficiently advanced to process the first tonnes of ore, with the first 25t of concentrate exported in December 2017.

In the year to 30 June 2018, 475 tonnes of concentrate had been sold, with a further 650 tonnes sold in the six months to 31 December 2018.

The commissioning of the Kabezi plant was duly completed by March 2018, and commercial production was adjudged to have been met by 1 July 2018. Prior to this point, production costs and revenues were capitalised as part of the construction cost of the Gakara Project, in line with the Company's accounting policies.

Pre-tax losses for the six months to 31 December 2018 were US\$3.1 million, compared with losses of US\$1.1 million in six months to 30 June 2017 and US\$2.5 million for the year to 30 June 2018.

### 2. Summary of Key Financial Risks

There are a number of potential risks and uncertainties inherent in Group's business which could have a material impact on the long-term financial performance of the Company. The Company has taken reasonable steps to mitigate these where possible. The key financial risks and uncertainties are summarised below:

- **Production issues**
  - Mining operations are subject to a number of risks, including mechanical outages, supply issues (eg fuel), interruptions due to weather and soil conditions, among many others.
- **Geological risk**
  - The Gakara Project is classified as an Exploration Target which is conceptual in nature, there being insufficient exploration to estimate a Mineral Resource, and it is uncertain if further exploration will result in the estimation of a Mineral Resource.
  - It is possible that the quantity of rare earths present in the Mining Licence area is less than

management expectations with resulting impacts on production in the short and longer term.

- **Rare earth prices**
  - The Company produces rare earth mineral concentrate which is sold to tk Materials Trading at market price for separated REOs less certain deductions and a discount (negotiated by tk Materials Trading with each end customer).
  - Rare earth prices have been volatile in the past. If the underlying rare earth basket price falls, this reduces revenue and will impact the profitability of the mine.
  - The current discount rate is approximately 70 per cent., however may vary depending on the arrangements tk Materials Trading negotiates with any new customers or as terms are renegotiated.
- **Soil instability in mining areas and/or access routes**
  - Heavy rains during the rainy season (Oct-May) can lead to land slippages, which could lead to production interruption in the event that these impacted the mining areas or access routes
- **Civil unrest**
  - Burundi has experienced civil unrest, most recently in 2015. Any subsequent instances of civil unrest could impact the operation of the mine, including its ability to obtain supplies or export its material, or even access its bank accounts in country.
- **Currency controls**
  - The Company receives proceeds in US dollars, which are repatriated to an account in the Burundi Central Bank.
  - Burundi has experienced shortages of foreign currency reserves in the past, and it is therefore possible that access to US dollars held in country might be difficult. This would affect the Company's ability to meet ongoing foreign currency obligations (eg corporate costs, and any debt payments in US dollars).

### **3. Significant Factors Affecting Results of Operations**

The Directors consider that the following factors are those most likely to influence the Group's financial condition and results of operations:

#### ***Rare Earths Prices***

The Group generates its income from the sale of rare earth concentrate via the Distribution and Offtake Agreement. The pricing of these sales is based on published market prices for separated rare earth oxides, after deducting a negotiated discount (of approximately 70 per cent.) and handling, transportation and marketing fees. Rare earth prices can fluctuate significantly and are affected by numerous factors over which the Company does not have control, including the relative balance of global demand for and supply of individual rare earths and REOs.

Recent economic uncertainty has caused, as has been the case in the past, a significant degree of volatility in rare earths pricing. This volatility has been compounded in recent months as a result of the ongoing trade dispute between China and the United States. Prices rose significantly in late 2010 and during 2011 before declining steadily as consumer stockpiling and reduced purchasing damped spot demand. More recently, during 2017, rare earth prices rose over 70 per cent. between June and September, however the majority of these gains had been reversed by December 2017. During May and June 2019, rare earth prices increased sharply again following news of a Chinese ban on imports of rare earths from Myanmar and rumours of a possible Chinese export ban. During times of rare earths price volatility, Rainbow's revenues and trading results will be significantly affected and management carefully monitors market developments to ensure that the Company continues to adapt to the changing environment.

#### ***Production Volumes***

The Group's profitability and financial condition depends, to a significant extent, on rare earth concentrate production levels during each reporting period. Production is affected by a number of factors, including: the rate of waste stripping required to expose new ore; the thickness of ore veins; the ability to predict where veins are likely to be within a deposit, the ability to continue to operate in rainy conditions (which may make

working in the pit unsafe or cause access roads to become blocked); yields and recovery levels at the processing plant; and mechanical availability of mining and processing machinery.

### **Production Costs**

In addition to the production and sales tonnages, and the price received for concentrate sold, the other key element of Rainbow's profitability is its production cost base.

Production costs relate to mining and processing activities, and include fuel costs, lubricants and other consumables, staff costs, rental costs for hired machinery and vehicles, and camp/accommodation costs.

### **Development and Expansion Costs**

A key element of Rainbow's near-term production growth strategy is the bringing online of new mining areas, such that four pits are in operation, in parallel, at any time.

Bringing new mining areas into production involves development costs including preliminary geological and environmental assessments, compensation for crops and dwellings on these areas, and infrastructure costs (haul roads, drainage systems, and waste dumps).

These costs vary from area to area, depending on the size of the pit to be mined, the number of crops and dwellings on the site, the length of roads and scale of infrastructure required, etc.

Rainbow includes estimates for the costs of bringing new mining areas online in its assessment of each proposed new target, and these costs are included in its prioritisation of new sites. However, it is possible that actual costs exceed expectations for a given area, which would reduce the profitability of that site.

### **Impact of Burundian Economic and Political Environment**

The Company's operations are located in Burundi and are therefore subject to various economic, fiscal, monetary and political policies and factors that affect companies operating in Burundi, as discussed in Part 2 of this document, 'Risk Factors — Risks Relating to Burundi'.

### **Depreciation**

The value of Rainbow's mine, plant and infrastructure is amortised over its useful production life in accordance with its stated accounting policies. In particular, mine development costs (which constitute the largest capitalised item on the balance sheet) are depreciated on a unit of production basis of the life of mine. As a result, and shortening of the mine's useful life will result in an increase in the rate of depreciation of these assets.

### **Life of Mine**

The Company's accounting estimates for depreciation are based on the estimated life-of-mine plans for the Gakara Project. Significant changes in the life-of-mine plans can occur as a result of mining experience, changes in mining methods and rates, process changes, investment in new equipment and technology, rare earth price assumptions and other factors.

### **Exchange Rate**

Rainbow has determined that its reporting and functional currency is the US dollar, on the basis that its revenues, much of its financing, and certain important costs (including the purchase of most mining equipment) is in that currency. However the majority of its production costs are in Burundian Francs, while the Group also has some costs in GB pounds, Rand, and other currencies, and accordingly any fluctuation in these exchange rates would affect the Group's profitability.

In addition to this direct exposure, the Company is also indirectly exposed to variation in the Chinese Yuan (as Rare Earth prices are strongly influenced by Chinese currency rates).

### **Oil prices**

Fuel prices in Burundi are set by Government based on prevailing market rates marked-up for taxes, distribution costs, etc. As a result, any variation in the underlying oil price will impact fuel costs and therefore Rainbow's profitability.

### **Share Based Payments**

Equity instruments, such as options, issued in return for goods or services are accounted for as share based payments. The cost of equity-settled transactions is measured by reference to the fair value of the equity instruments on the date they are granted. This cost is then recognised, together with a corresponding increase in equity, over the period in which the performance and/or service conditions are fulfilled (the vesting period). The Company has in place a Share Option Scheme for its senior staff, and also has

warrants and a convertible loan in issue, all of whose costs are calculated by reference to the underlying share price.

### **Factors Affecting Comparability**

The Company has gone through three primary phases of development that should be taken into account when comparing financial results from different periods.

Prior to January 2017, the Company was focused on initial exploration work, and raising funds in order to finance the construction of a mine at Gakara. Between January 2017 and June 2018, the Company was in a construction and ramp-up phase, during which all production costs (and revenues) were capitalised along with any asset purchases, as being part of the overall cost of bringing the mine into commercial production. From 1 July 2018, the Gakara project has been deemed to be in full commercial production, with all production costs and revenues reported as incurred in the income statement.

### **4. Critical Accounting Judgments in applying the Company's Accounting Policies**

Preparation of the Group's financial statements requires management to make judgments and estimates and form assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent liabilities as at the date of the financial statements and the reported revenue and expenses during the periods presented therein. On an ongoing basis, management evaluates its judgments and estimates in relation to assets, liabilities, contingent liabilities, revenue and expenses. Management bases its judgments and estimates on historical experience and on other various factors it believes to be reasonable under the circumstances, the results of which form the basis of the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates.

The Group has identified the following critical accounting policies under which significant judgments, estimates and assumptions are made and where actual results may differ from these estimates under different assumptions and conditions and may materially affect financial results or the financial position reported in future periods. Further details regarding the nature of these assumptions and conditions may be found in the relevant notes to the Group's historical financial information in Part 12 of this document.

#### **Carrying value of plant, property and equipment**

The Group assessed at 30 June 2018 whether there was any indication that these assets may be impaired. If such indication exists, the Group estimates the recoverable amount of the asset. The recoverable amount is assessed by reference to the higher of 'value in use' (being the net present value of expected future cash flows of the relevant cash generating unit) and 'fair value less cost to sell'.

At 30 June 2018, the carrying value of the Company's fixed assets was US\$11.2 million. The impairment indicator review initially assessed the market capitalisation of the Company which was in excess of the carrying value of net assets.

In addition, as part of the impairment indicator assessment, management reviewed the life of mine plan and its associated future discounted cash flows which involves a number estimates and assumptions. This model supported the carrying value and demonstrated significant headroom, but involves estimates of rare earth reserves and resources with reference to internal geological data, future production, estimates of market prices realisable by the mine, operating and capital costs associated with the project and discount rates.

The discount rate used to determine the net present value of future cashflows was 12 per cent., which was felt to be an appropriate rate in view of the overall risk profile of the project.

The model assessed for the purposes of identifying potential impairment indicators was prepared using production targets based on estimated deposits of rare earths within the Gakara permit area from specific sites. The amount of geological evidence to support these assumptions varies, with some deposits (such as Gasagwe and Murambi) relatively well-understood, with others (such as Gomvyi and Kiyenzi) relying on assumptions and a broader range of evidence. For all deposits, the evidence used to determine assessment of the size of resource included measurement of exposed veins at surface (eg through trenching) or at depth (eg through mining), drilling results, ground gravity surveys, airborne radiometric surveys, and the discovery of in situ outcrops and boulders at surface.

Activity to understand further these deposits is ongoing, however even in the event that assumptions about individual deposits prove optimistic, the wide range of future targets give management confidence that sufficient rare earth mineralisation exists to support the assumption that the mine will continue in production for at least 10 years.

Management therefore concluded that these facts did not indicate that a trigger for impairment existed and no impairment was recognised at 30 June 2018.

### **Commercial production**

In the year to 30 June 2018, the Company completed the construction and commissioning of the Gakara plant, and entered into the ramp-up phase, a period during which the production of concentrate increases until commercial levels are reached.

Prior to reaching commercial production levels, eligible production costs incurred as part of bringing the mine into production are capitalised, and margin generated on revenue was deducted from the carrying value of property, plant and equipment.

Judgment is required with respect to the point at which commercial production is deemed to have been reached.

Although the Kabezi plant was commissioned in March 2018, commercial production was not deemed to have been reached during the year to 30 June 2018, as the mine as a whole had not reached levels of production which might have indicated that the ramp-up phase was substantially complete.

The reason for the slow ramp-up of ore production lay in the establishment of efficient mining procedures, and the acquisition of mining equipment (in particular excavators and haul trucks) appropriate to maintain a rate of stripping commensurate with commercial production rates. In the case of the Gasagwe mining area, the target ore production rate was achieved for the first time in June 2018 (prior to which, the rate was approximately half this level).

In addition, the performance test for the plant was successfully completed in July 2018, with full operation of the plant handed over to Rainbow by Obsideo, the contractors responsible for its design and construction.

Accordingly, management considered these factors and concluded that commercial production had not been reached by 30 June 2018, and therefore net revenues in the period of US\$1.0 million have been offset by production costs in the income statement, and remaining production costs of US\$0.3 million have been capitalised under mine development assets.

In July 2018, the Board reviewed the operation of the Gakara mine and determined that commercial production had been reached at the project.

In reaching this conclusion, management considered factors including the completion of construction and commissioning of the treatment plant (as well as the passing of performance tests), the rate of ore extraction from the Gasagwe pit in the month (which was in line with targets at that time), and the fact that a number of export and sales cycles had been successfully completed.

As a result, all production and sales costs with effect from 1 July 2018 (and therefore in the Interim Results to 31 December 2018) were expensed as incurred, and all revenues reported through the income statement in accordance with Group policies.

### **Share based payments**

Share based payments relate primarily to share options issued by the Company, in relation to employee share benefit schemes. The grant date fair value of such options are calculated using a Black-Scholes model whose input assumptions are derived from market and other internal estimates. The key estimates include volatility rates and the expected life of the options, together with the likelihood of non-market performance conditions being achieved.

### **IPO related costs in year to 30 June 2017**

Costs associated with the IPO in the year to 30 June 2017 included both costs that were directly attributable to the share placing which has been recorded as a deduction against equity, costs directly attributable to the IPO process excluding the share placing, which have been expensed and costs which supported both the listing of existing shares and the new equity placing. These latter costs have been allocated between the two categories based on the ratio of new share issues versus the enlarged shares in issue post IPO. The ratio applied and the allocation of such costs required judgment. In total US\$0.3 million of costs were expensed in the year ended 30 June 2017 and US\$0.8 million of costs were deducted from equity.

### **Transfer to plant, property and equipment in prior year**

On 30 June 2017 the Group transferred the Gakara Project exploration and evaluation asset to mine development costs. The determination that the project had reached a stage of being commercially viable and technically feasible for extraction notwithstanding its classification as an Exploration Target under JORC rules represented a key judgment. In forming this judgment, the Board considered factors including:

a) the mine permit had been awarded; b) the Project had secured funding for development and construction of the plant; c) the production phase due to commence in Q4 2017 is anticipated to be profitable and cash generative; d) the mine development plan had been established; and e) the results of exploration data including internal and external assessments.

#### **Decommissioning, site rehabilitation and environmental costs**

The Group's mining and exploration activities are subject to various laws and regulations governing the protection of the environment. The Group recognises management's best estimate of the rehabilitation costs in the period in which they are incurred. Actual costs incurred in future periods could differ materially from the estimates. Additionally, future changes to environmental laws and regulations, life of mine estimates and discount rates could affect the carrying amount of this provision. The Board assessed the extent of rehabilitation and decommissioning required as at 30 June 2018 and concluded that a provision of US\$60k should be recognised in respect of future rehabilitation obligations at Kabezi and Gasagwe.

#### **Depreciation**

Property, plant and equipment is depreciated over the shorter of the estimated useful life of the asset using the straight-line method, or the life of mine using the unit of production method and life of mine tonnes. Residual values and useful lives are reviewed on an annual basis and changes are accounted for over the remaining lives.

The applicable depreciation rates are as follows:

| <b>Description</b>                     | <b>Useful life</b>   |
|--|--|
| Mine development and restoration costs | Infrastructure depreciated on a life of mine unit of production basis. Mining costs depreciated on a unit of production based on the tonnes mined and estimates of tonnes contained in a specific mining area. |
| Plant and machinery                    | Life of mine unit of production basis  |
| Vehicles                               | 5 years  |
| Computer equipment                     | 3 years  |
| Office furniture and fittings          | 7 years  |

#### **5. Segment Reporting**

Operating segments are reported in a manner consistent with internal reporting provided to the chief operating decision-maker. The chief operating decision-maker has been identified as the Chief Executive Officer ('CEO'). It is considered that there is only one segment of the Group being the exploration and production of rare earths.

#### **6. Results of Operations**

The following discussion and analysis of the Group's results of operations and financial condition is based on the Group's historical results as extracted from the historical financial information contained in Part 12 of this document.

##### **Production and sales**

|                                  | <b>6 mths to<br/>31 December<br/>2018</b> | <b>12 mths to<br/>30 June<br/>2018</b> | <b>12 mths to<br/>30 June<br/>2017</b> | <b>12 mths to<br/>30 June<br/>2016</b> |
|----------------------------------|---|--|--|--|
|                                  | <b>US\$'000</b>                           | <b>US\$'000</b>                        | <b>US\$'000</b>                        | <b>US\$'000</b>                        |
|                                  | <b>Unaudited</b>                          | <b>Audited</b>                         | <b>Audited</b>                         | <b>Audited</b>                         |
| Concentrate sold (tonnes)        | 650                                       | 475                                    | -                                      | -                                      |
| Concentrate exported (tonnes)    | 550                                       | 575                                    | -                                      | -                                      |
| Grade TREO per tonne concentrate | 57%.                                      | 58%.                                   | -                                      | -                                      |

|   | 6 mths to<br>31<br>December<br>2018 | 12 mths to<br>30 June<br>2018 | 12 mths to<br>30 June<br>2017 | 12 mths to<br>30 June<br>2016 |
|---|-------------------------------------|-------------------------------|-------------------------------|-------------------------------|
|   | US\$'000                            | US\$'000                      | US\$'000                      | US\$'000                      |
|   | Unaudited                           | Audited                       | Audited                       | Audited                       |
|   | US\$/tonne                          | US\$/tonne                    | US\$/tonne                    | US\$/tonne                    |
| Gross sales price – pre tk Materials Trading deduction <sup>1</sup>       | 2,028                               | 2,263                         | -                             | -                             |
| tk Materials Trading transportation and marketing deductions <sup>1</sup> | 134                                 | 175                           | -                             | -                             |
| Net sales price <sup>1,3</sup>  | 1,892                               | 2,088                         | -                             | -                             |
| Other sales costs – transportation and royalty <sup>1</sup>               | 320                                 | 381                           | -                             | -                             |
| Production cost <sup>2</sup>  | 2,829                               | 2,430                         | -                             | -                             |

#### Notes

1. Gross and net sales prices, tk Materials Trading transport and marketing costs, and Other sales costs are shown per tonne of concentrate sold
2. Production costs are shown per tonne of concentrate exported
3. Revenue reported in the Financial Statements represents the Net sales price of the tonnes sold in the period

Mining activities first began in August 2017, and the construction of the plant had, by December 2017, progressed to a point where the first shipment of concentrate was able to be exported at that time.

By the end of the year to 30 June 2018, 575 tonnes of concentrate had been exported, of which 475 tonnes had been sold at year end.

In the six months to 31 December 2018, mining activities continued to ramp up, albeit not as fast as had been hoped. 550 tonnes were exported, and 650 tonnes sold in this half-year period.

tk Materials Trading transportation and marketing costs reflect the 3.5 per cent. fee of the Gross sales price imposed by tk Materials Trading as their fee, in addition to the cost of transportation to the end customer in China, handling/sampling fees etc. These costs are deducted by tk Materials Trading from the sales value, and are therefore deemed under accounting standards to form part of revenue.

Other sales costs primarily relate to transportation costs from the mine site to the Mombasa port, as well as the government's 4 per cent. royalty. As these are not deducted as source, they are reported as sales costs.

Production costs of US\$2.8k per tonne in the six months to 31 December 2018 were higher than the net sales price per tonne, reflecting the fact that concentrate production was below the level required to break even. In fact, costs for this period on a unit basis were higher than for the year ended 30 June 2018, mainly as a result of bringing in additional mining fleet in the period.

#### Consolidated Income Statement for the 6 months to 31 December 2018, and the 12 months to 30 June 2018, 30 June 2017, and 30 June 2016

|  | 6 mths to<br>31<br>December<br>2018 | 12 mths to<br>30 June<br>2018 | 12 mths to<br>30 June<br>2017 | 12 mths to<br>30 June<br>2016 |
|--|-------------------------------------|-------------------------------|-------------------------------|-------------------------------|
|  | US\$'000                            | US\$'000                      | US\$'000                      | US\$'000                      |
|  | Unaudited                           | Audited                       | Audited                       | Audited                       |

|  |                |                |                |                |
|--|----------------|----------------|----------------|----------------|
| Revenues   | 1,230          | 992            | -              | -              |
| Royalty and transport costs  | (208)          | -              | -              | -              |
| Production costs   | (1,557)        | (992)          | -              | -              |
| <b>Gross margin</b>  | <b>(535)</b>   | -              | -              | -              |
|  |                |                |                |                |
| Stockpile movement   | (188)          | -              | -              | -              |
| Administration expenses  | (779)          | (2,753)        | (1,565)        | (623)          |
| Exploration expenditure  | -              | -              | (95)           | (51)           |
| Depreciation   | (1,688)        | -              | -              | -              |
| <b>Total operating expense</b>   | <b>(2,655)</b> | <b>(2,753)</b> | <b>(1,660)</b> | <b>(674)</b>   |
|  |                |                |                |                |
| <b>Loss from operating activities</b>  | <b>(3,190)</b> | <b>(2,753)</b> | <b>(1,660)</b> | <b>(674)</b>   |
|  |                |                |                |                |
| Finance income   | 131            | 317            | 414            | -              |
| Finance costs  | (79)           | (79)           | (156)          | (526)          |
|  |                |                |                |                |
| <b>Loss before tax</b>   | <b>(3,138)</b> | <b>(2,515)</b> | <b>(1,402)</b> | <b>(1,200)</b> |
|  |                |                |                |                |
| Income tax expense   | (58)           | (96)           | -              | -              |
|  |                |                |                |                |
| <b>Total loss after tax and comprehensive expense for the year</b>                     | <b>(3,196)</b> | <b>(2,611)</b> | <b>(1,402)</b> | <b>(1,200)</b> |
|  |                |                |                |                |
| <b>Total loss after tax and comprehensive expense for the year is attributable to:</b> |                |                |                |                |
|  |                |                |                |                |
| Non-controlling interest   | (217)          | (45)           | (13)           | (6)            |
| Owners of parent   | (2,979)        | (2,566)        | (1,389)        | (1,194)        |
|  |                |                |                |                |
| <b>(3,196)</b>   | <b>(2,611)</b> | <b>(1,402)</b> | <b>(1,200)</b> |                |

**Commentary on and comparison of results for the six months to 31 December 2018, and the years to 30 June 2018, 30 June 2017 and 30 June 2016**

**Revenue**

650 tonnes of concentrate were sold in the six months to 31 December 2018, at an average net price (after accounting for marketing fees and handling costs deducted at source) of US\$1,892 per tonne. Revenue was therefore US\$1.2 million in the period.

Revenues of US\$1.0 million reported in the year to 30 June 2018 occurred prior to the point at which the Company determined that commercial production had been reached, and capitalised in accordance with the Company's accounting policies.

No sales were made in the years ended 30 June 2017 or 30 June 2016.

**Royalty and transportation costs**

Royalty and transport costs of US\$0.2 million in the six months to 31 December 2018 included the cost of transporting the concentrate from the mine site to the port of Mombasa, as well as the government royalty

recorded at 4 per cent.. In prior periods, these costs were capitalised as commercial production had not been met.

#### **Production costs**

Production costs totalled US\$1.6 million in the six months to 31 December 2018, including the cost of running the processing plant (US\$0.4 million), mining costs (US\$0.7 million), and local administrative and support costs in Burundi (US\$0.5 million).

Production costs of US\$1.0 million reported in the year to 30 June 2018 occurred prior to the point at which the Company determined that commercial production had been reached, and were restricted to the amount required to eliminate the margin on revenues from the sale of 475 tonnes of concentrate.

No production costs were reported in the years ended 30 June 2017 or 30 June 2016 as the Gakara project was in its construction phase, and all costs were capitalised.

#### **Stockpile movement**

Stockpile movement of US\$0.2 million in the six months to 31 December 2018 represents the net decrease in the value of the ore and concentrate stocks held during the period, as this amount is shown separately from cash production costs.

Stockpile movements for the year to 30 June 2018 were capitalised along with other production-related costs incurred prior to commercial production having been met.

There were no stockpiles at 30 June 2017 nor at 30 June 2016.

#### **Administration Expenses**

Administration costs included corporate and head office costs, as well as share based payments. In the six months to 31 December 2018, it totalled US\$0.7 million, compared with US\$2.8 million the full year to 30 June 2018, as discretionary expenditure was minimised.

Administration costs for the year ended 30 June 2017 and 30 June 2016 were lower at US\$1.7 million and US\$0.6 million respectively, reflecting lower activity levels during the early stages of the Company's development.

#### **Depreciation**

Depreciation of US\$1.7 million was charged for the first time in the six months to 31 December 2018 in accordance with the Company's policies.

#### **Exploration and Corporate Expenditure**

Non-capitalised exploration costs of US\$91k in the year to 30 June 2017 and US\$51k in the year to 30 June 2016 related to support costs in respect of preliminary exploration work. These costs were expensed in line with the Company's accounting policies. After these periods, support costs for any exploration activity were included in project support costs.

#### **Finance income**

Finance income in all periods includes interest on bank balances, and fx gains, which are subject to fluctuations in exchange rates.

Finance income in the year to 30 June 2017 also included a US\$0.2 million gain on the extinguishment of a loan with Pala in that period.

#### **Finance Costs**

Finance costs for the six months to 31 December 2018, as well as for the years 30 June 2018 and 30 June 2017 primarily related to interest on the Company's Finbank overdraft, which increased over that period.

In addition, the years ended 30 June 2016 and 30 June 2017 both included within finance costs a charge of US\$0.2 million relating to the effective interest charged on the Pala loan.

Finance costs of US\$0.3 million in the year to 30 June 2016 related to the settlement of convertible loan notes in the period.

### **7. Liquidity and Capital Resources**

The Company's principal source of liquidity is its cash resources which, at 31 May 2019, amounted to US\$7,000.

The majority of the Group's cash resources has historically been held in a combination of US Dollars and Pounds Sterling. The principal use of cash until January 2017 was to fund the exploration and development of the Gakara Project, while between January 2017 and June 2018, cash was used to fund the construction of the mine and to bring the project into production. Since July 2018, cash has been used to fund the operating losses of the Company as it strives to increase production to reach profitability.

Prior to listing in January 2017, the Company's main source of funds was shareholder loans from its cornerstone investors. Since listing in January 2017, the Company has raised over US\$15 million in equity placings and convertible loan structures with existing and new shareholders.

In addition, the Company has incurred bank funding in the form of an overdraft facility amounting to 1.9 billion BIF (approximately US\$1.0 million) with Finbank, a Burundian bank. It is the intention of the Company to convert this facility into a term loan, to be repaid over a suitable period as cashflows allow, once the proposed fundraising has been completed (and has held discussions to this end with Finbank, who have indicated their agreement with this proposal).

As the ore and concentrate production from the Gakara project has been disappointing compared to forecasts, the Company has also increased its trade creditors to US\$1.2 million, of which nearly a quarter are rental costs for hired mining equipment. It is the Company's intention to reduce the balance it owes to its suppliers as quickly as possible.

#### **Cash flows**

The following table shows the Group's net cash flows for the six months to 31 December 2018, and the 12 months to 30 June 2018, 30 June 2017, and 30 June 2016.

The following discussion and analysis of the Group's results of operations and financial condition is based on the Group's historical results as extracted from the historical financial information contained in Part 12 of this document.

#### **Consolidated Cashflow Statement for the 6 months to 31 December 2018, and the 12 months to 30 June 2018, 30 June 2017, and 30 June 2016**

|   | <b>6 mths to<br/>31<br/>December<br/>2018</b> | <b>12 mths to<br/>30 June<br/>2018</b> | <b>12 mths to<br/>30 June<br/>2017</b> | <b>12 mths to<br/>30 June<br/>2016</b> |
|---|---|--|--|--|
|   | <b>US\$'000</b>                               | <b>US\$'000</b>                        | <b>US\$'000</b>                        | <b>US\$'000</b>                        |
|   | <b>Unaudited</b>                              | <b>Audited</b>                         | <b>Audited</b>                         | <b>Audited</b>                         |
| Net cash used in operating activities                               | (1,243)                                       | (1,837)                                | (844)                                  | (690)                                  |
| Net cash used in investing activities                               | (1,060)                                       | (5,231)                                | (2,132)                                | (583)                                  |
| Net cash generated by financing activities                          | 1,989   | 4,205                                  | 5,960                                  | 1,335                                  |
| <b>Net (decrease)/increase in cash and cash equivalents</b>         | <b>(314)</b>                                  | <b>(2,863)</b>                         | <b>2,984</b>                           | <b>61</b>                              |
| <br><b>Cash &amp; cash equivalents at the beginning of the year</b> | <br><b>354</b>                                | <br><b>3,198</b>                       | <br><b>70</b>                          | <br><b>9</b>                           |
| Foreign exchange gains on cash and cash equivalents                 | 16  | 19                                     | 144                                    | -                                      |
| <b>Cash &amp; cash equivalents at the end of the year</b>           | <b>56</b>                                     | <b>354</b>                             | <b>3,198</b>                           | <b>70</b>                              |

#### **Commentary on and comparison of cashflows for the six months to 31 December 2018, and the years to 30 June 2018, 30 June 2017 and 30 June 2016**

##### **Net cash used in operating activities**

The Group used US\$1.2 million in operating activities for the six months to 31 December 2018, a period

during which mining and processing operations were increasing, while ore and concentrate continued to disappoint.

Net cash used in operating activities for the year to 30 June 2018 was US\$1.8 million, which was lower (given it represented a 12 month period), as the level of operating activity was lower – notably the full mining fleet had not been put in place for the period.

Net cash used in operating activities for the years to 30 June 2017 and 30 June 2016 were lower, reflecting the reduced level of operating activities during those periods.

#### ***Net cash used in investing activities***

Net cash used in investing activities represents capex and exploration activities primarily at the Gakara project in Burundi.

The level of capex activity in particular was highest during the construction phase of the project, which lasted approximately from January 2017 to June 2018, and explains the high usage of cash in investing activities reported in the year to 30 June 2018, and to a lesser extend the year ended 30 June 2017.

US\$1.0 million of capex incurred in the six months to 31 December 2018 included the costs of establishing a second mining area at Murambi.

Net cash used in investing activities of US\$0.6 million in the year to 30 June 2016 reflects pre-construction exploration, testwork, and documentation undertaken ahead of IPO in January 2017.

#### ***Net cash generated from financing activities***

In the periods shown, the Company has raised funds on a number of occasions in order to finance the exploration, development, construction, and ramp-up activities of the Gakara project.

In the six months to 31 December 2018, net cash generated by financing activities of US\$2.0 million primarily related to an equity placing which raised a net US\$1.8 million of proceeds, together with increasing in borrowings.

The net cash generated by financing activities for the year ended 30 June 2018 included an equity placing of 20 million shares at a price of 14 pence, resulting in net proceeds of US\$3.5 million, as well the drawing down of US\$0.7 million under a BIF overdraft facility with Finbank in Burundi.

The net cash generated by financing activities for the year ended 30 June 2017 included the raising of US\$7.4 million net IPO proceeds in January 2017, of which US\$1.7 million was used to repay a loan from Pala Investments Limited. The balance primarily relates to borrowings drawn in the period.

The net cash generated by financing activities for the year ended 30 June 2016 of US\$1.3 million included loans forwarded primarily by Pala Investments Limited.

#### **Summary Consolidated Balance Sheet at 31 December 2018, 30 June 2018, 30 June 2017, and 30 June 2016**

|                          | <b>31<br/>December<br/>2018</b> | <b>30 June<br/>2018</b> | <b>30 June<br/>2017</b> | <b>30 June<br/>2016</b> |
|--------------------------|---------------------------------|-------------------------|-------------------------|-------------------------|
|                          | <b>US\$'000</b>                 | <b>US\$'000</b>         | <b>US\$'000</b>         | <b>US\$'000</b>         |
|                          | <b>Unaudited</b>                | <b>Audited</b>          | <b>Audited</b>          | <b>Audited</b>          |
| Non-current assets       | 10,715                          | 11,249                  | 5,793                   | 3,828                   |
| Current assets           | 601                             | 1,304                   | 3,220                   | 70                      |
| Trade and other payables | (1,178)                         | (1,415)                 | (429)                   | (765)                   |
| Borrowings               | (945)                           | (760)                   | (20)                    | (1,653)                 |
| <b>Net assets</b>        | <b>9,193</b>                    | <b>10,378</b>           | <b>8,774</b>            | <b>1,480</b>            |

#### **Commentary on and comparison of balance sheets at 31 December 2018, 30 June 2018, 30 June 2017, and 30 June 2016**

## **Non-current assets**

Non-current assets at all period ends includes the capitalised costs of the Gakara project in Burundi. At 30 June 2016, costs incurred and capitalised to that point would have included primarily pre-construction exploration and development costs. By 30 June 2017, construction of the mine had begun, and the balance increased as a result to US\$5.8 million. At 30 June 2018, construction had been completed, and the balance now included the costs of the processing plant at Kabezi, in addition to the mine equipment and infrastructure at Gasagwe. The balance at 31 December 2018 included a depreciation charge for the first time, with commercial production having been adjudged to have been reached at the start of the six-month period.

## **Current assets**

Current assets at 31 December 2018 included US\$0.1 of ore inventory, US\$0.3 million of royalty over payments made to the Burundi government, and US\$0.1 million of cash.

At 30 June 2018, current assets included US\$0.3 million of ore inventory, US\$0.2 million of royalty overpayments made to the Burundi Government, US\$0.5 million of receivables, and US\$0.4 million cash.

At 30 June 2017, current assets were much higher at US\$3.3 million, mainly due to the cash balance of US\$3.2 million, being residual funds held following the IPO in January 2017.

At 30 June 2016, current assets were just US\$70k, reflecting the low activity levels at that time.

## **Trade and other payables**

Trade and other payables at the period ends shown include trade creditors, whose balance reflects the timing of settlement. The balance at 30 June 2018 and 31 December 2018 are higher than at previous period ends partly as a result of timing, but also reflecting the greater levels of operating activity and supplier costs.

## **Borrowings**

Borrowings at 31 December 2018 and 30 June 2018 primarily relate to the Finbank overdraft put in place to finance local Burundian costs.

Borrowings at 30 June 2016 largely relate to the Pala Loan Facility.

There were minimal borrowings at 30 June 2017.

### ***Finbank overdraft facility***

In October 2017, the Company put in place an overdraft facility with Finbank in Burundi. It is expressed in BIF and carries an interest rate of 14 per cent.. As the facility was agreed initially on a six-month term rolling thereafter, it has been classified as a short term liability.

Under the terms of this facility, Finbank has security over the fixed and floating assets of Rainbow Mining Burundi SM ('RMB', the local operating company in Burundi which owns the Gakara Project and Mining Licence), the shares of RMB, and the cash held in RMB's Finbank bank accounts.

The balances under this facility were US\$0.9 million at 31 December 2018 and US\$0.7 million at 30 June 2018.

### ***Pala Loan Facility***

On 31 October 2015 the Group entered into a US\$6m loan facility agreement with Pala Investments Limited. Upon entering into the agreement the Group issued US\$1.5m of convertible loan notes, which were convertible at any time prior to maturity at the discretion of the holder, into Ordinary Shares with the number of shares equivalent to the principal divided by US\$14.407 per share.

On 5 April 2016 the Group agreed with Pala Investments Limited to vary the terms of the agreement. The maturity date was amended to 31 January 2017 and the loan notes could only be converted if the Group defaulted on the loan on this date. The conversion rate remained unchanged. The convertible loan notes were extinguished and replaced with an amended convertible loan. The fair value of the equity component of the revised convertible loan note was considered to be immaterial. The fair value of the liability component of the new convertible loan was US\$1.6m discounted at a market rate of 13 per cent.. The variation of terms gave rise to a loss on extinguishment of the liability of US\$335k which substantially related to unamortised original transaction costs. The interest charge accreted over the loan period with US\$191k (old and new instrument) having been charged for the period to 30 June 2016.

Pursuant to an amendment agreement dated 19 December 2016, this loan was repaid in the amount of

US\$1.7m on 31 January 2017. The carrying value of the loan at date of repayment was US\$1.76m with a total of \$1.89m due to Pala (including fees of US\$132k and accrued effective interest of US\$263k). The fees were waived and upon final settlement a gain of \$185k recognised in finance income. The interest charged accrued for the period to 31 January 2017 was US\$128k recognised in finance costs.

### **Borrowing Summary**

The following table sets out information relating to the Group's short term and long term borrowings for the years ended 30 June 2018, 2017 and 2016, and at 31 December 2018.

|                         | <b>31<br/>December<br/>2018</b> | <b>30 June<br/>2018</b> | <b>30 June<br/>2017</b> | <b>30 June<br/>2016</b> |
|-------------------------|---------------------------------|-------------------------|-------------------------|-------------------------|
|                         | <b>US\$'000</b>                 | <b>US\$'000</b>         | <b>US\$'000</b>         | <b>US\$'000</b>         |
| <b>Total borrowings</b> | <b>(945)</b>                    | <b>(760)</b>            | <b>(20)</b>             | <b>(1,653)</b>          |

As at the Last Practicable Date, Rainbow had short term borrowings of US\$1.0 million, being the Finbank overdraft, and no long term borrowings.

### **8. Off-balance Sheet Arrangements**

The Group had no off-balance sheet arrangements as at 31 December 2018, 30 June 2018, 30 June 2017, and 30 June 2016.

### **9. Contractual Obligations and Commercial Commitments**

Other than a contractual requirement within the Company's Convention Miniere to pay US\$15,000 to each of the two communes neighbouring the Gakara Project area, fixed fees, annual surface fees, administrative fees and ad valorem tax and make an annual payment of 0.5 per cent. of its net profit for the rehabilitation of the sites affected by mining activities, the Group had no contractual obligations and commercial commitments to make future payments as at 31 December 2018.

### **10. Capitalisation and Indebtedness**

The following tables show the consolidated capitalisation and indebtedness of the Group at 31 May 2019. These figures have been extracted from the unaudited financial information of the Group.

|  | <b>31 May 2019</b> |
|--|--------------------|
|  | <b>US\$'000</b>    |
|  | <b>Unaudited</b>   |

#### **Total current debt:**

|                                |       |
|--------------------------------|-------|
| Guaranteed                     | -     |
| Secured (1)                    | 1,051 |
| Unguaranteed/unsecured (2) (3) | 900   |

#### **Total non-current debt (excluding portion of long-term debt):**

|                        |   |
|------------------------|---|
| Guaranteed             | - |
| Secured                | - |
| Unguaranteed/unsecured | - |

|                           |              |
|---------------------------|--------------|
| <b>Total indebtedness</b> | <b>1,951</b> |
|---------------------------|--------------|

(1) Secured debt represents the overdraft facility with Finbank in Burundi. Under the terms of this facility, Finbank has security over the fixed and floating assets of Rainbow Mining Burundi SA (the local operating company in Burundi which owns the Gakara Project and Mining Licence), the shares of RMB, and the cash held in RMB's Finbank bank accounts.

(2) Unguaranteed/unsecured debt represents the convertible loan note held by The Australian Special Opportunity Fund, LP, an entity managed by Lind. This convertible was issued in January 2019 for US\$750,000, and has a face value (repayment value) of US\$900,000, representing the value at which the loan is held on the balance sheet. Lind exercised their right to convert this facility into Ordinary Shares in June 2019, and at the date of this document, 8,446,360 Ordinary Shares have been issued in satisfaction of this exercise, while 17,843,891 Ordinary Shares remain to be allotted pending publication of this document, and approval of resolutions at the Extraordinary General Meeting.

(3) On 7 May 2019, the Company announced that it had entered into the Pella Ventures Loan. Under the terms of this unsecured loan facility, any amounts advanced to the Company are to convert into Ordinary Shares at the time of the next placing, on the same terms as other participants in that placing. The full amount of US\$0.7 million was advanced to the Company during June 2019 but no amounts had been advanced prior to 31 May 2019.

|                             |                    |
|-----------------------------|--------------------|
| <b>Shareholders' equity</b> | <b>31 May 2019</b> |
|                             | <b>US\$'000</b>    |
|                             | <b>Unaudited</b>   |
| Share capital               | 19,282             |
| Legal Reserve               | -                  |
| Other reserves (1)          | 1,241              |
| <b>Total capitalisation</b> | <b>20,523</b>      |

(1) Other reserves include share based payment reserves of US\$1,201,000, and US\$40,000 which relate to the fair value of warrants issued in November 2015. It does not include foreign currency translation reserves, whose balance at 31 December 2018 was US\$7,000.

Between 31 December 2018 and 31 May 2019, the share capital of the Company has been increased as a result of the following allotments:

|  | <b>Date</b> | <b>Shares allotted</b> | <b>Shares in issue</b> | <b>US\$'000</b> |
|--|-------------|------------------------|------------------------|-----------------|
| <b>Shares in issue 31 December 2018</b>            |             |                        | <b>187,907,345</b>     | <b>18,598</b>   |
| Collateral shares allotted under the Lind Facility | 28 Jan 2019 | 7,500,000              | 195,407,345            | 384             |
| Tranche 1 drawdown under the Lind Facility         | 1 Mar 2019  | 3,425,728              | 198,833,073            | 100             |
| Tranche 2 drawdown under the Lind Facility         | 9 Apr 2019  | 5,132,067              | 203,965,140            | 100             |
| Tranche 3 drawdown under the Lind                  | 20 May 2019 | 3,927,500              | 207,892,640            | 100             |

|                                       |                    |               |
|---------------------------------------|--------------------|---------------|
| Facility                              |                    |               |
| <b>Shares in issue at 31 May 2019</b> | <b>207,892,640</b> | <b>19,282</b> |

On 10 June 2019, the Company announced that it had received an exercise notice from Lind requesting full conversion of the outstanding US\$900,000 convertible loan facility amount pursuant to the Lind Facility and consequently, the Company has issued 8,446,360 Ordinary Shares, with the remaining 17,843,891 Ordinary Shares due to be allotted following publication of this prospectus.

The following table shows the consolidated net financial indebtedness of the Group as at 31 May 2019.

|   | <b>31 May 2019</b> |
|---|--------------------|
|   | <b>US\$'000</b>    |
|   | <b>Unaudited</b>   |
| Cash (at bank and in hand)                | 6                  |
| Cash equivalents                          | -                  |
| Trading Securities                        | -                  |
| <b>Liquidity</b>                          | <b>6</b>           |
| <b>Current financial receivables</b>      | <b>-</b>           |
| Current bank debt                         | (1,051)            |
| Current portion of non-current debt       | -                  |
| Other current financial debt              | (900)              |
| Current Financial Debt                    | (1,951)            |
| <b>Net current financial indebtedness</b> | <b>(1,951)</b>     |
| Non-current bank loans                    | -                  |
| Bonds issued                              | -                  |
| Other non-current loans                   | -                  |
| Non-current financial indebtedness        | -                  |
| <b>Net financial indebtedness</b>         | <b>(1,945)</b>     |

As at 31 May 2019, the Group had no material indirect or contingent indebtedness.

## PART 12 - HISTORICAL FINANCIAL INFORMATION OF THE GROUP

The following documents, which have been previously published and filed with the FCA and which are available for inspection contain information which is relevant to this document: the audited consolidated financial statements of the Group as at and for the years ended 30 June 2018, 30 June 2017 and 30 June 2016 and the unaudited interim consolidated financial statements of the Group for the six months ended 31 December 2018 and the unaudited interim consolidated financial statements of the Group for the six months ended December 2017.

The table below sets out the sections of the above documents, which contain information incorporated by reference into, and forming part of this document. Only information in the parts of the above documents identified in the list below is incorporated into and forms part of this document. Information in other parts of the above documents is either covered elsewhere in this document or is not relevant to an investor's assessment of the assets and liabilities, financial position, profit and losses and prospects of the Group.

### **31 December 2018**

|   | <b>Pages</b> |
|---|--------------|
| Unaudited interim consolidated financial statements of the Group for the six months ended 31 December 2018 including consolidated income statement, consolidated balance sheet, the consolidated statement of recognised income and expense, the reconciliation of equity, the consolidated cash flow statement and the analysis of movement in net debt. | 11-22        |

### **30 June 2018**

|   | <b>Pages</b> |
|---|--------------|
| Consolidated audited financial statements of the Group including consolidated income statement, consolidated balance sheet, the consolidated statement of recognised income and expense, the reconciliation of equity, the consolidated cash flow statement, the analysis of movement in net debt and the notes to the financial statements and the independent auditors report thereon by BDO LLP. | 32-62        |

### **31 December 2017**

|   | <b>Pages</b> |
|---|--------------|
| Unaudited interim consolidated financial statements of the Group for the six months ended 31 December 2017 including consolidated income statement, consolidated balance sheet, the consolidated statement of recognised income and expense, the reconciliation of equity, the consolidated cash flow statement and the analysis of movement in net debt. | 11-21        |

### **30 June 2017**

|   | <b>Pages</b> |
|---|--------------|
| Consolidated audited financial statements of the Group including consolidated income statement, consolidated balance sheet, the consolidated statement of recognised income and expense, the reconciliation of equity, the consolidated cash flow statement, the analysis of movement in net debt and the notes to the financial statements and the independent auditors report thereon by BDO LLP. | 31-58        |

### **30 June 2016**

|   | <b>Pages</b> |
|---|--------------|
| Consolidated audited financial statements of the Group including consolidated income statement, consolidated balance sheet, the consolidated statement of recognised income and expense, the reconciliation of equity, the consolidated cash flow statement, the analysis of movement in net debt and the notes to the financial statements and the independent auditors report thereon by BDO LLP. | 4-24         |

To the extent that any information incorporated by reference itself incorporates any information by reference, either expressly or impliedly, such information will not form part of this document for the purposes of the Prospectus Rules, except where such information is stated within this document as specifically being incorporated by reference or where this document is specifically defined as including such information.

Any statement which is deemed to be incorporated by reference into this document shall be deemed to be modified or superseded for the purpose of this document to the extent that a statement contained in this document (or in a later document which is incorporated by reference into this document) modifies or supersedes such earlier statement (whether expressly, by implication or otherwise). Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this document.

Except as set forth above, no other portion of these documents is incorporated by reference into this document and those portions which are not specifically incorporated by reference in this document are either not relevant for prospective investors or the relevant information is included elsewhere in this document.

BDO of 55 Baker Street, London W1U 7EU. Chartered Accountants regulated by the ICAEW has issued unqualified audit opinion in respect of the years ended 30 June 2018, 30 June 2017 and 30 June 2016.

The financial statements for the years ended 30 June 2018, 30 June 2017 and 30 June 2016 were prepared in accordance with IFRS as adopted by the European Union.

## PART 13 - TAXATION

### 1. United Kingdom taxation

The following statements are intended only as a general guide to current UK tax legislation and to the current practice of HMRC and may not apply to certain shareholders in the Company, such as dealers in securities, insurance companies and collective investment schemes. They relate (except where stated otherwise) to persons who are resident and ordinarily resident in the UK for UK tax purposes, who are beneficial owners of Ordinary Shares (and any dividends paid on them) and who hold their Ordinary Shares as an investment (and not as employment-related securities and other than via an individual savings account). They are based on current UK legislation and what is understood to be the current practice of HMRC as at the date of this document, both of which may change, possibly with retroactive effect. The tax position of certain categories of shareholders who are subject to special rules (such as persons acquiring their Ordinary Shares in connection with employment, dealers in securities, insurance companies and collective investment schemes or those who hold 10 per cent. or more of the Ordinary Shares) is not considered.

Any person who is in any doubt as to his or her tax position, or who is subject to taxation in any jurisdiction other than that of the UK, should consult his or her own professional advisers immediately.

#### Taxation of dividends

Under UK tax legislation, the Company is not required to withhold tax at source from dividend payments it makes.

With effect from 6 April 2016, the UK Government changed the taxation of UK dividends and the following rules apply to UK resident individuals from the 2010/20 tax year.

No tax will be withheld on the payment of a dividend and there is no longer any entitlement to a tax credit. Investors will be taxed on the amount of dividends actually received; dividends will no longer be "grossed up". The first £2,000 of dividend income received by an individual in any tax year will entirely exempt from UK income tax. The rates of tax payable over and above this will be 7.5 per cent for basic rate taxpayers, 32.5 per cent for higher rate taxpayers and 38.1 per cent for additional rate taxpayers.

Dividends paid to a UK resident corporate Shareholder will be taxable income of the UK corporate Shareholder unless the dividends fall within an exempt class and certain other conditions are met. It is, however, expected that dividends paid by the Company to a UK resident corporate Shareholder would generally be exempt, provided certain anti-avoidance provisions are not triggered.

To the extent that dividends are not exempt, UK resident corporate Shareholders may be able to obtain credit for any withholding tax and any underlying tax paid by the Company, subject to certain conditions. The UK has complex double tax relief where UK resident companies receive dividends from non-UK resident companies and therefore UK resident corporate Shareholders should seek further advice on these issues.

Trustees who are liable to income tax at the rate applicable to trusts (currently 45.0 per cent.) will pay tax on the gross dividend at the dividend trust rate of 38.1 per cent. for the current tax year and thereafter. To the extent that the tax credit exceeds the trustees' liability to account for income tax the trustees will have no right to claim repayment of the tax credit.

United Kingdom pension funds and charities are generally exempt from tax on dividends which they receive.

Other Shareholders who are not resident in the UK for tax purposes should consult their own advisers concerning their tax liabilities on dividends received.

#### Chargeable gains

Shareholders who are resident or ordinarily resident in the UK for tax purposes and who dispose of their Ordinary Shares at a gain will ordinarily be liable to UK taxation on chargeable gains, subject to any available exemptions or reliefs. The gain will be calculated as the difference between the sale proceeds and any allowable costs and expenses, including the original acquisition cost of the Ordinary Shares.

Shareholders who are resident or ordinarily resident in the UK for tax purposes but who carry on a trade, profession or vocation in the UK through a branch, agency or fixed place of business in the UK may be liable to UK taxation on chargeable gains on any gain on a disposal of their Ordinary Shares, if those shares are or have been held, used or acquired for the purposes of that trade, profession or vocation or for the purposes of that branch, agency or fixed place of business.

If an individual Shareholder ceases to be resident or ordinarily resident in the UK and subsequently disposes of Ordinary Shares, in certain circumstances any gain on that disposal may be liable to UK capital gains tax upon that Shareholder becoming once again resident or ordinarily resident in the UK.

### **Stamp duty and Stamp Duty Reserve Tax (“SDRT”)**

The statements below are intended as a general guide to the current position under UK tax law. They do not apply to certain intermediaries who may be eligible for relief from stamp duty or SDRT, or to persons connected with depository arrangements or clearance services (or, in either case, their nominees or agents), who may be liable to stamp duty or SDRT at a higher rate.

Admission of the Ordinary Shares to the standard segment of the Official List will not give rise to a liability to stamp duty or SDRT on the basis that the Admission does not involve a change in title to the Ordinary Shares for consideration. (The definition of consideration for stamp duty purposes is restricted to consideration in the form of cash, shares or debt. However, the definition for SDRT purposes is broader and will include anything in money or money's worth).

The central management and control of the Company currently takes place outside the UK, the Register is maintained outside the UK and the underlying Ordinary Shares are listed on a recognised stock exchange.

Provided that the Register continues to be maintained outside the UK, there will be no SDRT on any agreement to transfer the Ordinary Shares themselves. However, any document transferring title to the Ordinary Shares will attract stamp duty at the rate of 0.5 percent (rounded to the nearest £5 if necessary) if it is executed in the UK or relates (wheresoever executed) to any matter or thing done or to be done in the UK.

Where a document transfers title to non-UK shares, but the transfer has such a UK nexus, it may not be relied upon as evidence in civil proceedings within the UK unless it is exempt or has been duly stamped by the UK tax authorities.

### **Inheritance Tax**

If any individual Shareholder is regarded as domiciled in the UK for inheritance tax purposes, inheritance tax may be payable in respect of the Ordinary Shares on the death of the Shareholder or on certain gifts of the Ordinary Shares during their lifetime, subject to any allowances, exemptions or reliefs. This is the case regardless of their residence status. In the case of an individual Shareholder who is not regarded as domiciled in the UK for inheritance tax purposes at the date of death, their liability is limited to assets situated in the UK.

Non-UK domiciled individual Shareholders may be regarded as deemed domiciled for inheritance tax purposes only following a long period of residence in the UK. The concept of deemed domicile only applies for inheritance tax purposes and the Shareholder might still qualify as non-UK domiciled for income tax and capital gains tax. Further advice should be sought in these circumstances.

Status of shares for inheritance tax purposes is a complex matter and is governed by case law. To the extent the Ordinary Shares are not already treated as UK assets for inheritance tax purposes, then admittance of the Ordinary Shares to the standard segment the Official List may result in the Ordinary Shares being treated as UK assets for UK inheritance tax purposes. Admission of the Ordinary Shares to the Official List will not constitute a disposal of the Ordinary Shares held by existing Shareholders.

Individual Shareholders who are in any doubt about the impact of this change on their tax position should obtain detailed tax advice from their own professional advisers.

UK inheritance tax is a complex area and individuals should obtain their own advice in respect of this.

## **2. Guernsey Tax**

### **Guernsey taxation**

The following information is general in nature and relates only to Guernsey taxation applicable to the Company, the anticipated tax treatment in Guernsey that applies to persons holding Ordinary Shares in the Company as an investment and the Guernsey tax regime generally. The summary does not constitute legal or tax advice and is based on taxation law and practice at the date of this document. Investors and prospective investors should be aware that the level and bases of taxation may change from those described and should consult their own professional advisors on the implications of acquiring, holding, disposing of, transferring or redeeming Ordinary Shares in the Company under the laws of the countries in which they are liable to taxation.

### **Taxation of the Company**

The Company intends to continue to be treated as resident in Guernsey for Guernsey tax purposes and to be subject to the standard company rate of tax, currently zero per cent.

No stamp duty or other taxes are chargeable in Guernsey on the issue, transfer, disposal, conversion or redemption of Ordinary Shares. Guernsey currently does not levy taxes upon capital inheritances, capital gains gifts, capital transfer, wealth, sales or turnover (unless the varying of investments and the turning of such investments to account is a business or part of a business), nor are there any estate duties (save for registration fees and ad valorem duty for a Guernsey Grant of Representation where the deceased dies leaving assets in Guernsey which require presentation of such a Grant).

The States of Guernsey has stated that it may consider further revenue raising measures in the future, including the possible introduction of a goods and services tax, depending on the state of Guernsey's public finances at the time.

### **Taxation of Shareholders**

Shareholders not resident in Guernsey for tax purposes will not be subject to income tax in Guernsey in respect of or in connection with the acquisition, holding or disposal of any Ordinary Shares owned by them and will receive dividends without deduction of Guernsey income tax. Any Shareholders who are resident for tax purposes in the Islands of Guernsey, Alderney or Herm will be subject to income tax in Guernsey on any dividends paid on Ordinary Shares owned by them. Shareholders resident in the Bailiwick of Guernsey should note that where income is not distributed but is accumulated, then a tax charge will not arise until the holding is disposed of. On disposal the element of the proceeds relating to the accumulated income will have to be determined.

The Company is required to provide the Director of Income Tax in Guernsey with such particulars relating to any distribution paid to Guernsey resident Shareholders as the Director of Income Tax may require, including the names and addresses of the Guernsey resident Shareholders, the gross amount of any distribution paid and the date of the payment. In addition, the Director of Income Tax can require the Company to provide the name and address of every Guernsey resident who, on a specified date, has a beneficial interest in Ordinary Shares, with details of that interest.

### **FATCA and the CRS**

The governments of the United States and Guernsey have entered into the US-Guernsey IGA related to implementing the FATCA, which is implemented through Guernsey's domestic legislation.

Guernsey has also implemented the CRS regime with effect from 1 January 2016. Accordingly, reporting in respect of periods commencing on or after 1 January 2016 is required in accordance with the CRS (as implemented in Guernsey).

Under the CRS and legislation enacted in Guernsey to implement the CRS, certain disclosure requirements are imposed in respect of certain investors who are, or are entities that are controlled by one or more natural persons who are, residents of any of the jurisdictions that have also adopted the CRS, unless a relevant exemption applies. Where applicable, information to be disclosed will include certain information about Shareholders, their ultimate beneficial owners and/or controllers, and their investment in and returns from the Company. The CRS will be implemented through Guernsey's domestic legislation in accordance with guidance issued by the Organisation for Economic Co-operation and Development as supplemented by guidance notes in Guernsey.

Under the CRS, disclosure of information will be made to the Director of Revenue Services in Guernsey for transmission to the tax authorities in other participating jurisdictions.

In subscribing for or acquiring Ordinary Shares, each Shareholder is agreeing, upon the request of the Company or its delegate, to provide such information as is necessary to comply with FATCA, the CRS and other similar regimes and any related legislation, IGAs and/or regulations.

Investors should consult with their respective tax advisers regarding the possible implications of FATCA, the CRS and similar regimes concerning the automatic exchange of information any other related legislation, intergovernmental agreements and/or regulations.

### **European Union Code of Conduct Group (Business Taxation)**

In response to the review carried out by the European Union Code of Conduct Group (Business Taxation), the States of Guernsey has introduced minimum substance requirements for Guernsey tax resident companies.

The Income Tax (Substance Requirements) (Guernsey) (Amendment) Ordinance, 2018 was approved by the States of Deliberation in Guernsey on 28 November 2018 and provides the ability for the Policy &

Resources Committee to make regulations requiring companies carrying on, or undertaking, relevant activities to have substance in Guernsey. The detail of the substance requirement is contained in the Guernsey Substance Regulations, which were made by the Policy & Resources Committee on 13 December 2018, taking effect from 1 January 2019. The Guernsey Substance Regulations were amended by the Income Tax (Substance Requirements) (Implementation) (Amendment) Regulations, 2018, which were made by the Policy & Resources Committee on 19 December 2018, taking effect from 1 January 2019. Certain further amending regulations are expected to be made by the Policy & Resources Committee in July 2019, coming immediately into operation.

If the Company is subject to the Guernsey Substance Regulations, the Company would be required to demonstrate 'adequate' economic substance in Guernsey. The adequate economic substance requirements, will generally require that a company (a) is directed and managed in Guernsey; (b) has an adequate number of (qualified) employees proportionate to the level of activity carried on in Guernsey; (c) has adequate expenditure proportionate to the level of activity carried on in Guernsey; (d) has an adequate physical presence in Guernsey; and (e) conducts core income-generating activity ('CIGA') in Guernsey. If the Company could not demonstrate that it has adequate substance in Guernsey in an accounting period, it would be subject to sanctions. These sanctions include exchange of information with competent authorities in other jurisdictions, financial penalties and, ultimately, striking off the companies register in Guernsey.

#### **Anti-Avoidance**

Guernsey has a wide-ranging anti-avoidance provision. This provision targets transactions where the effect of the transaction or series of transactions is the avoidance, reduction or deferral of a tax liability. At his discretion, the Director of Income Tax will make such adjustments to the tax liability to counteract the effects of the avoidance, reduction or deferral of the tax liability.

#### **3. Burundi Tax**

Please refer to the 'Fiscal Regime' paragraph in Part 10 of this document, 'Burundi Overview and Regulatory Framework' for details of the Burundian fiscal regime, including taxation.

## PART 14 - ADDITIONAL INFORMATION

### 1. The Company

The Company is a non-cellular company limited by shares, registered and incorporated in Guernsey under the Companies Law on 5 August 2011, with the name Rainbow Rare Earths Limited and registration number 53831.

The Company is domiciled in Guernsey. The registered office of the Company and business address for all the Directors and Senior Managers, as at the date of this document, is Trafalgar Court, Second Floor, East Wing, Admiral Park, St Peter Port, Guernsey GY1 3EL. The principal legislation under which the Company operates is the Companies Law. The liability of the Shareholders is limited by the amount, if any, unpaid on shares held by him.

### 2. Share capital of the Company

- (a) As at the Last Practicable Date, the Company has an issued share capital of 216,339,000 Ordinary Shares of no par value.
- (b) During the period covered by the historical financial information, there have been the following changes to the Company's issued share capital:

*Year ended 30 June 2016*

There were no changes to the Company's issued share capital during this period.

*Year ended 30 June 2017*

- (i) On 9 January 2017, pursuant to a subdivision the Company subdivided the then existing 1,221,826 Ordinary Shares into 81,862,342 new Ordinary Shares;
- (ii) On 9 January 2017, pursuant to a capitalisation, a total of 2,868,151 new Ordinary Shares were issued to certain advisers to the Group and members of the Board and Senior Management in consideration for services provided by them to the Group and in respect of deferred salaries owed to them by the Company;
- (iii) On 30 January 2017, 65,036,958 Ordinary Shares were issued pursuant to a fundraising, at a price of 10p per share;
- (iv) On 30 January 2017, 2,258,356 new Ordinary Shares were issued to Alpha Future Investments Limited following the conversion of a convertible loan of US\$250,000; and
- (v) On 2 February 2017, 2,600,665 new Ordinary Shares were issued in lieu of a cash commission payable in connection with the IPO, at a price of 10p per share.

*Year ended 30 June 2018*

- (vi) On 19 December 2017, 20,000,000 new Ordinary Shares were issued in connection with a placing, at a price of 14p per share; and
- (vii) On 16 April 2018, 134,000 new Ordinary Shares were issued to an employee upon the exercise of options, at a price of 10p per share.

*1 July 2018 to 31 December 2018*

- (viii) On 16 August 2018, 13,146,873 new Ordinary Shares were issued pursuant to a placing, at a price of 12p per share.

- (c) By a special resolution of the Company passed on 31 October 2018 the Directors were authorised, in accordance with article 6.2 of the Articles, to issue up to a maximum number of 37,581,468 Ordinary Shares (being not more than 20% per cent. of the number of Ordinary Shares in issue as at 10 October 2018, being the date of the notice of the 2018 annual general meeting) or such other number being not more than 20 per cent. of the Ordinary Shares in issue at the date of the 2018 annual general meeting, whether generally in relation to the issue by the Company of equity securities or in relation to issues of a particular description or in relation to a specified issue of equity securities which (unless offered pro rata to existing Shareholders or pursuant to further authorisation by Shareholders), as if the pre-emption provisions contained in article 6.2 of the Articles do not apply to any such issue, and that, unless previously revoked or varied, such authority will remain valid until the conclusion of the next annual general meeting of the Company, save that the Company may make prior to such expiry any offer or agreement which would or might require Ordinary Shares or equity securities to be issued after the conclusion of the next annual

general meeting of the Company and the Directors may issue Ordinary Shares or equity securities pursuant to such an offer or agreement notwithstanding the expiry of the authority given by this resolution.

- (d) A special resolution is being proposed at the Extraordinary General Meeting to obtain the approval of Shareholders for the allotment and issue of the New Ordinary Shares (which includes the Placing Shares), as well as a further special resolution to authorise the allotment and issue of up to a maximum number of 79,406,774 new Ordinary Shares (being 20 per cent. of the Ordinary Shares in issue at the date of Admission) generally.
- (e) On Admission, 121,207,778 new Ordinary Shares will be issued pursuant to the Placing, at a price of 3p per share (resulting in a dilution of 31.87 per cent.), 18,636,040 new Ordinary Shares will be issued pursuant to the conversion of the Pella Ventures Loan (resulting in a dilution of 4.90 per cent.), 17,843,891 new Ordinary Shares will be issued pursuant to the Lind Facility (resulting in a dilution of 4.69 per cent.), 4,859,603 new Ordinary Shares will be issued to certain directors/management in lieu of fees or bonuses due as at 30 June 2019 (resulting in a dilution of 1.28 per cent.) and 1,428,571 new Ordinary Shares to Align Research in lieu of payment of invoices which remain outstanding as at 30 June 2019 (resulting in a dilution of 0.38 per cent.).
- (f) At Admission the New Ordinary Shares will result in a dilution to the Ordinary Shares previously in issue of 43.12 per cent..
- (g) The issued share capital of the Company immediately after the issue of the New Ordinary Shares shall be 380,314,884.
- (h) All issued Ordinary Shares will be registered, and may be held in either certificated or uncertificated form.

### **3. Takeover bids**

The City Code is issued and administered by the Takeover Panel. Notwithstanding that the Company is domiciled in Guernsey, it is subject to the City Code and therefore Shareholders are entitled to the protections afforded by the City Code.

### **4. Mandatory bids**

Rule 9 of the City Code provides that, except with the consent of the Takeover Panel, when: (i) any person acquires, whether by a series of transactions over a period of time or not, an interest in shares which (taken together with shares in which persons acting in concert with it are interested) carry 30 per cent. or more of the voting rights of a company; or (ii) any person, together with persons acting in concert with it, is interested which in the aggregate carry not less than 30 per cent. of the voting rights of a company but does not hold shares carrying more than 50 per cent. of such voting rights and such person, or any person acting in concert with it, acquires an interest in any other shares which increases the percentage of shares carrying voting rights in which it is interested, then, in either case, that person, together with the persons acting in concert with it, is normally required to extend offers in cash, at the highest price paid by it (or any persons acting in concert with it) for shares in the company within the preceding 12 months, to the holders of any class of equity share capital whether voting or non-voting and also to the holders of any other class of transferable securities carrying voting rights.

### **5. Squeeze-out rights**

Under the Companies Law, if a "takeover offer" (as provided in section 336 of the Companies Law) is made for the shares or any class of shares in the capital of a company and if, within 4 months after the date of such offer, the offer is approved or accepted by shareholders comprising not less than 90 per cent. in value of the shares affected (excluding any shares held as treasury shares) then the offeror may, within a period of 2 months immediately after the last day on which the offer can be approved or accepted, send an acquisition notice to any dissenting shareholders informing them that it wishes to acquire their shares (an "Acquisition Notice"). Where an Acquisition Notice is given, the offeror is then entitled and bound to acquire those shares on the terms on which the original offer, approved by the shareholders comprising 90 per cent. in value of the shares affected, was made; and where the terms of the offer provided a choice of consideration, the Acquisition Notice must give particulars of the choice and state (a) the period within which, and the manner in which, the dissenting shareholder must notify the offeror of his choice and (b) which consideration specified in the offer will apply if he does not so notify the offeror.

## **6. Articles of the Company**

The following is a non-exhaustive summary of the provisions of the Articles that were adopted on IPO. Please see paragraph 23 "Documents available for Inspection" of this Part 14 for details of how to obtain a full copy of the Articles.

### **(a) Objects**

The Articles do not provide for any objects of the Company and accordingly the Company's objects are unrestricted.

### **(b) Rights attaching to shares**

The Company may issue an unlimited number of shares, which may be designated and issued as Ordinary Shares or otherwise as the directors may from time to time determine.

### **(c) Ordinary Shares**

The rights attaching to the Ordinary Shares shall be as follows:-

As to income - the Shareholders shall be entitled to receive, and participate in, any dividends or other distributions out of the profits of the Company attributable to the Ordinary Shares and available for dividend or distribution and resolved to be distributed in respect of any accounting period or any other income or right to participate therein in accordance with paragraph 6(n) below.

As to capital - the Shareholders shall be entitled on a winding up, to participate in the distribution of capital in the manner described in paragraph 6(m) below.

As to voting - the Shareholders shall be entitled to receive notice of and to attend and vote at general meetings of the Company.

### **(d) General**

Without prejudice to any special rights previously conferred on the holders of any existing shares or class of shares, any share (or option, warrant or other right in respect of a share) in the Company may be issued with such preferred, deferred or other special rights or restrictions, whether as to dividend, voting, return of capital or otherwise, as the Board may determine.

### **(e) Offers to Shareholders to be on a pre-emptive basis**

Unless otherwise determined by special resolution of the Company in general meeting or by a written resolution of all the Shareholders and subject as provided in this paragraph 6(e), any shares available for issue from time to time shall, before they are issued, be offered to all the holders of shares in the Company in proportion to the number of the shares held by them respectively (and such offer shall be at the same price and on the same terms to each such holder). Such offer shall be made by notice specifying the number and class of shares offered, the proportionate entitlement of the relevant Shareholder, the price per share and limiting a period (not being less than 30 days) within which the offer, if not accepted, will be deemed to be declined and, after the expiration of such period, the directors shall offer the shares so declined to the persons who have, within the said period, accepted all the shares offered to them in the same manner as the original offer and limited by a period of not less than 14 days. If any shares comprised in such further offer are declined or deemed to be declined such further offer shall be withdrawn in respect of such shares. At the expiration of the time limited by the notice(s) the directors shall allot the shares so offered to or amongst the Shareholders who have notified their willingness to take all or any of such shares in accordance with the terms of the offer. No Shareholder shall be obliged to take more than the maximum number of shares he has indicated his willingness to take.

Any shares not accepted pursuant to this paragraph 6(e) or not capable of being so offered except by way of fraction and any shares released from the provisions of this paragraph by special resolution or written resolution as therein specified shall be at the disposal of the directors who may allot, grant options over or otherwise dispose of them to such persons at such times and generally on such terms and conditions as they think proper, provided that no shares shall be issued at a discount below par value and provided further that, in the case of shares not accepted as aforesaid, such shares shall not be disposed of on terms which are more favourable to the subscribers thereof than the terms on which they were offered to the Shareholders.

The discretion of the directors contained in paragraph 6(f) below as to the allotment and disposal of and the granting of any option over the Company's shares shall, in any event, be subject to the provisions of any agreement relating thereto binding on the Company from time to time and any

directions contained in any resolution of the Company.

Save with the prior written consent of all the Shareholders, no shares shall be allotted on terms that the right to take up the shares allotted may be renounced in favour of, or assigned to, another person and no person entitled to the allotment of a share may direct that such shares be allotted or issued to any other person.

**(f) Issue of Shares**

Subject to paragraph 6(e), the unissued shares shall be at the disposal of the Board which is authorised to allot, grant options, warrants or other rights over or otherwise dispose of them to such persons on such terms and conditions and at such times as the Board determines but so that no share shall be issued at a discount except in accordance with the Companies Law and so that the amount payable on application on each share shall be fixed by the Board.

**(g) Changes in share capital and purchase of shares**

The Company may by ordinary resolution: consolidate and divide all or any of its share capital into shares of larger or smaller amounts than its existing Ordinary Shares; subdivide all or any of its Ordinary Shares into shares of a smaller amount subject to the paragraph below; cancel Ordinary Shares which, at the date of the passing of the resolution, have not been taken up or agreed to be taken up by any person, and diminish the amount of its share capital by the amount of Ordinary Shares so cancelled; convert all or any of its Ordinary Shares, the nominal amount of which is expressed in a particular currency or former currency, into Ordinary Shares of a nominal amount of a different currency, the conversion being effected at the rate of exchange (calculated to not less than three significant figures) current on the date of the resolution or on such other day as may be specified therein; or where its share capital is expressed in a particular currency or former currency, denominate or redenominate it, whether by expressing its amount in units or subdivisions of that currency or former currency, or otherwise and convert shares into stock and vice versa.

The Company may reduce its share capital, any capital account or any share premium account in any manner and with and subject to any authorisation or consent required by the Companies Law.

The Company may, at the discretion of the Board, purchase any of its own Ordinary Shares, whether or not they are redeemable, and may pay the purchase price in respect of such purchase to the fullest extent permitted by the Companies Law.

**(h) Variation of Class Rights**

If at any time the share capital is divided into different classes of shares, the rights attached to any class (unless otherwise provided by the terms of issue) may, whether or not the Company is being wound up, be varied with the consent in writing of the holders of three fourths of the issued shares of that class or with the sanction of a special resolution of the holders of the shares of that class.

**(i) Remuneration and appointment of directors**

The ordinary remuneration of the directors who do not hold executive office for their services shall not exceed in aggregate £300,000 per annum or such higher amount as the Company may from time to time by ordinary resolution determine. The remuneration shall be deemed to accrue from day to day. The directors shall also be paid all reasonable out-of-pocket travelling, hotel and other expenses properly incurred by them in attending and returning from meetings of the directors or any committee of the directors or general meetings of the Company or in connection with the business of the Company. In addition, the Board may award additional remuneration to any director engaged in exceptional work at the request of the Board on a time spent basis.

The Board shall have power at any time to appoint any person eligible in accordance with section 137 of the Companies Law to be a Director either to fill a casual vacancy or as an addition to the existing Directors but so that the total number of Directors shall not at any time exceed the number, if any, fixed pursuant to the Articles. Any Director so appointed shall hold office only until the next following annual general meeting and shall then be eligible for re-election. Without prejudice to the powers of the Board, the Company in general meeting may appoint any person to be a director either to fill a casual vacancy or as an additional director.

At the annual general meeting in every year, any director who is still in office at the start of the annual general meeting which falls nearest to the third anniversary of the annual general meeting at which he was appointed, or was last re-appointed, shall retire by rotation.

The Board may at any time appoint one or more of their body to be holder of any executive office

including the office of chief executive officer on such terms and for such periods as they may determine.

**(j) Disqualification and retirement of directors**

No person other than a director retiring at a general meeting shall, unless recommended by the directors, be eligible for election by the Company to the office of director unless, not less than 14 clear days before the date appointed for the meeting there shall have been left at the Company's registered office notice in writing signed by a Shareholder duly qualified to attend and vote at the meeting for which such notice is given of his intention to propose such person for election together with notice in writing signed by that person of his willingness to be elected.

A director shall cease to hold office: (i) if the director (not being a person holding for a fixed term an executive office subject to termination if he ceases for any reason to be a director) resigns his office by written notice signed by him sent to or deposited at the registered office of the Company, (ii) if he shall have absented himself from meetings of the Board for a consecutive period of 12 months and the Board resolves that his office shall be vacated, (iii) if he dies or becomes of unsound mind or incapable, (iv) if he becomes insolvent, suspends payment or compounds with his creditors, (v) if he is requested to resign by written notice signed by all his co-directors, (vi) if the Company in general meeting shall declare that he shall cease to be a director or (vii) if he becomes ineligible to be a director in accordance with section 137 of the Companies Law.

**(k) Proceedings of the Board**

The Board may meet for the dispatch of business adjourn and otherwise regulate its meetings as it thinks fit. Questions arising at any meeting shall be decided by a majority of votes. In case of an equality of votes the chairman at the meeting shall have a second or casting vote.

The Board shall also determine the notice necessary for its meetings and the persons to whom such notice shall be given.

A meeting of the Board at which a quorum is present shall be competent to exercise all powers and discretions exercisable by the Board.

The continuing directors may act notwithstanding any vacancy but, if and so long as their number is reduced below the minimum number fixed pursuant to the Articles, the continuing directors may act for the purpose of increasing the number of directors to that number or of summoning a general meeting but for no other purpose. If there be no directors able or willing to act, then any Shareholder may summon a general meeting for the purpose of appointing directors.

The Board may elect a chairman of their meetings and determine the period for which he is to hold office. If no such chairman be elected or if at any meeting the chairman be not present within five minutes after the time appointed for holding the same, the directors present may choose one of their number to be chairman of the meeting.

The Board may delegate any of their powers to committees consisting of such one or more directors as they think fit. Any committee so formed shall in the exercise of the powers so delegated conform to any regulations that may be imposed on it by the Board. Subject thereto, this paragraph shall apply mutatis mutandis to the proceedings of such committees.

The quorum necessary for the transaction of the business of the Board may be fixed by the Board and unless so fixed shall be two except that where the minimum number of directors has been fixed at one a sole director shall be deemed to form a quorum.

A resolution in writing signed by each director (or his alternate) entitled to receive notice of a meeting of the Board or by all the members of a committee shall be as valid and effectual as a resolution passed at a meeting of the Board or committee.

**(l) Conflicts of Interest**

A director must, immediately after becoming aware of the fact that he is interested in a transaction or proposed transaction with the Company, disclose to the Board in accordance with section 162 of the Companies Law, the nature and extent of that interest.

The obligation referred to above does not apply if:

- (i) the transaction or proposed transaction is between the director and the Company; and
- (ii) the transaction or proposed transaction is or is to be entered into in the ordinary course of the Company's business and on usual terms and conditions.

A general disclosure to the Board to the effect that a director has an interest (as director, officer, employee, member or otherwise) in a party and is to be regarded as interested in any transaction which may after the date of the disclosure be entered into with that party is sufficient disclosure of interest in relation to that transaction.

- (i) Nothing referred to above in this paragraph 6(l) applies in relation to:
- (ii) remuneration or other benefit given to a director;
- (iii) insurance purchased or maintained for a director in accordance with section 158 of the Companies Law; or
- (iv) a qualifying third party indemnity provision provided for a director in accordance with section 159 of the Companies Law.

A director who is interested in a transaction entered into, or to be entered into, by the Company, may:

- (i) vote on a matter relating to the transaction;
- (ii) attend a meeting of directors at which a matter relating to the transaction arises and be included among the directors present at the meeting for the purpose of a quorum;
- (iii) sign a document relating to the transaction on behalf of the Company; and
- (iv) do any other thing in his capacity as a director in relation to the transaction, as if the director was not interested in the transaction.

Subject to the paragraph below, a director is interested in a transaction to which the Company is a party if such director:

- (i) is a party to, or may derive a material benefit from, the transaction;
- (ii) has a material financial interest in another party to the transaction;
- (iii) is a director, officer, employee or member of another party (other than a party which is an associated company) who may derive a material financial benefit from the transaction;
- (iv) is the parent, child or spouse of another party who may derive a material financial benefit from the transaction; or
- (v) is otherwise directly or indirectly materially interested in the transaction.

A director is not interested in a transaction to which the Company is a party if the transaction comprises only the giving by the Company of security to a third party which has no connection with the director, at the request of the third party, in respect of a debt or obligation of the Company for which the Director or another person has personally assumed responsibility in whole or in part under a guarantee, indemnity or security.

A director may hold any other office or place of profit under the Company (other than the office of Auditor) in conjunction with his office of director on such terms as to tenure of office or otherwise as the directors may determine.

Any director may continue to be or become a director, managing director, manager or other officer or member of any company in which the Company may be interested and (unless otherwise agreed) no such director shall be accountable for any remuneration or other benefits received by him as a director, managing director, manager or other officer or member of any such other company.

#### **(m) Winding-up**

The Company shall have an indefinite life. If the Company shall be wound-up, the surplus assets remaining after payment of all creditors shall, subject to any special terms of issue, be distributed according to the number of shares held by each Shareholder.

If the Company shall be wound-up, whether voluntarily or otherwise, the liquidator may, with the sanction of a special resolution, divide among the Shareholders in specie any part of the assets of the Company and may, with the like sanction, vest any part of the assets of the Company in trustees upon such trusts for the benefit of the Shareholders as the liquidator, with the like sanction, shall think fit.

If any of the securities or other assets to be divided as aforesaid involve a liability to calls or

otherwise, any person entitled under such division to any of the said assets may, within 14 clear days after the passing of the special resolution, by notice in writing, direct the liquidator to sell his proportion and pay him the net proceeds and the liquidator shall, if practicable, act accordingly.

**(n) Dividends**

Subject to compliance with section 304 of the Companies Law, the Board may at any time declare and pay such dividends as appear to be justified by the position of the Company. The Board may also declare and pay any fixed dividend which is payable on any shares of the Company half-yearly or otherwise on fixed dates whenever the position in the opinion of the Board so justifies.

The method of payment of dividends shall be at the discretion of the Board.

No dividend shall be paid in excess of the amounts permitted by the Companies Law or approved by the Board.

The Board may retain any dividend or other moneys payable on or in respect of a share on which the Company has a lien and may apply the same in or towards satisfaction of the liabilities or obligations in respect of which the lien exists.

No dividend or other moneys payable on or in respect of a share shall bear interest against the Company.

All unclaimed dividends may be invested or otherwise made use of by the Board for the benefit of the Company until claimed and the Company shall not be constituted a trustee in respect thereof. All dividends unclaimed for a period of six years after having been declared shall be forfeited and shall revert to the Company.

**(o) Scrip Dividends**

The Board may, if authorised by an ordinary resolution of the Company, offer any holders of any particular class of shares (excluding treasury shares) the right to elect to receive further shares (whether or not of that class), credited as fully paid, instead of cash in respect of all or part of any dividend specified by the ordinary resolution (a scrip dividend).

The basis of allotment shall be decided by the Board so that, as nearly as may be considered convenient, the value of the further shares, including any fractional entitlement, is equal to the amount of the cash dividend which would otherwise have been paid.

The Board shall not make a scrip dividend available unless the Company has sufficient unissued shares and undistributed profits or reserves to give effect to elections which could be made to receive that scrip dividend.

For the avoidance of doubt, shares allotted pursuant to this paragraph in respect of all or part of any dividend shall not be treated as allotted for cash for the purposes of paragraph 6(c).

**(p) General meetings**

The first general meeting of the Company shall be held within eighteen months of the date of incorporation as required by the Companies Law and thereafter general meetings shall be held once at least in each subsequent calendar year in accordance with section 199 of the Companies Law but so that not more than fifteen months may elapse between one annual general meeting and the next. At each such annual general meeting shall be laid copies of the Company's most recent accounts, directors' report and, if applicable, the auditor's report in accordance with section 252 of the Companies Law. The requirement for an annual general meeting may be waived by the Shareholders in accordance with section 201 of the Companies Law. Other meetings of the Company shall be called extraordinary general meetings.

General meetings may be held in Guernsey or elsewhere at the discretion of the directors.

A Shareholder participating by video link or telephone conference call or other electronic or telephonic means of communication in a meeting at which a quorum is present shall be treated as having attended that meeting provided that the Shareholders present at the meeting can hear and speak to the participating Shareholder.

Any general meeting convened by the Board, unless its time shall have been fixed by the Company in general meeting or unless convened in pursuance of a requisition, may be postponed by the Board by notice in writing and the meeting shall, subject to any further postponement or adjournment, be held at the postponed date for the purpose of transacting the business covered by the original notice.

The Board may, whenever it thinks fit, and shall on the requisition of Shareholders who hold more than ten per cent. of such of the capital of the Company as carries the right to vote at general meetings (excluding any capital held as treasury shares) in accordance with sections 203 and 204 of the Companies Law proceed to convene a general meeting.

**(q) Notice of General Meetings**

A general meeting of the Company (other than an adjourned meeting) must be called by notice of at least ten clear days.

A general meeting may be called by shorter notice than otherwise required if all the Shareholders entitled to attend and vote so agree.

Notices and other documents may be sent in electronic form or published on a website in accordance with section 208 of the Companies Law.

Notice of a general meeting of the Company must be sent to every Shareholder (being only persons registered as a Shareholder), every director and every alternate director registered as such.

Notice of a general meeting of the Company must state the time and date of the meeting, state the place of the meeting, specify any special business to be put to the meeting (as defined in the Articles), contain the information required under section 178(6)(a) of the Companies Law in respect of a resolution which is to be proposed as a special resolution at the meeting, contain the information required under section 179(6)(a) of the Companies Law in respect of a resolution which is to be proposed as a waiver resolution at the meeting, and contain the information required under section 180(3)(a) of the Companies Law in respect of a resolution which is to be proposed as a unanimous resolution at the meeting.

Notice of a general meeting must state the general nature of the business to be dealt with at the meeting.

The accidental omission to give notice of any meeting to or the non-receipt of such notice by any Shareholder shall not invalidate any resolution or any proposed resolution otherwise duly approved.

**(r) Notification of interests in shares**

Each Shareholder shall be under an obligation to make notifications in accordance with the provisions of this paragraph.

If at any time the Company shall have a class of shares admitted to trading on the Main Market, the provisions of DTR 5 shall be deemed to be incorporated by reference into the Articles and accordingly the vote holder and issuer notification rules set out in DTR 5 shall apply to the Company and each Shareholder.

For the purposes of the incorporation by reference of DTR 5 into the Articles and the application of DTR 5 to the Company and each Shareholder, the Company shall (for the purposes of this paragraph only) be deemed to be a UK issuer, as such term is defined in DTR 5.

If at any time the Company shall have a class of shares admitted to trading on the Main Market, the provisions of Section 793 of the 2006 Act, which provisions are incorporated by reference in the Articles and are available to the Shareholder at no charge, shall apply to the Shareholder of such class of shares, provided that for the purposes of this paragraph, the following terms shall have the meanings set forth below:

- (i) public company shall mean the Company; and
- (ii) company's shares shall mean the class of shares of the Company admitted to trading on the Main Market.

If the Company determines that a Shareholder (a Defaulting Member) has not complied with the provision of DTR 5 as set forth above with respect to some or all of such shares held by such Shareholder (the Default Shares), the Company shall have the right by delivery of notice to the Defaulting Member (a Default Notice) to:

- (i) suspend the right of such Defaulting Member to vote on the Default Shares in person or by proxy at any meeting of the Company. Such a suspension shall have effect from the date on which the Default Notice is delivered by the Company to the Defaulting Member until a date that is not more than seven days after the Company has determined in its sole discretion that the Defaulting Member has cured the non-compliance with the provisions of DTR 5; provided that the Company may at any time by subsequent written notice cancel or

suspend the operation of a Default Notice; and/or

- (ii) withhold, without any obligation to pay interest thereon, any dividend or other amount payable with respect to the Default Shares with such amount to be payable only after the Default Notice ceases to have effect with respect to the Default Shares, (ii) render ineffective any election to receive shares of the Company instead of cash in respect of any dividend or part thereof, and/or (iii) prohibit the transfer of any shares of the Company held by the Defaulting Member except with the consent of the Company or if the Defaulting Member can provide satisfactory evidence to the Company to the effect that, after due inquiry, such Defaulting Member has determined that the shares to be transferred are not Default Shares.

**(s) Uncertificated securities - general powers**

Subject to the Companies Law and the Guernsey Regulations, the Board may permit any class of Ordinary Shares to be held in uncertificated form and to be transferred by means of a relevant system and may revoke any such permission. In relation to any Ordinary Share which is for the time being held in uncertificated form, the Company may utilise the relevant system in which it is held to the fullest extent available from time to time in the exercise of any of its powers or functions under the Guernsey Regulations or the Articles or otherwise in effecting any actions and the Board may from time to time determine the manner in which such powers, functions and actions shall be so exercised or effected. Any provision in the Articles in relation to the uncertificated Ordinary Shares which is inconsistent with (a) the holding of that Ordinary Share in uncertificated form or transfer of title to that Ordinary Share by means of a relevant system (b) any other provision of the Guernsey Regulations relating to Ordinary Shares held in uncertificated form or (c) the exercise of any powers or functions by the Company or the effecting by the Company of any actions by means of a relevant system, shall not apply. Subject to the Guernsey Regulations, the Company may, by notice to the holder of that Ordinary Share, require the holder to change the form of such Ordinary Share to certificated form within such period as may be specified in the notice. For the purpose of effecting any action by the Company, the Board may determine that Ordinary Shares held by a person in uncertificated form shall be treated as a separate holding from Ordinary Shares held by that person in certificated form but Ordinary Shares of a class held by a person in uncertificated form shall not be treated as a separate class from Ordinary Shares of that class held by that person in certificated form.

**(t) Transfer of Shares**

All transfers of shares may be effected by transfer in writing in any form as the Board may accept. Any instrument of transfer shall be signed by or on behalf of the transferor who shall be deemed to remain the holder until the name of the transferee is entered in the Register. A transfer in respect of shares which are not fully paid shall also be signed by the transferee.

The Articles are subject to, and do not limit or restrict the Company's powers to transfer shares in accordance with the Guernsey Regulations on such terms as the Board may deem fit.

Every instrument of transfer shall be left at the registered office of the Company or such other place as the Board may prescribe with the certificate (if any) of every share to be transferred and such other evidence as the Board may reasonably require to prove the title of the transferor or his right to transfer the shares; and the transfer and any such certificate shall remain in the custody of the Board but shall be at all reasonable times produced at the request and expense of the transferor or transferee or their respective representatives. A fee determined by the Board may be charged for each transfer and also for the registration of every probate notice, power of attorney or document tendered for registration and shall be paid before registration.

The Board may, in its discretion and without assigning any reasons, refuse to register a transfer of any share to any person of whom they shall not approve as transferee. If the Board refuse to register a transfer of any share, they shall send to the transferee notice of refusal within a reasonable period.

**(u) Indemnity**

The Directors, company secretary and officers for the time being of the Company and their respective heirs and executors shall, to the extent permitted by section 157 of the Companies Law, be fully indemnified out of the assets and profits of the Company from and against all actions, expenses and liabilities which they or their respective heirs or executors may incur by reason of any contract entered into or any act in or about the execution of their respective offices or trusts except

such (if any) as they shall incur by or through their own negligence, default, breach of duty or breach of trust respectively and none of them shall be answerable for the acts, receipts, neglects or defaults of the others of them or for joining in any receipt for the sake of conformity or for any bankers or other person with whom any monies or assets of the Company may be lodged or deposited for safe custody or for any bankers or other persons into whose hands any money or assets of the Company may come or for any defects of title of the Company to any property purchased or for insufficiency or deficiency of or defect in title of the Company to any security upon which any monies of the Company shall be placed out or invested or for any loss, misfortune or damage resulting from any such cause as aforesaid or which may happen in or about the execution of their respective offices or trusts, except if the same shall happen by or through their own negligence, default, breach of duty or breach of trust.

**(v) Borrowing powers**

The Board may exercise all the powers of the Company to borrow money (in whatever currency the Board determines from time to time) and mortgage, hypothecate, pledge or charge all or part of its undertaking, property and uncalled capital and to issue debentures and other securities whether outright or as collateral security for any liability or obligation of the Company or of any third party, subject to any limits on borrowings adopted by the Board from time to time.

**7. Information on the Directors and Senior Managers**

- (a) The Directors and Senior Managers, their functions within the Group and brief biographies are set out in Part 9 of this document, "Directors, Senior Management and Corporate Governance".
- (b) Details of the names of companies and partnerships (excluding directorships in the Group) of which the Directors and Senior Managers are or have been members of the administrative, management or supervisory bodies or partners at any time in the five years preceding the date of this document are set out below:

| <b>Name</b>      | <b>Current directorships/partnerships</b>  | <b>Past directorships/partnerships</b> |
|------------------|--|--|
| Martin Eales     | Barham Wentworth Limited   | None                                   |
| Adonis Pouroulis | Alufer Mining Limited<br>Argentum Energy Limited<br>Avalite Resources Limited<br>Central Congo Holdings Limited<br>Centrale Oil & Gas Limited<br>Desert Lion Energy Corp<br>Petra Diamonds Limited<br>Petra Diamonds UK Services Limited<br>Chariot Oil & Gas Limited<br>Dilsun Investments (Pty) Limited<br>Enigma Oil & Gas Exploration (Pty) Limited<br>Leanna Investments (Pty) Limited<br>Lukad Investments (Pty) Limited<br>Kalahari Diamonds Limited<br>Pella Resources Limited<br>Petra Diamonds Angolan Holdings Ltd<br>Piran Resources Limited<br>Sirius Investment Management | None                                   |

| Name            | Current directorships/partnerships              | Past directorships/partnerships                       |
|-----------------|---|---|
|                 | (GP) Limited                                    |   |
|                 | Toro Gold Gabon Limited                         |   |
|                 | Toro Gold Limited                               |   |
| Shawn McCormick | Karo Mining Holdings Limited                    | Connaught Strategies Limited                          |
|                 | Tiger Resources Limited                         |   |
|                 | Piran Resources Limited                         |   |
|                 | Alufer Mining Limited                           |   |
| Robert Sinclair | Farrington Insurance Company Limited            | Picton (UK) Listed Real Estate Nominee (No 1) Limited |
|                 | Cobb Plan Finances Limited                      | Picton (UK) Listed Real Estate Nominee (No 2) Limited |
|                 | Barbican Holdings Limited                       | Salene Fishing Guernsey Limited                       |
|                 | Piran Resources Limited                         | Picton Property Nominee (No 3) Limited                |
|                 | Sirius Finance (Guernsey) Limited               | Picton Property Nominee (No 5) Limited                |
|                 | Chariot Oil & Gas Finance (Brazil) Limited      | Picton Property Nominee (No 6) Limited                |
|                 | SMR Holdings (PTC) Limited                      | Picton Capital (Guernsey) Limited                     |
|                 | Salene Trading Guernsey Limited                 | Sirius Four BV  |
|                 | Artemis Holdings Limited                        | Artemis Holdings Limited                              |
|                 | Sirius Ash BV                                   | Sirius Ash BV   |
|                 | Sirius Mannheim BV                              | Sirius Mannheim BV                                    |
|                 | Sirius Willow BV                                | Sirius Willow BV                                      |
|                 | Millennium Global Emerging Credit GP Limited    | Millennium Global Emerging Credit GP Limited          |
|                 | Chariot Oil & Gas Investments (Namibia) Limited | Chariot Oil & Gas Investments (Namibia) Limited       |
|                 | Chariot Oil & Gas Limited                       | Chariot Oil & Gas Limited                             |
|                 | Sirius Three BV                                 | Sirius Three BV                                       |
|                 | Marba Brinkmann BV                              | Marba Brinkmann BV                                    |
|                 | Marba Catalpa BV                                | Marba Catalpa BV                                      |
|                 | Marba Dutch Holdings BV                         | Marba Dutch Holdings BV                               |
|                 | Marba HAG BV                                    | Marba HAG BV  |
|                 | Marba Hornbeam BV                               | Marba Hornbeam BV                                     |
|                 | Sirius Cooperatief UA                           | Sirius Cooperatief UA                                 |
|                 | Sirius One BV                                   | Sirius One BV   |
|                 | Sirius Two BV                                   | Sirius Two BV   |
|                 | Limited   | Limited   |
|                 | Flow East Limited                               | Flow East Limited                                     |
|                 | Millennium Multi Strategy Fund                  | Millennium Multi Strategy Fund                        |
|                 |   | Millennium Asset Management                           |

| Name   | Current directorships/partnerships           | Past directorships/partnerships |
|--|--|---------------------------------|
| Gerel Investment Corp                              | Limited                                      |                                 |
| Ottilia Investments Limited                        | Pilden Holding Inc                           |                                 |
| Zodiac Business Corp                               | Hightrees Inc                                |                                 |
| Tintoretto Limited                                 | Merrydown Properties Inc                     |                                 |
| Kirkland Limited                                   | Avalite Resources Limited                    |                                 |
| Artemis Societe Avec Responsabilite Limitee        | Attis Oil & Gas Limited                      |                                 |
| Artemis Corporate Services Limited                 | Karo Resources Limited                       |                                 |
| Artemis Nominees Limited                           | South Sudan Oil Company Limited              |                                 |
| Artemis Secretaries Limited                        | Zambia Exploration Limited                   |                                 |
| Artemis Trustees Limited                           | Red Earth Resources Limited                  |                                 |
| Adelphi Management Limited                         | Narrowpeak Consultants Limited               |                                 |
| Millennium Group Holdings Limited                  | Kilrieco Limited                             |                                 |
| Mantova Limited                                    | Guinness Energy Fund Limited                 |                                 |
| Chariot Oil & Gas Investments (Brazil) Limited     | Guinness Energy Master Fund Limited          |                                 |
| Chariot Oil & Gas Investments (Mauritania) Limited | Hallborough International Limited            |                                 |
| Chariot Oil & Gas Investments (Morocco) Limited    | Hallborough Investments Limited              |                                 |
| Toro Gold Limited                                  | Secure Property Development & Investment Plc |                                 |
| Sirius Investment Management (GP) Limited          | Delstone Management Limited                  |                                 |
| GRP Investments Limited                            | Jermyn Pte Limited                           |                                 |
| Rainbow Group Services Limited                     | Kaouat Iron Limited                          |                                 |
| Millennium Global (Japan) Limited                  | Rainbow International Resources Limited      |                                 |
| DDS Lime BV  | Aquaterra Group SA                           |                                 |
| Helena Investments Corp                            | St James's Limited                           |                                 |
| Joplin Trading Company Limited                     | St James's Master Fund Limited               |                                 |
| Medway Developments Limited                        | Picton ZDP Limited                           |                                 |
| .  | Helios Oil & Gas Limited                     |                                 |
|  | Picton (General Partner) No2 Limited         |                                 |
|  | Picton (General Partner) No3 Limited         |                                 |
|  | Centrale Oil & Gas Limited                   |                                 |
|  | Montessa Investments Limited                 |                                 |
|  | DH Property Holdings Limited                 |                                 |
|  | Golden Square Investments Limited            |                                 |
|  | Vallares Advisers GP Limited                 |                                 |
|  | Genel Energy Holding Company Limited         |                                 |

| Name             | Current directorships/partnerships  | Past directorships/partnerships  |
|------------------|---|--|
| Alexander Lowrie | Harness Property Intelligence Limited<br>Piran Resources Limited<br>Telemark Capital LLP<br>Telemark Capital Holdings Limited<br>Telemark Capital Management Ltd<br>Gunnerside Advisors<br>Troutbeck Properties Limited | Genel Energy Finance 2 Limited<br>Pella Resources Limited<br>Centrale Oil and Gas Investments Limited<br>Benzu Resources Limited<br>Alufer Mining Limited<br>Razario Resources Ltd<br>VGG Services Limited<br>Matobo Energy Holdings Limited<br>Solaris Limited<br>Bravo Securities Limited<br>Ramus Capital Services Ltd (see 7(c) below)<br>Blackstar Partners LLP<br>Abinger Road Ltd<br>Worldwide Currencies |
| Atul Bali        | Desert Lion Energy Inc  | RealNetworks Finland Oy<br>GameHouse Spain SLU<br>Blastworks Inc<br>Gaming Realms PLC<br>Backstage Technologies<br>Metric Gaming   |
| Cesare Morelli   | Benzu Minerals (Pty) Limited<br>Uvumbuzi Resources Limited<br>Rwenzori Rare Metals Limited  | Aurigin Resources Inc.<br>Benzu Resources Limited<br>Ethiopian Gold Exploration Limited  |
| Gilbert Midende  | None  | None   |
| Jim Wynn         | None  | Avocet Mining PLC<br>Manacet Société des Mines de Mandiana SMM   |
| Peter Connery    | None  | Arctic Mining Limited  |
| (c)              | Ramus Capital Services Ltd was put into members' voluntary liquidation in August 2016 while Alexander Lowrie was acting as director.  |  |
| (d)              | Save as set out above, none of the Directors or Senior Managers:  |  |
|                  | (i) has any convictions in relation to fraudulent offences for at least the previous five   |  |

years; or

- (ii) has been associated with any bankruptcy, receivership or liquidation while acting in the capacity of a member of the administrative, management or supervisory body or of a senior manager of any company for at least the previous five years; or
- (iii) has been subject to any official public incriminations and/or sanctions by any statutory or regulatory authority (including designated professional bodies) for at least the previous five years; or
- (iv) has ever been disqualified by a court from acting as a director of a company, or from acting as a member of the administrative, management or supervisor bodies of a company, or from acting the management or conduct of the affairs of any company for at least the previous five years.

(e) There are no family relationships between any of the Directors or Senior Managers.

(f) There are no potential or actual conflicts of interest between any duties owed by the Directors or the Senior Managers to the Company and their private interests and/or other duties, save for their interest as holders of securities of the Company.

## 8. Directors', Senior Managers' and others' interests

(a) The interests (all of which are beneficial unless otherwise stated) of the Directors and Senior Managers in the Company's issued share capital are as follows:

| Name of Director/Senior Manager | Immediately prior to Admission |  | Immediately following Admission |  |
|---------------------------------|--------------------------------|--|---------------------------------|--|
|                                 | Number of Ordinary Shares      | Percentage of the issued share capital | Number of Ordinary Shares       | Percentage of the issued share capital |
| Adonis Pouroulis <sup>1</sup>   | 47,217,287                     | 21.83                                  | 66,325,549                      | 17.44                                  |
| Shawn McCormick <sup>2</sup>    | 8,552,684                      | 3.95                                   | 8,858,239                       | 2.33                                   |
| Alexander Lowrie <sup>3</sup>   | 4,963,459                      | 2.29                                   | 4,568,425                       | 1.20                                   |
| Robert Sinclair <sup>4</sup>    | 4,262,870                      | 1.97                                   | 5,296,792                       | 1.39                                   |
| Martin Eales <sup>5</sup>       | 2,340,632                      | 1.08                                   | 3,523,195                       | 0.93                                   |
| Atul Bali                       | 1,569,105                      | 0.73                                   | 1,874,660                       | 0.49                                   |
| <b>BOARD TOTAL</b>              | <b>68,906,037</b>              | <b>31.85</b>                           | <b>90,446,860</b>               | <b>23.78</b>                           |
| Cesare Morelli <sup>6</sup>     | 1,249,680                      | 0.58                                   | 1,889,995                       | 0.50                                   |
| Gilbert Midende <sup>7</sup>    | 1,127,342                      | 0.52                                   | 1,930,492                       | 0.51                                   |
| Jim Wynn                        | 177,493                        | 0.08                                   | 1,022,181                       | 0.27                                   |
| Peter Connery                   | None                           | None                                   | None                            | None                                   |
| <b>PDMR TOTAL</b>               | <b>71,460,552</b>              | <b>33.03</b>                           | <b>95,289,528</b>               | <b>25.06</b>                           |

<sup>1</sup> Adonis Pouroulis' aggregate interest is held through Pella Ventures Limited, Agulhas Nominees Pty Limited and Artemis Nominees Limited.

<sup>2</sup> Shawn McCormick's interest is held through Malinova Holdings LLC.

<sup>3</sup> Alexander Lowrie's interest is held through JM Finn Nominees and SG Hambro Nominees.

<sup>4</sup> Robert Sinclair's interest is held as to 1,508,036 shares in his own name and 2,463,210 through Artemis Nominees.

<sup>5</sup> Martin Eales's interest is held in his own name and through Barham Wentworth Ltd

<sup>6</sup> Cesare Morelli's interest is held through Artemis Trustees Limited.

<sup>7</sup> Gilbert Midende's interest is held through Artemis Nominees Limited

(b) Details of the options over Ordinary Shares granted to Directors and Senior Managers are set out in paragraph 13 of this Part 14.

## 9. Major Shareholders

(a) Save as set out below, as at the Last Practicable Date, the Company is not aware of any person who, directly or indirectly, was interested in 3 per cent. or more of the Company's capital or voting rights:

| Name                                 | Immediately prior to Admission |  | Immediately following Admission |  |
|--------------------------------------|--------------------------------|--|---------------------------------|--|
|                                      | Number of Ordinary Shares      | Percentage of the issued share capital | Number of Ordinary Shares       | Percentage of the issued share capital |
| Adonis Pouroulis <sup>1</sup>        | 47,217,287                     | 21.83                                  | 66,325,549                      | 17.44                                  |
| Hargreaves Lansdown Stockbrokers Ltd | 20,911,185                     | 9.67                                   | 20,911,185                      | 5.50                                   |
| Interactive Investor Trading         | 9,298,149                      | 4.30                                   | 9,298,149                       | 2.44                                   |
| Shawn McCormick <sup>3</sup>         | 8,552,684                      | 3.95                                   | 8,858,239                       | 2.33                                   |
| Lind Partners LLC <sup>2</sup>       | 7,731,655                      | 3.57                                   | 25,575,546                      | 6.72                                   |

<sup>1</sup> Adonis Pouroulis' aggregate interest is held through Pella Ventures Limited, Agulhas Nominees Pty Limited and Artemis Nominees Limited.

<sup>2</sup> Lind Partners LLC holds its interest through The Australian Special Opportunity Fund LP.

<sup>3</sup> Shawn McCormick's interest is held through Malinova Holdings LLC.

(b) None of the Company's major Shareholders has different voting rights from other Shareholders.

(c) The Company is not aware of any person who, directly or indirectly, owns or controls the Company.

(d) The Company is not aware of any arrangements the operation of which may at a subsequent date result in a change of control of the Company.

## 10. Directors' and Senior Managers' service agreements

### (a) Executive Director

*Martin Eales*

Martin Eales is employed by the Company as Chief Executive Officer and the terms and conditions of his employment are set out in a service agreement. His contract has no fixed term and is terminable by either party on six months' notice. His salary is £175,000, and he is entitled to a discretionary bonus of up to 120 per cent of his salary, participation in the Company's share schemes, pension contributions of 8 per cent., and private health care.

### (b) Non-Executive Directors

*Adonis Pouroulis*

He, through his service company Westward, entered into a letter of appointment with the Company on Admission, which has no fixed term, terminable (subject to the Articles) at any time on three months' notice on either side. Under the terms of his appointment letter, Mr Pouroulis is entitled to a fee of £40,000 per annum, plus £2,500 for membership of Board committees.

*Shawn McCormick*

He, through Connaught Strategies Limited, entered into a letter of appointment with the Company on Admission, which has no fixed term, terminable (subject to the Articles) at any

time on three months' notice on either side. Under the terms of his appointment letter, Mr McCormick is entitled to a director's fee of £25,000 per annum, plus £2,500 for membership of Board committees.

*Robert Sinclair*

He, through Artemis Trustees Limited, entered into a letter of appointment with the Company on Admission, which has no fixed term, terminable (subject to the Articles) at any time on three months' notice on either side. Under the terms of his appointment letter, Mr Sinclair is entitled to a director's fee of £25,000 per annum, plus £2,500 for membership of Board committees

*Alexander Lowrie*

He entered into a letter of appointment with the Company on Admission, which has no fixed term, terminable (subject to the Articles) at any time on three months' notice on either side. Under the terms of his appointment letter, Mr Lowrie is entitled to a director's fee of £25,000 per annum, plus £2,500 for membership of Board committees.

*Atul Bali*

He entered into a letter of appointment on 29 March 2017, which has no fixed term, terminable (subject to the Articles) at any time on three months' notice on either side. Under the terms of his appointment letter, Mr Bali is entitled to a director's fee of £25,000 per annum, plus £2,500 for membership of Board committees.

**(c) Senior Managers**

*Cesare Morelli*

Cesare Morelli has a consultancy agreement with Rainbow International through his service company Benzú Minerals, dated 20 May 2016, which has no fixed term and is terminable at any time on 3 months' notice on either side. Under the terms of his agreement, Mr Morelli is entitled to a daily rate of US\$1,150. Mr Morelli also has a consultancy agreement with Rainbow International through his other service company Uvumbuzi Resources Limited, dated 4 October 2016, which has no fixed term and is terminable at any time on 3 month's notice on either side. Under the terms of this agreement, Mr Morelli will invoice Rainbow International on a monthly basis for his agreed fees.

*Gilbert Midende*

Gilbert Midende is employed under employment contracts with Rainbow Mining Burundi SM and by Rainbow International at net salaries of US\$60,000 and US\$36,000 respectively. He is entitled to participate in the Company's annual incentive scheme, and health insurance. His contracts have no fixed term and are terminable by either party on one month's notice

*Jim Wynn*

Jim Wynn is employed by the Company as Chief Financial Officer and the terms and conditions of his employment are set out in a service agreement. His contract has no fixed term and is terminable by either party on six months' notice. His salary is £150,000, and he is entitled to a discretionary bonus of up to 100 per cent of his salary, participation in the Company's share schemes, pension contributions of 8 per cent., and private health care

*Peter Connery*

Peter Connery is employed under employment contracts with Rainbow Mining Burundi SM and by Rainbow International at net salaries of US\$60,000 and US\$84,000 respectively. He is entitled to participate in the Company's annual incentive scheme, and health insurance. His contracts have no fixed term and are terminable by either party on one month's notice.

**11. Summary of remuneration and benefits**

A summary of the amount of remuneration paid by the Group to the Directors and Senior Managers (including any contingent or deferred compensation) and benefits in kind for the financial year ended 30 June 2018 for their services, in all capabilities, to the Group is set out below:

| Director         | Salary/fees<br>US\$ | Benefits US\$ | Pension US\$ | Bonus<br>US\$        | Total<br>US\$ |
|------------------|---------------------|---------------|--------------|----------------------|---------------|
| Adonis Pouroulis | 59,000              | -             | -            | -                    | 59,000        |
| Robert Sinclair  | 39,000              | -             | -            | -                    | 39,000        |
| Alexander Lowrie | 39,000              | -             | -            | -                    | 39,000        |
| Shawn McCormick  | 39,000              | -             | -            | -                    | 39,000        |
| Atul Bali        | 38,000              | -             | -            | -                    | 38,000        |
| Martin Eales     | 237,000             | 8,000         | 19,000       | 120,000 <sup>1</sup> | 384,000       |

Neither Martin Eales nor the Non-Executive Directors are entitled to any benefits upon termination.

Martin Eales's performance bonus for the year to 30 June 2018 for £89k (US\$120k) is payable in three tranches over the course of 2018-19, and is subject to availability of funds.

| Senior Managers              | Salary/fees<br>US\$ | Benefits US\$ | Pension US\$ | Bonus <sup>3</sup><br>US\$ | Total<br>US\$ |
|------------------------------|---------------------|---------------|--------------|----------------------------|---------------|
| Braam Jankowitz <sup>1</sup> | 210,000             | -             | -            | 89,250                     | 299,250       |
| Cesare Morelli <sup>2</sup>  | 76,536              | -             | -            | 32,528                     | 109,064       |
| Gilbert Midende              | 96,000              | -             | -            | 40,800                     | 136,800       |
| Jim Wynn                     | 203,017             | -             | 16,241       | 85,425                     | 304,683       |

<sup>1</sup> Braam Jankowitz's consultancy fees were paid to Jankowitz Geological Consulting. Braam left the Company in May 2019

<sup>2</sup> Cesare Morelli's consultancy fees were paid to Benzu Minerals (Pty) Ltd and Uvumbuzi Resources Limited

<sup>3</sup> Performance bonuses for the year to 30 June 2018 for all senior management are payable in three tranches over the course of 2018-19, are subject to availability of funds.

## 12. Pension arrangements

Other than pension contributions outlined above, the Group does not provide pension, retirement or similar benefits to the Directors or Senior Managers.

## 13. Options and Warrants

### (a) Share Option Plan

The Company operates the Share Option Plan, which allows for the grant of Options to eligible participants. Under the rules of the Share Option Plan, the following provisions apply:

- Options will not be transferable, and only the person to whom an Option is granted or his or her personal representatives may acquire Ordinary Shares pursuant to an Option;
- benefits provided under the Share Option Plan are not pensionable;
- in order to be granted an Option, an individual must be an employee, executive director or non- executive director of the Group;
- the Remuneration Committee has overall responsibility for the operation and administration of the Share Option Plan, and has discretion to select the employees and executive directors to whom Option are to be granted under the Share Option Plan;

- the Board may grant Options to non-executive directors;
- Options can be granted with any exercise price;
- the Company will grant EMI Options for as long as the Company satisfies the qualifying conditions set out ITEPA;
- the value of Ordinary Shares over which a participant may be granted options under the Plan in any financial year of the Company shall not exceed 200 per cent. of his basic rate of salary at the date of grant;
- under ITEPA, an employee may hold EMI Options over Ordinary Shares with a value (as at the date of grant) of up to £250,000 but this shall be subject to the limit set out below and to the extent that such limit exceeds £250,000, an employee may be granted Non-Qualifying Options in respect of the excess above £250,000;
- the number of Ordinary Shares which may be issued on the exercise of Options which granted under the Share Option Plan shall not exceed 10 per cent. of the issued share capital (including treasury shares and Ordinary Shares issued to the trustee of an employees' trust) of the Company from time to time;
- the exercise of an option may be subject to the satisfaction of performance conditions which the Remuneration Committee shall specify at the date of grant, and the Remuneration Committee has discretion to amend, substitute or waive performance conditions if it considers that this is appropriate;
- the Options will vest and become exercisable, subject to any performance conditions being met, on the following dates: one third of the Options on grant; one third of the Options on the date 12 months from grant; and one third of the Options on the date 24 months from grant;
- vested Options are generally exercisable between the date on which they vest and tenth anniversary of the date of grant;
- if a participant ceases to be in employment where the reason for cessation is due to death, disability, redundancy or retirement or any other reason that the Remuneration Committee acting fairly and reasonably so determines, any vested part of his or her Option may be exercised and the Remuneration Committee shall, taking into account the extent that the performance targets have been met and the proportion of the performance period that has elapsed, have discretion to determine whether any unvested parts of his or her Option shall be deemed vested and may be exercised. Such Options shall become or remain exercisable for a period of ninety days from the date which the participant ceases to hold office or employment with any Group company;
- in the event of a takeover, the Options may be exercised to the extent determined by the Remuneration Committee, taking into account the extent that the performance targets have been met and the proportion of the performance period that has elapsed. Alternatively Options may be exchanged for options over shares in an acquiring company, if the acquiring company agrees;
- if a participant dies, his or her personal representatives shall be permitted to exercise his or her Options within 12 months of the participant's death to the extent to which any performance condition has been met;
- if a participant ceases employment for any reason not set out above above, he shall forfeit any vested parts of his option (to the extent they have not yet been exercised) and any unvested part on the earlier of him ceasing to be an officer or employee or notice being given that he will cease to be an officer or employee;
- Ordinary Shares issued in connection with the exercise of Options will rank equally with Ordinary Shares from the date on which the participant is entered on the register of member;
- If there is any alteration of the issued share capital of the Company, the number of Ordinary Shares subject to an Option and the exercise price will be subject to adjustments. The Board may adjust Options in such manner as it determines to be appropriate;

- unexercised Options (whether vested or unvested) will lapse if information comes to light that means those Options should not have vested;
- the Board has discretion from time to time to amend the Share Option Plan. However, alterations or additions that adversely affect the subsisting rights of an existing participant may only be made with the consent in writing of the relevant participant or consent of 75 per cent. of the participants;
- the provisions of the Share Option Plan relating to:
  - the persons to whom, or for whom, securities, cash or other benefits are provided under the Share Option Plan;
  - limitations on the number or amount of the securities, cash or other benefits subject to the Share Option Plan;
  - the maximum entitlement for any one participant; and
  - the basis for determining a participant's entitlement to, and the terms of, securities, cash or other benefit to be provided and for the adjustment thereof (if any) if there is a capitalisation issue, rights issue or open offer, sub-division or consolidation of shares or reduction of capital or any other variation of capital, cannot be altered to the advantage of participants without the prior approval of shareholders in general meeting (except for minor amendments to benefit the administration of the Share Option Plan, to take account of a change in legislation or to obtain or maintain favourable tax, exchange control or regulatory treatment for participants or for the Company or for members of its group).

As at the Last Practicable Date, the following Options are exercisable and outstanding:

| Name                                 | No options | Exercise price £ | Share price at grant £ | Date of grant | Vesting date |
|--------------------------------------|------------|------------------|------------------------|---------------|--------------|
| <b><u>Employee share options</u></b> |            |                  |                        |               |              |
| M Eales                              | 1,166,666  | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-17    |
| M Eales                              | 583,333    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-18    |
| M Eales                              | 1,166,667  | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-19    |
| A Pouroulis                          | 134,000    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-17    |
| A Pouroulis                          | 134,000    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-18    |
| A Pouroulis                          | 134,000    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-19    |
| S McCormick                          | 116,666    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-17    |
| S McCormick                          | 116,667    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-18    |
| S McCormick                          | 116,667    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-19    |
| R Sinclair                           | 116,666    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-17    |
| R Sinclair                           | 116,667    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-18    |
| R Sinclair                           | 116,667    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-19    |
| G Midende                            | 314,900    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-17    |
| G Midende                            | 314,900    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-18    |
| G Midende                            | 314,900    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-19    |
| C Morelli                            | 314,900    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-17    |
| C Morelli                            | 314,900    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-18    |

| Name        | No options | Exercise price £ | Share price at grant £ | Date of grant | Vesting date |
|-------------|------------|------------------|------------------------|---------------|--------------|
| C Morelli   | 314,900    | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-19    |
| D Palma     | 67,000     | 0.1000           | 0.1162                 | 30-Jan-17     | 30-Jan-19    |
| J Wynn      | 500,000    | 0.1275           | 0.1275                 | 27-Jun-17     | 27-Jun-17    |
| J Wynn      | 250,000    | 0.1275           | 0.1275                 | 27-Jun-17     | 27-Jun-18    |
| J Wynn      | 500,000    | 0.1275           | 0.1275                 | 27-Jun-17     | 27-Jun-19    |
| B Jankowitz | 500,000    | 0.1275           | 0.1275                 | 27-Jun-17     | 27-Jun-17    |
| B Jankowitz | 250,000    | 0.1275           | 0.1275                 | 27-Jun-17     | 27-Jun-18    |
| B Jankowitz | 500,000    | 0.1275           | 0.1275                 | 27-Jun-17     | 27-Jun-19    |
| A Pouroulis | 166,666    | 0.1500           | 0.1113                 | 23-Aug-17     | 23-Aug-17    |
| A Pouroulis | 166,667    | 0.1500           | 0.1113                 | 23-Aug-17     | 23-Aug-18    |
| A Pouroulis | 166,667    | 0.1500           | 0.1113                 | 23-Aug-17     | 23-Aug-19    |
| A Bali      | 166,666    | 0.1500           | 0.1113                 | 23-Aug-17     | 23-Aug-17    |
| A Bali      | 166,667    | 0.1500           | 0.1113                 | 23-Aug-17     | 23-Aug-18    |
| A Bali      | 166,667    | 0.1500           | 0.1113                 | 23-Aug-17     | 23-Aug-19    |
| A Lowrie    | 166,666    | 0.1500           | 0.1113                 | 23-Aug-17     | 23-Aug-17    |
| A Lowrie    | 166,667    | 0.1500           | 0.1113                 | 23-Aug-17     | 23-Aug-18    |
| A Lowrie    | 166,667    | 0.1500           | 0.1113                 | 23-Aug-17     | 23-Aug-19    |
| S McCormick | 166,666    | 0.1500           | 0.1113                 | 23-Aug-17     | 23-Aug-17    |
| S McCormick | 166,667    | 0.1500           | 0.1113                 | 23-Aug-17     | 23-Aug-18    |
| S McCormick | 166,667    | 0.1500           | 0.1113                 | 23-Aug-17     | 23-Aug-19    |
| R Sinclair  | 166,666    | 0.1500           | 0.1113                 | 23-Aug-17     | 23-Aug-17    |
| R Sinclair  | 166,667    | 0.1500           | 0.1113                 | 23-Aug-17     | 23-Aug-18    |
| R Sinclair  | 166,667    | 0.1500           | 0.1113                 | 23-Aug-17     | 23-Aug-19    |
|             |            | <hr/>            | <hr/>                  | <hr/>         | <hr/>        |
|             |            | 10,975,066       |                        |               |              |
|             |            | <hr/>            | <hr/>                  | <hr/>         | <hr/>        |

All Option awards vest and are exercisable in three equal tranches the first on the date of the award and the second and third 12 and 24 months later respectively..

**(b) Corporate share options**

The Company has outstanding 16,718,987 share options granted to The Australian Special Opportunity Fund, LP, an entity managed by Lind, exercisable at a price of £0.0528, at any time prior to 23 January 2023.

**(c) Warrants**

The Company has outstanding, 427,924 warrants for services, with an exercise price of US\$0.21 per warrant. The warrants were issued as consideration for arranging a funding transaction for the Company in 2015 and expire in November 2020.

**14. Subsidiaries, investments and principal establishments**

The Company acts as the holding company of the Group. It has two wholly owned subsidiaries:

Rainbow International, which is incorporated in the British Virgin Islands with BVI company number 1605765; and Rainbow Rare Earths UK Limited, which is incorporated in the United Kingdom under company number 10752853.

Rainbow International has the following subsidiaries:

| <b>Name</b>                         | <b>Country of incorporation</b> | <b>Proportion of ownership interest (per cent.)</b> | <b>Principal activity</b>                                      |
|-------------------------------------|---------------------------------|---|--|
| Rainbow International Resources Ltd | British Virgin Islands          | 100   | Service and administration                                     |
| Rainbow Rare Earths UK Ltd          | United Kingdom                  | 100   | Management and technical services                              |
| Rainbow Burundi SPRL (1)            | Burundi                         | 97  | Service and administration                                     |
| Rainbow Burundi SM (2)              | Burundi                         | 90  | Exploration, evaluation, development and production activities |

(1) Gilbert Midende holds a 3 per cent. interest.

(2) The State of Burundi has a 10 per cent. interest, granted in accordance with the 2013 Mining Code of Burundi.

## **15. Material contracts**

The following contracts are outside the ordinary course of business with either: (a) have been entered into by the Group within two years immediately preceding the date of this document; or (b) contain provisions under which the Group has an obligation or entitlement which is or may be material to the Group as at the date of this document.

### **(a) Mining Licence**

The Mining Licence was initially granted to Rainbow International. In accordance with its terms, the parties created a mixed mining exploitation company, namely Rainbow Mining, to hold the Mining Licence transferred the Mining Licence to it on 29 April 2015. The duration of the Mining Licence is 25 years, renewable thereafter in periods of 10 years, and it covers an area of 39 km<sup>2</sup>. Under the Mining Licence the State of Burundi guarantees that the licence area is free of all other rights. The Mining Licence contains certain terms and obligations, which are summarised as follows:

- The following costs, which have been included in the Company's working capital requirements, arise under the Mining Licence:
  - US\$15,000 to the two communes neighbouring the area;
  - Fixed fees, annual surface fees, administrative fees and ad valorem tax; and
  - An annual payment of 0.5 per cent. of Rainbow Mining's net profit for the rehabilitation of the sites affected by mining activities. The State of Burundi has the right to revise this percentage upwards, although the Company believes that such a revision would be unlikely as the mining activities will benefit the existing area by making flatter agricultural land.
- At the time the Group submitted its application for the Mining Licence, a feasibility study was also submitted under which the Group committed to an estimated work programme to allow it to begin operations. This work programme was included in the Mining Licence, but has since been revised and refined over the past 2 years in discussion with the Ministry through regular face to face meetings and quarterly and annual reports, and the Mining Licence remains in good standing.
- When it applied for the Mining Licence, the Company estimated that its activities would contribute up to US\$500,000 per year to the local community. This cost is referred to in the

Mining Licence but the Company is not obliged to pay it.

- If required, the State of Burundi can expropriate areas of the Mining Licence to facilitate the mining activities, in which case Rainbow Mining will have to pay compensation to the land owners. Compensation and procedures are defined based on the ESIA and the associated action plan which comprises a plan for the move of affected people. The risk of Rainbow Mining being required to pay compensation is very remote; it has been present in the area for several years and if there was to be a potential expropriation issue it would have been addressed already. Expropriation relates to the seizure of real property in order to assign it for another use or purpose, and it is exceptional that corporate real property is involved.
- The State of Burundi's 10 per cent. shareholding in Rainbow Mining cannot be diluted, and it must have 10 per cent. of the votes and vice-chairmanship of the board of directors
- 40 per cent. of Rainbow Mining's management must be Burundian nationals.
- The Mining Licence provides that the shareholders of Rainbow Mining can choose to offer the State of Burundi and Burundi businesses the option to acquire up to a 39 per cent. interest in Rainbow Mining. If such offer were to be taken up, the price of the shares would be determined by market value. Given that Rainbow International is the majority shareholder, the offering of such an option would be at its (and therefore the Group's) discretion.
- The Mining Licence also provides that, if Rainbow International chose to sell its shares in Rainbow Mining, the State of Burundi and other Burundi businesses have a right of first refusal up to 49 per cent. within a period of 30 days, after which the shares could be sold to any other person.
- Any event which comprises a change of control of Rainbow Mining is subject to prior approval of the Burundi mining minister, after taking advice from the Council of Ministers. ENS Africa has confirmed that the Placing and Admission will not constitute a change of control under the Mining Licence.
- Rainbow Mining agrees that it will use local services and raw materials and products manufactured in Burundi if such services, materials or products are available and competitive regarding price, quality, warranties and delivery terms.
- In the event of major unforeseen economic circumstances, Rainbow Mining can request a suspension of the works for up to a period of 6 months.
- Rainbow Mining can use existing public infrastructure and can build additional infrastructure if required, provided it maintains, improves and preserves such infrastructure, although there will be no compensation in respect of that maintenance when the Mining Licence terminates.
- Rainbow Mining must provide a yearly technical report on the progress of the activities to the Burundi Ministry for Energy and Mines.
- Rainbow Mining must employ up to 80 per cent. of Burundian staff over the next 10 years, and must have in place sufficient procedures and policies to ensure it provides equal opportunities and training for Burundian staff. To this end, Rainbow Mining has elected to use the hand tool mining method because this will provide local employment, and is likely to meet the 80 per cent. requirement within the first 6 months of operations.
- Rainbow commits to providing appropriate accommodation, medical and catering facilities for employees, as well as providing courses on geology. There is no "standard practice" in relation to providing accommodation and, as the legislation is relatively new, the wording of the relevant provision has not yet been. Some companies provide for accommodation on site, while others rent houses or guest houses; as long as there is accommodation for the employees Rainbow Mining will comply with this provision.
- Rainbow Mining is subject to the fiscal and customs regimes in Burundi and can benefit from tax incentives in accordance with those regimes. If a new, more favourable regime is introduced, Rainbow Mining can opt for that new regime if it adopts it entirely.
- Transactions between related entities are subject to transfer pricing rules.
- Examples of potential breaches of the Mining Licence which could lead to its revocation

include: non-payment of the fees; suspension of the works without a proper reason; and not providing the required reports.

The Mining Licence also places obligations on the State of Burundi as follows:

- It must facilitate everything which has to be done by Rainbow Mining for the execution of the works, exploitation or commercialisation of the extracted substances at Gakara.
- It must not take any restrictive measures as far as allowed by the applicable law, including (without limitation) allowing Rainbow Mining to have: free choice of suppliers and subcontractors; free importation of goods, material, machines, equipment, spare parts and consumable goods; free exportation of the products; free commercialisation with all "bona fide" companies; free circulation throughout Burundi of the mineral substances and products from the mining activities.

**(b) Distribution and Offtake Agreement**

Rainbow Mining (the "Seller") and tk Materials Trading (the "Buyer") are party to the exclusive Distribution and Offtake Agreement. The Distribution and Offtake Agreement was executed on 1 December 2014, and the duration of the contract is 10 years from the day of the first commercial production, although this may be extended by mutual agreement.

Pursuant to the Distribution and Offtake Agreement, the Buyer, subject in each instance to agreeing pricing that is acceptable to the Seller, will purchase from the Seller such quantities of the concentrate produced at the Gakara Project as it can sell to third party customers, with an intention to sell up to 5,000 tpa for the duration of the contract. The Buyer has a right of first refusal to buy a further 5,000 tpa (to the extent available).

The Distribution and Offtake Agreement contains the following additional key terms:

- The Gakara product shall hold a minimum of 54 per cent. REEs.
- The price for the orders will be calculated with reference to either the Metal Pages or Asian Metal, to be agreed by the parties.
- The Buyer will pay 80 per cent. of the provisional price for each order within 10 days of the shipment date, and the balance of payment shall be determined as described above and paid by the end of the month following the month of delivery.
- At the time it entered into the Distribution and Offtake Agreement, the Seller provided a provisional rolling five year concentrate production profile, which will be agreed each calendar year between the parties and updated on a quarterly basis.
- If the Seller fails to deliver a specific agreed quantity of the concentrate produced at the Gakara Project, the Buyer cannot reject delivery of the decreased quantity or terminate the order for 30 days.
- Upon delivery, the Seller will provide a certificate of quantity and quality by an independent surveyor, which the Buyer can verify. If the delivery does not meet permitted specifications then the parties will agree a mutual solution.
- The parties will meet yearly to discuss and agree in principle the forecast production and marketing strategy.
- The Seller will indemnify the Buyer against all losses, and will waive any third party claims against the Buyer, which arise solely out of the concentrate produced at the Gakara Project not meeting the quality specifications. The Seller shall not be liable for any acts or omissions attributable to the Buyer.
- The Distribution and Offtake Agreement can be terminated by either party where there has been a material breach by the other party which has not been remedied within 90 days, or where the other party enters into liquidation, becomes insolvent, is declared bankrupt, enters into any kind of receivership or makes any arrangement for the benefit of any creditor.

The parties are able to mutually agree to terminate the Distribution and Offtake Agreement prematurely.

On 2 February 2018 the parties agreed 'Annex 1' to the Distribution and Offtake Agreement. This provides for sales of concentrate to a party introduced by the Buyer, (the "Customer"). Subject to a

resolatory condition whereby the Customer had to satisfy itself as to the usability of the Seller's concentrate by test processing 300 tonnes, now satisfied, the Customer commits to purchase between 3,600 and 5,000 tonnes of concentrate per annum on an agreed pricing structure and agreed product specifications. The terms of Annex 1 run for 10 years or until the termination of the Distribution and Offtake Agreement, if shorter.

On 23 April 2019 the parties agreed 'Annex 2' to the Distribution and Offtake Agreement. This provides for sales of concentrate to a second party introduced by the Buyer, (the "Second Customer"). Annex 2 commences upon the Seller's written notification to the Second Customer of its readiness to deliver a minimum of 100 tonnes of concentrate per month, which has not yet been given, on an agreed pricing structure and agreed product specifications and lasts for a term of 4 years or until the termination of the Distribution and Offtake Agreement, if shorter.

**(c) Relationship Agreement**

The Company and the Majority Shareholder have entered into the Relationship Agreement, pursuant to which the Majority Shareholder agrees, amongst other things, that so long as it, together with its Associates (as defined in the Relationship Agreement), hold 20 per cent. or more of the voting rights attaching to the Enlarged Share Capital, it will use its voting rights so that:

- the Group is capable of carrying on its business independently of the Majority Shareholder, including the Majority Shareholder refraining from using its voting rights to amend the Company's in Articles in a way that would fetter the Company's independence;
- all future transactions between the Company and the Majority Shareholder are at arm's length;
- the Company is not prevented from complying with any of its obligations under any applicable legislation or regulation;
- the Majority Shareholder abstains from voting on any shareholder or board resolution concerning any transaction or relationship between it and any member of the Group;
- no additional directors to the Company are appointed nor any Directors removed except on the recommendation of the Board; and
- the Majority Shareholder does not attempt to procure any amendment to the Articles that would undermine or breach any provisions of the Relationship Agreement.

The Majority Shareholder also agrees not to do, or omit to do, anything that would require it or any person acting in concert with it to make an offer for all the Ordinary Shares in the Company under Rule 9 of the Takeover Code.

**(d) Lind Facility**

The Company and Lind are party to a funding agreement comprising an unsecured convertible security amount of US\$750,000 and a 24 month equity facility of up to US\$7 million with an entity managed by Lind. Under the Lind Facility:

- Lind agreed to advance up to US\$7.75 million to the Company during the 24 month term;
- Initial proceeds comprised a US\$750,000 unsecured convertible security amount and an initial share subscription of US\$100,000;
- Two further share subscriptions for US\$100,000 each were drawn down in March and May 2019;
- Provides for the Company to issue Ordinary Shares linked to the prevailing market price, potentially at a premium to the then existing share price;
- The Company has the right to settle any amounts advanced to it in cash, in lieu of Ordinary Shares and at any time to repay the convertible loan security amount (repayable as US\$900,000) in cash, subject to Lind retaining the option to convert up to a maximum of 33 per cent. of the convertible security amount at such time;
- The Company may terminate or halt the agreement at either no or minimal cost;
- Lind has agreed not to short sell the Ordinary Shares and not to acquire any more than 9.99 per cent. of the issued share capital of the Company at any time;

- The Company provides customary warranties and indemnities in favour of Lind; and
- Certain events of default or negative covenants exist which could permit Lind to terminate the agreement and/or demand repayment of all amounts due were also included in the agreement.

**(e) Pella Ventures-Loan Agreement**

The Company and Pella Ventures are party to a loan agreement, dated 7 May 2019, pursuant to which US\$700,000 has been advanced to the Company for a period of 12 months at an interest rate of 15 per cent. per annum from drawdown. The loan and outstanding interest shall convert into 18,636,040 new Ordinary Shares on the same terms as apply to the next equity fundraising undertaken by the Company, which shall be the Placing.

**(f) Placing Agreement**

On 3 July 2019, the Company and the Joint Brokers entered into a placing agreement, pursuant to which the Joint Brokers has been appointed as agent for the Company, to use its reasonable endeavours to procure placees for the Placing Shares. Completion of the Placing remains subject to the satisfaction of a number of conditions, including Admission taking place by 8.00 am on 22 July 2019 and the special resolution being passed at the Extraordinary General Meeting to approve the allotment and issue of the Placing Shares. The Company has given customary warranties in respect of the Placing Shares, the members of the Group and the operation of the business in favour of Arden Partners and has indemnified the Joint Brokers in respect of loss or claims which may arise by the Joint Brokers acting as agent for the Placing. The Placing Agreement contains provisions entitling the Joint Brokers to terminate the Placing Agreement at any time prior to Admission in certain circumstances.

**16. Statutory auditors**

The auditors of the Company for the financial years ended on 30 June 2018, 30 June 2017 and 30 June 2016 have been BDO LLP, Chartered Accountants, whose registered address is at 55 Baker Street, London W1U 7EU.

BDO LLP have audited the annual consolidated financial statements for the Company, which have been prepared in accordance with International Financial Reporting Standards as adopted by the European Union.

**17. Working capital**

Taking into account the Net Proceeds, the Company is of the opinion that the Group has sufficient working capital for its present requirements, that is for at least 12 months following the date of this document.

**18. No significant change**

There have been no significant changes in the financial or trading position of the Group since 31 December 2018, being the end of the last financial period of the Company for which audited historical information is incorporated by reference into this document.

**19. Litigation**

There are no governmental, legal or arbitral proceedings (including any such proceedings which are pending or threatened and of which the Company is aware) which may have, or have had during the 12 months prior to the date of this document, a significant effect on the Company and/or the Group's financial position or profitability.

**20. Related Party Transactions**

Save for the related party transactions set out in the audited consolidated financial statements of the Company, there are no related party transactions that were entered into by the Group during the financial years ended 30 June 2018, 30 June 2017 and 30 June 2016 and up to and including the date of this document.

**21. Consents**

MSA Group (in its capacity as competent person) has given and not withdrawn its written consent to the inclusion in this document of the Competent Person's Report in the form and context in which it is included, and has authorised the contents of such parts of this Prospectus as comprise the Competent Person's

Report for the purposes of Rule 5.5.3R(2)(f) of the Prospectus Rules.

**22. Miscellaneous**

- (a) The total costs (including fees and commissions, but exclusive of VAT) payable by the Company in connection with the Placing and Admission are estimated to be US\$340,610 (approximately £270,325).
- (b) The Company confirms that all third party information contained in this document has been accurately reproduced and, so far as the Company is aware and is able to ascertain from information published by that third party, no facts have been omitted that would render the reproduced information inaccurate or misleading. Where third party information has been used in this document, the source of such information has also been identified.

**23. Documents available for inspection**

Copies of the following documents will be available for inspection during normal business hours on any Business Day at the offices of Memery Crystal LLP, 165 Fleet Street, EC4A 2DY, London, United Kingdom, for the period of 12 months following Admission:

- (i) this document;
- (ii) the Memorandum and Articles of Incorporation of the Company;
- (iii) the audited consolidated financial statements of the Group in respect of the three financial years ended 30 June 2018, 30 June 2017 and 30 June 2016, together with the related audit reports from the independent auditor;
- (iv) the unaudited interim results of the Group for the six months ended 31 December 2018;
- (v) the unaudited interim results of the Group for the six months ended 31 December 2017;
- (vi) the Competent Person's Report, as set out in Part 17 of this document; and
- (vii) the letters confirming the consents referred to in paragraph 21 "Consents" of this Part 14.

Dated: 15 July 2019

## PART 15 - DEFINITIONS

|                                    |   |
|------------------------------------|---|
| 2006 Act                           | the Companies Act 2006  |
| 2013 Mining Code                   | the Mining Code of Burundi (or "Code minier du Burundi") (Law No 1/21), which was enacted 15 October 2013   |
| Admission                          | the admission of all of the New Ordinary Shares to the standard segment of the Official List and to trading on the Main Market  |
| Arden Partners                     | Arden Partners plc, broker to the Company for the purposes of the Placing   |
| Articles                           | the articles of incorporation of the Company, further details of which are set out in paragraph 6 of Part 14 of this document, "Additional Information"   |
| Audit Committee                    | the audit committee of the Board, the terms of which are set out in Part 9 of this document, "Directors, Senior Management and Corporate Governance"  |
| Board                              | the directors of the Company from time to time  |
| Business Day                       | a day (other than a Saturday or a Sunday) on which banks are open for business in London and Guernsey   |
| CESR                               | the Committee of European Securities Regulators   |
| Code                               | the UK Corporate Governance Code published by the Financial Reporting Council   |
| Company or Rainbow                 | Rainbow Rare Earths Limited   |
| Companies Law                      | the Companies (Guernsey) Law 2008 (as amended)  |
| Competent Person's Report or CPR   | the report prepared by MSA Group contained in Part 17 of this document, prepared in compliance with the JORC Code, the Prospectus Rules and CESR  |
| Conversion Shares                  | the 18,363,040 new Ordinary Shares to be issued upon conversion of the Pella Ventures Loan  |
| Corporate Options                  | the 16,718,987 share options granted to The Australian Special Opportunity Fund, LP, an entity managed by Lind, exercisable at a price of £0.0528, at any time prior to 23 January 2023   |
| CREST                              | the computerised settlement system (as defined in the Guernsey Regulations) in respect of which Euroclear UK & Ireland is the operator (as defined in the Guernsey Regulations)   |
| CREST Manual                       | the rules governing the operation of CREST, consisting of the CREST Reference Manual, CREST Rules, Registrars Service Standards, Settlement Discipline Rules, CCSS Operations Manual, Daily Timetable, CREST Application Procedures and CREST Glossary of Terms promulgated by Euroclear on 15 July 1996 (and as amended since) |
| Common Reporting Standard or CRS   | the global standard for the automatic exchange of financial information between tax authorities developed by the Organisation for Economic Co-operation and Development   |
| Directors                          | the directors of the Company as at the date of this document, whose names are set out on page 29 of this Prospectus   |
| Distribution and Offtake Agreement | the agreement dated 1 December 2014 between Rainbow Mining and tk Materials Trading, further details of which are set out in paragraph 15 (b) of Part 14 of this document, "Additional Information"   |
| DP Legislation                     | the laws which govern the handling of personal data, including but  |

|                                     |  |
|-------------------------------------|--|
|                                     | not limited to, the Data Protection (Bailiwick of Guernsey) Law, 2017 and any other legislation in Guernsey concerning data protection, the General Data Protection Regulation (EU) 2016/ 679 and any other applicable laws implementing that regulation or related to data protection   |
| DTR                                 | the Disclosure Guidance and Transparency Rules published by the FCA, as amended from time to time  |
| EEA                                 | European Economic Area   |
| EMI Options                         | enterprise management incentive share options which qualify for favourable tax treatment under the provisions of Schedule 5 to ITEPA   |
| ESMA                                | the European Securities and Markets Authority  |
| Euroclear UK & Ireland or Euroclear | Euroclear UK & Ireland Limited, the operator of CREST  |
| Existing Ordinary Shares            | the 216,339,000 ordinary shares in the capital of the Company in issue as at the date of this document   |
| Extraordinary General Meeting       | the extraordinary general meeting of the shareholders of the Company, to be held on 22 July 2019, at which a special resolution is being proposed to authorise the Directors to allot and issue the Placing Shares (as well as the other New Ordinary Shares)  |
| EU                                  | the European Union   |
| FATCA                               | Sections 1471 to 1474 of the the US Internal Revenue Code of 1986, as amended ("US Tax Code"), known as the US Foreign Account Tax Compliance Act (together with any regulations, rules and other guidance implementing such US Tax Code sections and any applicable IGA or information exchange agreement and related statutes, regulations, rules and other guidance thereunder) |
| FCA                                 | the Financial Conduct Authority  |
| Finbank                             | Finbank Burundi  |
| FSMA                                | the Financial Services and Markets Act 2000 (as amended)   |
| Gakara Project or Gakara            | a rare earths deposit located in the Republic of Burundi, approximately 20km south-southeast of the capital Bujumbura further details of which are set out in Part 7 of this document  |
| Guernsey Regulations                | the Uncertificated Securities (Guernsey) Regulations 2009 (as amended from time to time)   |
| Group                               | the Company and its Subsidiaries as at the date of this document   |
| HMRC                                | HM Revenue and Customs   |
| IFRS                                | the International Financial Reporting Standards as adopted by the European Commission for use in the European Union  |
| IGA                                 | intergovernmental agreement  |
| IPO                                 | the Company's admission to the Official List and to trading on the Main Market and associated fundraising of approximately £6.5 million by way of placing of new Ordinary Shares in January 2017   |
| ITEPA                               | the Income Tax (Earnings and Pensions) Act 2003  |
| Joint Brokers                       | Arden Partners and Turner Pope Investments Limited, as brokers to the Company for the purposes of the Placing  |
| JORC Code                           | the 2012 edition of the Australasian Joint Ore Reserves Committee Code   |
| Last Practicable Date               | the last practicable date prior to the publication of this document, being 12 July 2019 (unless otherwise stated)  |

|                              |   |
|------------------------------|---|
| Lind                         | Lind Partners LLC, investing through the Australian Special Opportunity Fund LP   |
| Lind Facility                | the funding agreement between the Company and Lind comprising an unsecured convertible security amount of US\$750,000 and a 24 month equity facility of up to US\$7 million   |
| Lind Facility Shares         | the 17,843,891 new Ordinary Shares to be issued to Lind pursuant to the conversion of the outstanding convertible security amount under the Lind Facility;  |
| Listing Rules                | the Listing Rules published by the FCA, as amended from time to time  |
| London Stock Exchange or LSE | London Stock Exchange Plc   |
| Main Market                  | the Main Market of the LSE  |
| Majority Shareholder         | Pella Ventures, together with its associated companies Agulhas Nominee (PTY) Ltd and Artemis Nominees Limited   |
| MAR                          | the EU Market Abuse Regulation (596/2014)   |
| MEA                          | Burundi Ministry of Environmental Affairs   |
| Member State                 | a member of the EEA   |
| Mining Licence               | the mining licence (or Permis d'Exploitation) held by Rainbow Mining, further details of which are set out in paragraph 15(a) of Part 14 of this document, "Additional Information"   |
| MSA Group                    | MSA Group Pty Limited, the author of the CPR  |
| Net Proceeds                 | the aggregate sum of US\$4.2 million (approximately £3.3 million), being the proceeds of the Placing, less the expenses of the Placing  |
| New Ordinary Shares          | together the Placing Shares, the Conversion Shares, the Lind Facility Shares, the 4,859,603 new Ordinary Shares issued to certain directors/management in lieu of fees and bonus amounts and 428,571 new Ordinary Shares to Align Research in lieu of payment of invoices which remain outstanding as at 30 June 2019 (being an aggregate of 163,975,884 new Ordinary Shares) |
| Nomination Committee         | the nomination committee of the Board the terms of which are set out in Part 9 of this document, "Directors, Senior Management and Corporate Governance"  |
| Non-Qualifying Options       | options issued under the Share Option Plan which do not qualify for favourable tax treatment under the provisions of Schedule 5 to ITEPA  |
| Official List                | the official list of the FCA  |
| Options                      | EMI Options and Non-Qualifying Options  |
| Ordinary Shares              | an ordinary share of no par value in the capital of the Company being, prior to Admission, the Existing Ordinary Shares and, following Admission, the New Ordinary Shares   |
| Pella Ventures               | Pella Ventures Limited  |
| Pella Ventures Loan          | the loan of US\$700,000 advanced to the Group pursuant to a loan agreement, further details of which are set out in paragraph 15(e) of Part 14 of this document, "Additional Information"   |
| Placing                      | the placing and subscription undertaken by the Joint Brokers on behalf of the Company of the Placing Shares pursuant to the Placing Agreement   |
| Placing Agreement            | the conditional agreement between the Company and the Joint Brokers dated 3 July 2019, further details of which are set out in paragraph 15(f) of Part 14 of this document, "Additional Information"  |

|                              |  |
|------------------------------|--|
| Placing Price                | 3 pence per Placing Share  |
| Placing Shares               | the 121,2017,778 new Ordinary Shares to be issued pursuant to the Placing  |
| Prospectus                   | this document  |
| Prospectus Rules             | the prospectus rules published by the FCA under Part VI of the FSMA  |
| Rainbow Burundi              | Rainbow Burundi SPRL the 97 per cent. owned subsidiary of Rainbow International, incorporated in Burundi with company number 78768   |
| Rainbow International        | Rainbow International Resources Limited the Company's wholly owned subsidiary, incorporated in the British Virgin Islands with British Virgin Islands company number 1605765   |
| Rainbow Mining or RMB        | Rainbow Mining Burundi SM the 90 per cent. owned subsidiary of Rainbow International, incorporated in Burundi with company number 04992  |
| Register                     | the register of Shareholders   |
| Registrar                    | Computershare Investor Services (Guernsey) Limited   |
| Remuneration Committee       | the remuneration committee of the Board the terms of which are set out in Part 9 of this document, "Directors, Senior Management and Corporate Governance"   |
| Securities Act               | the United States Securities Act of 1933 (as amended)  |
| Share Option Plan            | the share option plan adopted by the Company on 25 January 2017 which allows for the grant of EMI Options and Non-Qualifying Options, further details of which are set out in paragraph 13 of Part 14 of this document, "Additional Information" |
| Shareholders                 | holders of Ordinary Shares, from time to time  |
| Standard Listing             | a listing on the standard segment of the Official List   |
| Subsidiary                   | as defined under section 531 of the Companies Law but excluding the provisions of sections 531(6) and (7) thereof so that overseas companies shall be included   |
| Takeover Code                | the UK City Code on Takeovers and Mergers  |
| Takeover Panel               | the Panel on Takeovers and Mergers   |
| tk Materials Trading         | thyssenkrupp Materials Trading GmbH  |
| UK or the United Kingdom     | the United Kingdom of Great Britain and Northern Ireland   |
| UK Listing Authority or UKLA | the FCA acting in its capacity as the competent authority for the purposes of Part VI of the FSMA and in the exercise of its functions in respect of admission to the Official List  |
| US or United States          | the United States of America, its territories and possession, any state of the United States of America and the District of Columbia   |
| VAT                          | value added tax  |
| Working Capital Period       | the period of 12 months from the date of this document   |

## PART 16 - GLOSSARY OF TECHNICAL TERMS

|                    |  |
|--------------------|--|
| Bastnaesite        | the mineral bastnaesite (or bastnasite) is one of a family of three carbonate- fluoride minerals, which includes bastnaesite -(Ce) with a formula of $(Ce, La)CO_3F$ , bastnaesite -(La) with a formula of $(La, Ce)CO_3F$ , and bastnaesite - (Y) with a formula of $(Y, Ce)CO_3F$ . Most bastnaesite is bastnaesite -(Ce), and cerium is by far the most common of the rare earths in this class of minerals. Bastnaesite and tmonazite are the two largest sources of cerium and other rare earth elements. |
| Exploration Target | a statement or estimate of the exploration potential of a mineral deposit in a defined geological setting where the statement or estimate, quoted as a range of tonnes and a range of grade, relates to mineralisation for which there has been insufficient exploration to estimate a Mineral Resource  |
| Mineral Resource   | a concentration or occurrence of solid material of economic interest in or on the Earth's crust in such form, grade (or quality), and quantity that there are reasonable prospects for eventual economic extraction. The location, quantity, grade (or quality), continuity and other geological characteristics of a Mineral Resource are known, estimated or interpreted from specific geological evidence and knowledge, including sampling.  |
| Monazite           | a reddish-brown phosphate mineral containing rare earth metals. There are at least four different kinds of monazite depending on relative elemental composition of the mineral. <ul style="list-style-type: none"><li>• monazite-Ce <math>(Ce, La, Pr, Nd, Th, Y)PO_4</math></li><li>• monazite-La <math>(La, Ce, Nd, Pr)PO_4</math></li><li>• monazite-Nd <math>(Nd, La, Ce, Pr) PO_4</math></li><li>• monazite-Sm <math>(Sm, Gd, Ce, Th) PO_4</math></li></ul>   |
| Ore Reserve        | the economically mineable part of a Measured and/or Indicated Mineral Resource. It includes diluting materials and allowances for losses, which may occur when the material is mined or extracted and is defined by studies at Pre- Feasibility or Feasibility level as appropriate that include application of Modifying Factors. Such studies demonstrate that, at the time of reporting, extraction could reasonably be justified.  |
| REEs               | rare earth elements  |
| REMs               | rare earth metals  |
| REOs               | rare earth oxides  |
| ROM                | run of mine  |
| TREO               | total rare earth oxides  |
| Vein               | distinct sheet-like body of crystallized minerals within a rock. Veins form when mineral constituents carried by an aqueous solution within the rock mass are deposited through precipitation. The hydraulic flow involved is usually due to hydrothermal circulation.   |

**PART 17 --COMPETENT PERSON'S REPORT**

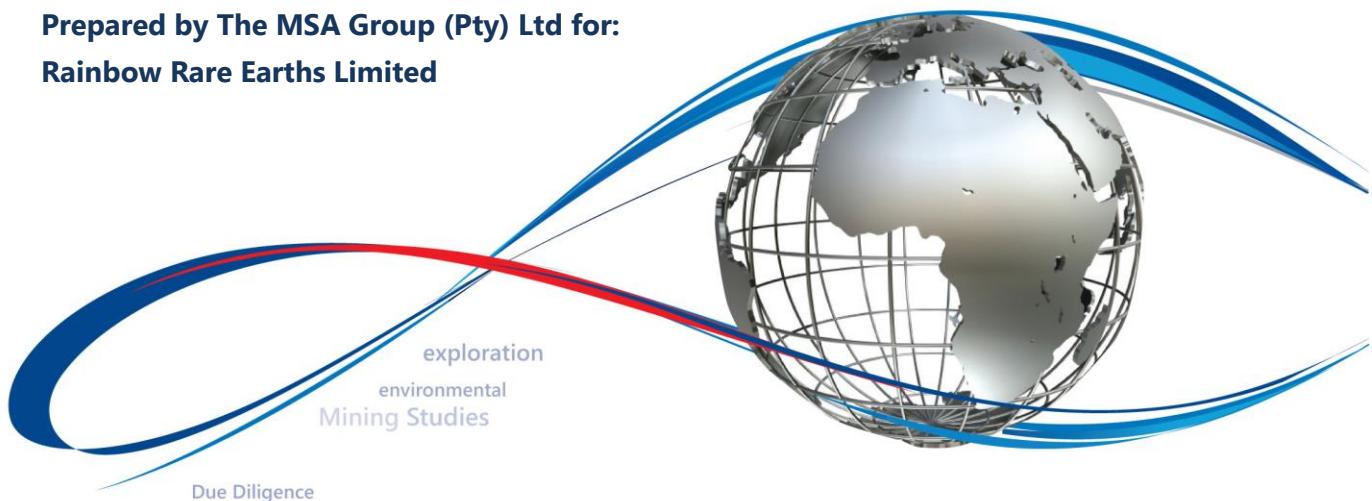
Specialist Consultants to the Mining Industry

**Rainbow Rare Earths Limited  
Gakara REE Project  
Burundi**

**Technical Report on the Gakara REE Project**

**Prepared by The MSA Group (Pty) Ltd for:  
Rainbow Rare Earths Limited**

Mineral Resources  
reporting  
ISO 9001



**Prepared By:**

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Mr Jonathan Hudson Pr.Sci.Nat., FSAIMM

**Effective Date:** 04 June 2019

**Report Date:** 04 June 2019

**MSA Project No.:** J4048

#### **IMPORTANT NOTICE**

*This report was prepared as a JORC Technical Report for Rainbow Rare Earths Limited ("Rainbow") by The MSA Group (Pty) Ltd ("MSA"), South Africa. The quality of information, conclusions and estimates contained herein is consistent with the level of effort involved in MSA's services, based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This report is intended for use by Rainbow subject to the terms and conditions of its contract with MSA. Except for the purposes legislated under the United Kingdom Listing Authority in connection with the requirements of the London Stock Exchange, any other uses of this Report by any third party are at that party's sole risk.*



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## 1 SUMMARY

### 1.1 Introduction

The MSA Group (Pty) Ltd ("MSA") was commissioned by Rainbow Rare Earths Limited ("Rainbow" or the "Company") to compile a Competent Person's Technical Report (the "Report" or "CPR") in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code" or the "Code"), 2012 Edition.

Rainbow is presently mining a Rare Earth Element ("REE") deposit, the so-called Gakara REE Project (the "Project"), which is located in western Burundi and comprises a Mining License ("ML"), referred to as the "Property". An Exploration License ("EL") expired in July 2018 and is no longer part of the Company's Property.

The REE mineralisation is hosted in a system of narrow veins consisting predominantly of the mineral bastnaesite with secondary monazite. These veins have been mined intermittently in the last century at several localities within the Project area.

This Report presents data and results of all exploration work and includes information on Rainbow's mining and processing activities conducted since the end of 2016 to November 2018. The Report also incorporates relevant information from the previous CPR (the "2016 CPR") compiled by MSA in October 2016.

The Project is considered an Exploration Target, as defined in the JORC Code. Substantial historical and present mining activities and considerable exploration work have been undertaken by Rainbow.

All three authors of this Report have visited the Project and their findings, conclusions, recommendations, risks and opportunities are presented in the respective Sections.

All monetary figures expressed in this report are in United States of America dollars (US\$), unless otherwise stated, and the metric system is used for all weight, height and distance measurements. A glossary of technical terms and abbreviations is included as Appendix 1.

### 1.2 Material Changes since the 2016 CPR

The previous CPR compiled by MSA was the "JORC Competent Person's Report for the Gakara REE Project, Burundi" with an effective date of 30 September 2016. Such report was requested by Rainbow for a prospectus for the listing on the London Stock Exchange which took place in January 2017.

Since then a considerable amount of work including greenfields and brownfields exploration, mining, processing and production has been carried out, or was commissioned by Rainbow. Such works have produced a significant amount of new technical information and data that have materially changed the knowledge of the geology of the deposit and of the REE mineralisation.

These material changes since the 2016 CPR are presented in Table 1-1.

**Table 1-1**  
**Summary of material changes derived from Rainbow's work since 2016**

| Work Stream               | Key Activities  | 2016 CPR  | 2019 CPR (Material Changes)  |
|---------------------------|---|---|--|
| Geology                   | PhD thesis (in preparation) on the genesis of the Gakara REE mineralisation, including petrography, structural study, fluid inclusions study, geochronology                           | Carbonatitic source postulated; Review of historical data                                       | Carbonatitic source confirmed; New metallogenic model in preparation   |
| Greenfields Exploration   | Rock sampling of new REE occurrences; Airborne geophysical survey   | 798 REE occurrences reported; No airborne geophysical data                                      | 1,191 REE occurrences recorded; Large magnetic intrusion mapped with response akin of known large carbonatite complexes  |
| Brownfields Exploration   | Drilling of the Kiyenzi target; Trenching and channel sampling at Gasagwe and Murambi South; Trenching at Gomvyi site started Q4 2018; Detailed ground gravity surveys on all targets | No drilling; No trenching and channel sampling at Gasagwe, Murambi South and Gomvyi             | 1,428.5 m of core drilling completed on Kiyenzi; 2,181 channel samples collected at Gasagwe and 452 channel samples collected at Murambi South; Delineation trenching started at Gomvyi      |
| Mining                    | Mining commenced at Gasagwe site in mid-2017; Mine development commenced at Murambi site in Q3 2018   | No mining   | Gasagwe REE veins mined down to a depth of 40 m  |
| Processing and Production | Treatment plant constructed and operational since Q1 2018; Concentrate export/sale commenced in Dec 2017  | No processing plant in place; No actual production figures available; No sale figures available | Approx. 1,760 t of Gasagwe feed treated with 1,025 t of final concentrate (>58% TREO) produced to date; approx. 73 t of Murambi feed test-treated; approx. 24 t of Kiyenzi feed test-treated |
| Exploration Target        | Data gathered for 4 mine sites (Gasagwe, Murambi South, Kiyenzi and Gomvyi) in order to better quantify exploration targets. More REE vein occurrences identified.                    | Exploration target range: 20,000 t to 80,000 t of in-situ REE mineral vein material.            | Exploration target range: 27,000 t to 103,200 t of in-situ REE mineral vein material. At Kiyenzi, 50,000 to 90,000 tonnes at a grade of between 2.5% and 3.0% TREO.                          |

**Note:** TREO – total rare earth oxide

**Source:** Rainbow, 2018, modified by MSA

### 1.3 Mineral Tenure and Ownership

The Gakara REE Project comprises a Mining Licence ("ML").

Rainbow International Resources Limited ("RIR"), which is 100% held by Rainbow Rare Earths Limited ("Rainbow"), was granted its Exploration Licence ("EL") (in French "Permis de Recherche") for REE and associated minerals in the Gakara region by Presidential Decree No. 100/141 of 16 May 2011. The Decree was based on the Mineral Agreement ("Convention de Recherche Minière"), dated 9 May 2011, between the State of Burundi and RIR. The EL was valid for an initial period of three years and was renewed twice for periods of two years each time. The EL expired in July 2018.

A ML ("Permis d'Exploitation") was granted by the Burundi Ministries of Energy and Mining and Finance and Economic Development on 27 March 2015 through the execution of a "Convention Minière" (Mining Agreement) between the State of Burundi and RIR. The ML was subsequently ratified by Presidential Decree No. 100/110 on 18 April 2015. Following the granting of the ML, a new company, Rainbow Mining Burundi SM ("RMB") was created in which the State of Burundi acquired a 10% interest by Presidential Decree No. 100/194 of 16 June 2015.



The ML provides RMB (as well as Rainbow and its shareholders) with a guaranteed stability of fiscal and legal regimes which will be applicable to the mining operations over the 25-year validity period of the ML.

#### **1.4 Property Description and Location**

The Gakara REE Project is located in the Bujumbura Province in Western Burundi, approximately 20 km south-southeast of Bujumbura. The Mining Licence covers an area of approximately 39 km<sup>2</sup>.

An exploration and mining operation base camp has been established at the Gasenyi Catholic Mission in the village of Mutambu, a local administrative centre located in the north-central part of the ML. The processing plant was constructed approximately 15 km south of Bujumbura near the town of Kabezi immediately adjacent to the RN3 tar road.

Access to the Property from Bujumbura is by tarred road via the N3 in a southerly direction along the eastern coastline of Lake Tanganyika, followed by 20 km of an all-weather dirt road to the local administrative centre of Mutambu. The total distance by road from Bujumbura to Mutambu is approximately 40 km and takes about 90 minutes in a 4x4 vehicle.

The Project area is located on the eastern escarpment of the Lake Tanganyika Graben within a rugged topography with deep V-shaped valleys and a dense, well-developed erosional drainage system. The main rivers in the Project area are the Mugere and the Karonge. The Project area lies at an altitude of between 1,500 metres above mean sea level ("mamsl") and 2,000 mamsl. The Gomvyi Mountain (2,040 mamsl) forms a dominant topographic high in the region.

The Project area is intensely cultivated with subsistence plantations. Remaining areas of natural vegetation are being cleared to make way for the expanding subsistence agricultural needs and to supply local building requirements. Burundi has a large rural population with a current density of 470 inhabitants per square kilometre.

Burundi has a humid, equatorial climate influenced by the relatively high altitude of the rift system (horst and graben), with a rainy season from October to May. The dry season lasts from June to September. The average annual rainfall for Burundi is approximately 1,300 mm.

Modern facilities, goods and services are available from Bujumbura and basic food supplies are sourced locally in Mutambu. Bujumbura is served by daily commercial flights from Nairobi and Kigali (Kenya Airways and Rwandair). Cellular phone coverage is available over most parts of the Project area. The 8 megawatt Mugere River hydroelectric plant, the main power supplier to Bujumbura, is situated approximately 3 km north of Mutambu and has been identified as a potential source of electricity to the Project area, although at this stage Rainbow provides electricity to the Kabezi processing plant via its own power generators.

Rainbow exports its final concentrate product to the port of Mombasa in Kenya using the tarred network linking the various East African countries.

#### **1.5 Geology and Mineralisation**

The Project area is situated within the northeast-trending Kibaran Fold Belt ("KB") which stretches across Burundi from the eastern Democratic Republic of Congo to western Tanzania. The KB in



Burundi consists of a highly deformed sequence of Mesoproterozoic granites, granitoids and amphibolite-greenschist facies metasedimentary and metavolcanic rocks, referred to as the Burundi Supergroup.

The Gakara REE deposits are located near Lake Tanganyika, on the western branch of the East African rift system. REE mineralisation is typically related to carbonatitic and/or peralkaline magma emplacement. Such magmatic activities and associated REE mineralisation have been identified along the western branch of the East African rift, approximately 60 km northward from Gakara in the alkaline complex of the Upper-Ruvubu containing the Matongo carbonatite (Midende, 1984). This complex and the associated REE mineralisation have been dated around 600-700 Ma, i.e. during the Pan-African orogeny. Already in 1958 (Thoreau *et al.*) a tentative relationship between these REE deposits and carbonatites was suggested and has been confirmed in recent studies (Ntiharirizwa *et al.*, 2018).

Except for the Archean Mugere complex, the Gakara REE mineralisation is hosted in Mesoproterozoic rocks belonging to the Karagwe-Ankole polymetamorphic belt. The latter is composed of metasediments and orthogneisses intersected by pegmatites which have been dated at 969 Ma. The Gakara Property is mainly composed of rocks formed during the Mesoproterozoic, Kibaran orogenic event between 1,375 Ma and 985 Ma.

The Gakara REE mineralisation occurs as narrow (centimetre to decimetre) vein stockworks and consists mainly of coarse grained, locally brecciated, metasomatised bastnaesite and monazite (Lehmann, 1994). The gangue accompanying the REE mineralisation consists of quartz, biotite, barite, microcline, pyrite and galena. Supergene alteration formed a new mineralogical assemblage composed of rhabdophane, cerianite, crandallite-florencite, goethite and kaolinite (Lehmann, 1994).

New data from a PhD thesis (Ntiharirizwa, in preparation) has revealed the following critical information:

- The fluids at the origin of the Gakara deposit as well as their P-T conditions of emplacement have been established. The mineralisation took place at temperatures between 400 and 450 °C in the upper crust with pressure variations (160 to 330 MPa), under a brittle deformation regime.
- The transition from the primary mineralisation (formation of bastnaesite) to the secondary mineralisation (formation of monazite) occurred during the hydrothermal stage, whereby the major element composition of the fluid has not changed between the two stages of mineralisation.
- New geochronological ages have been determined: the bastnaesite formed at  $602 \pm 7$  Ma and the monazite formation followed at  $589 \pm 8$  Ma. Despite these two ages being almost within the margins of analytical error, it demonstrates that the secondary mineralisation (monazitic) formed very shortly after the primary mineralisation (bastnaesitic).
- The REE vein stockworks developed in a brittle regime of deformation and re-used/re-opened former heterogeneity of the gneissic and granitic host rocks. The fragmentation of the host rocks is enhanced by hydraulic fracturing, resulting in the formation of the REE bearing breccia facies (e.g. Kiyenzi).

- The composition of the fluids contained in the Gakara bastnaesites as well as the isotopic signatures indicate that the mineralisation precipitated first from a carbonatitic magma.
- The age (approximately 600 Ma) obtained for aplites from Gashirwe and Kiyenzi, suggests also that the REE mineralising event is related to an alkaline intrusion. The occurrence of white aplitic veins therefore presents a useful guide for REE exploration within the Gakara area.

## 1.6 Status of Exploration

### 1.6.1 Exploration work 2011 to 2016

The exploration programmes completed by Rainbow between 2011 and 2016 are summarised in chronological order in Table 1-2.

**Table 1-2**  
**Summary of exploration work on Gakara EL completed between 2011 and 2013**

| Activity                             | Details  |
|--------------------------------------|--|
| Pitting and trenching                | 85 pits (75 in Gasagwe and 10 in Kiyenzi area); 34 trenches in eight target areas                      |
| Geological mapping                   | 3,418 observations points including 813 REE occurrences of which 520 are <i>in situ</i> veins/veinlets |
| Rock grab sampling                   | 632 sites sampled and analysed by Niton; 150 samples analysed by ALS Chemex, South Africa              |
| Soil sampling (orientation survey)   | 591 samples from three blocks (500 m by 500 m); all analysed by Niton and at ALS Chemex, South Africa  |
| Ground Gravity (orientation survey)  | 3.6 line kilometres on seven sites   |
| Ground Magnetic (orientation survey) | 10 line kilometres on seven sites  |
| Detailed soil geochemical sampling   | 2,906 samples from 4 geophysical grids; all analysed by Niton only                                     |

**Source:** MSA, 2016

Rainbow's exploration programme in 2011 started with a pitting and trenching programme in an attempt to validate historically reported REE vein occurrences. However, this prospecting approach was discontinued because of its inefficiency.

Geological mapping traverses were conducted along existing tracks, foot paths and river incisions due to general paucity of outcrop, and the hilly nature and intense agricultural usage of the Project area. Approximately 3,400 individual observation points with geological information were recorded, including the discovery of close to 800 REE vein or vein float occurrences. The emplacement of veins appears to be controlled by a regional structure pattern, with the REE veins observed intruding all lithologies except the Archaean basement inlier in the western part of the Project area.

Geophysical orientation work included ground gravity and magnetic surveys. The former method is considered an effective but time consuming technique to delineate the approximate position of REE veins, whilst ground magnetics appears to be a useful tool to assess structural and lithological features.



The results of a detailed soil sampling programme over selected areas with known REE occurrences, showed relatively broad and diffuse anomalies with a wide range of anomalous REE concentrations. Although this technique is very effective in confirming the occurrence of REE veins or float in a targeted area, it fails to locate the narrow veins with the precision required to follow up with a single pit or short trench.

The main objective of the geological mapping was to locate in-situ REE veins and float material. By April 2013 a total of 798 occurrences of bastnaesite/monazite in-situ veins and float had been identified in the Project area.

No further exploration fieldwork was undertaken by Rainbow between the end of April 2013 and 2016, except the collection of a 125 kg sample of REE vein material for mineralogical and metallurgical test work and detailed mapping at Gasagwe and Gashirwe West. These two localities are within the ML and were subject of conceptual mining studies in 2016 and a trial bench mining exercise conducted by Rainbow in 2015.

Trial benching and trenching was conducted as an exploration activity to establish the continuity of mineralised veins. The exercise confirmed the strike and down-dip continuity of the veins on a local scale.

### **1.6.2 Exploration work 2016 to 2018**

The following greenfields exploration programmes were carried out in the EL by Rainbow between 2016 and July 2018, when the validity of the EL expired, with the following programmes:

- Regional geological mapping with consequent locating and sampling of new REE occurrences
- A high-resolution airborne geophysical survey comprising magnetics and radiometrics

Brownfields exploration was undertaken on three sites identified for their potential to be "promoted" to trial mining. They are: Kiyenzi, Murambi South and Gomvyi Centre. On these deposits intensive exploration programmes were completed and included:

- Drilling at Kiyenzi
- Trenching and associated channel sampling at Murambi South and Kiyenzi
- Trenching and rock chip sampling at Gomvyi Centre
- Detailed ground gravity surveys at Kiyenzi, Murambi South and Gomvyi Centre

The objectives of the brownfields exploration work were twofold: a) to provide data for more accurate estimates of tonnage and grade and b) to identify additional mineralisation for the mining operation.

Additionally, a detailed channel sampling programme was completed at the Gasagwe mine, as REE veins were exposed during mining, in order to establish the most robust and accurate geological model for the vein stockwork. Such model provides some guidance of continuity of the veins that could be applied to other deposits of similar type within Rainbow's ML.

## 1.7 Drilling

Diamond drilling ("DD") was carried out by Rainbow between February and September 2018. This was the first drilling programme ever undertaken on the Project. The programme was divided into two phases aimed at achieving the following objectives:

- At the Gasagwe Mine: to test the possibility of using drilling as a method for establishing continuation of known REE veins at depth
- To investigate the cause of the magnetic and radiometric anomalies identified from the airborne geophysical survey
- To establish the source of a ground gravity anomaly at the Kiyenzi target
- To provide data for a three dimensional geology and grade model at Kiyenzi. This objective was the exclusive focus of the second phase of the drilling campaign

A total of 38 diamond holes with a combined metreage of 2,115.50 m were drilled over six sites. The key information about these drill holes is summarised in Table 1-3.

**Table 1-3**  
**Summary of Diamond Drill information**

| Drill Purpose   | No. of Targets Drilled | No. of Holes Drilled | Total Metres Drilled |
|---|------------------------|----------------------|----------------------|
| Gasagwe: establishing depth continuation of REE veins | 1                      | 3                    | 150.0                |
| Airborne magnetic targets testing                     | 4                      | 4                    | 437.0                |
| Airborne radiometric targets testing                  | 2                      | 2                    | 100.0                |
| Kiyenzi: drilling of ground gravity anomaly           | 1                      | 6                    | 464.6                |
| Kiyenzi: delineating potential tonnage and grade.     | 1                      | 24                   | 963.9                |
| <b>TOTAL</b>  | <b>9</b>               | <b>39</b>            | <b>2,115.5</b>       |

**Source:** Rainbow, 2018

A total of 1,428.5 m were drilled on the Kiyenzi target from 30 DD holes. The DD holes were drilled on a variable grid spacing of between 15 m and 33 m depending on practicalities of drill pad construction on the steep slope. Except for three holes drilled vertically in the initial stage of the campaign, the remaining 27 holes were drilled inclined at either 50° or 60°, depending on the angle of the hill slope. The inclined holes were drilled in 4 directions: NW, SE, NE and SW.

The core drilling of the Kiyenzi target has revealed a new type of REE mineralisation for Gakara, characterised by relatively large tonnage but lower REE grades compared with the narrow veins found at other targets. The REE mineralisation of the Kiyenzi body comprises a combination of:

- Brecciated units, which tend to be large in volume but with extremely variable grades; and
- Thin high-grade veins (mm to cm) which have extensively invaded the host rocks (gneiss and aplite).

## 1.8 Exploration Target

Resulting from further regional mapping mainly during 2017, the REE occurrence database has increased from approximately 800 records in 2016 (MSA, 2016) to approximately 1,200 records. Of these 1,200 occurrences, approximately 840 are in-situ veins, which represents an increase of 320

records from the 520 data points used in 2016 in calculating the range of potential tonnage of REE mineralisation.

The same methodology and criteria were used in this CPR to calculate a new range in tonnage based on the increased number of vein occurrences.

A revised tonnage range of 16,550 t to 64,000 t of in-situ TREO is estimated for the Property, which MSA considers to represent an Exploration Target as shown in Table 1-4. Excluding Kiyenzi, this equates to between 27,000 and 103,200 tonnes of vein material compared with 20,000 t to 80,000 t reported in the 2016 CPR compiled by MSA. This is primarily the result of the discovery of addition REE vein occurrences on the Property.

**Table 1-4**  
**Gakara Exploration Target as at February 28, 2019**

| Area          | Tonnes (t) |        | TREO Grade (%) |       | TREO Tonnes (t) |               |
|---------------|------------|--------|----------------|-------|-----------------|---------------|
|               | Lower      | Upper  | Lower          | Upper | Lower           | Upper         |
| Gasagwe       | 1,400      | 2,600  | 58.9           | 58.9  | 800             | 1,500         |
| Murambi Sth   | 1,500      | 2,400  | 57.2           | 57.2  | 900             | 1,400         |
| Gomvyi Centre | 1,100      | 4,200  | 56.9           | 56.9  | 600             | 2,400         |
| Kiyenzi       | 50,000     | 90,000 | 2.5            | 3.0   | 1,250           | 2,700         |
| Other         | 23,000     | 94,000 | 55.0           | 60.0  | 13,000          | 56,000        |
| <b>Total</b>  |            |        |                |       | <b>16,550</b>   | <b>64,000</b> |

It should be noted that the potential quantity and grade of the Exploration Target is conceptual in nature, there being insufficient exploration to estimate a Mineral Resource and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.

The Exploration Target was estimated as a range as required by the JORC Code (2012). The Exploration Target is based on data of varying quantity and quality, although is based largely on actual Exploration Results.

With brownfields exploration being carried out on an ongoing basis by Rainbow's geology team, it should be noted that the tonnage range could change materially. However, the focus of Rainbow's exploration programmes is now towards evaluating individual Exploration Targets to ensure the medium to long term life of mine.

## 1.9 Mineral Processing and Metallurgy

Rainbow's processing plant was commissioned in the first quarter of 2018 and has been in production mode since then. The plant has been treating mostly vein material produced from the Gasagwe mine (2,027 t of Run of Mine (ROM)) as well as 257 t ROM from Murambi South. Since December 2017, the plant has consistently managed to generate a high grade REE concentrate, grading on average 58.2% TREO.

The plant was constructed at a site near the town of Kabezi, some 15 km south of Bujumbura, sandwiched between Lake Tanganyika to the west and the N3 road to the east. The location near the capital city and the national road offers many, obvious logistics advantages to the operation.



The plant, which has a capacity to treat five tonnes per hour, produces a concentrate by separating gangue material from the denser REE minerals using one jig and two shaking tables.

The Rainbow plant has also been used to carry out performance tests on REE enriched vein material from future mining sites, namely Murambi South and Kiyenzi.

## **1.10 Mining**

Rainbow has been mining the Gakara REE deposit since mid-2017. During this period, Rainbow has constructed the actual mine at the Gasagwe site (with the acquisition and renting of all the earthmoving equipment, building of required infrastructure support, construction and management of waste dumps, and compensation of local inhabitants for expropriation).

Whereas the mining of the first site, Gasagwe, has had to face technical aspects (namely geological variations of the veins and mining method challenges), which were not fully appreciated before the operation started last year, Rainbow has proved its capability in mining such a complex deposit. The learnings are being applied to the mining of future sites with the commencement of Murambi South.

The mining production plan envisages continuous access to a minimum of four separate open pit mine sites to ensure continuous production feed to the plant. The capital purchase for additional mining equipment has been factored into the production plan to cater for the increase in production.

In order for Rainbow to ensure that a steady state annual ROM production target of 7,000 tonnes of high-grade vein material is achieved sustainably, multiple mine sites will have to be developed and exploited at any one time. Such operation will strongly mitigate the risks that are associated with the complexity of the deposits and with the actual mining of thin veins. The Rainbow production plan allows for four mine sites being mined simultaneously. MSA recommends that additional mine sites are continuously being made available due to the unpredictable nature of the veins.

A key component of the future production plan is the "Other" category which constitutes all the remaining exploration targets. The ability to execute the production plan is dependent on multiple exploration sites being available for mining thereby providing production flexibility. In order to bring the "Other" category into the production plan, the Rainbow management team will need to coordinate all the technical and production resources to ensure new sites are continuously available for mining.

A key constraint to vein mining is the amount of waste removal required to access the veins. Additional mining equipment is required to be purchased and be well maintained and utilised in order to achieve the waste production target and the Rainbow production plan.

The key risk is the rainy season from (October to May) and the monthly production plan has been adjusted accordingly by Rainbow.



## 1.11 **Recommendations**

In order for Rainbow to ensure that a steady production target is achieved sustainably, multiple mine sites will have to be developed and exploited at any one time. Such operation will strongly mitigate the risks that are associated with the complexity of the deposits and of the mining of the thin veins.

Further exploration is required on the Kiyenzi target before including this in the mining plan. This deposit is unlike the normal Gakara veins as it appears to be a complex breccia pipe and has uncertain grade and geological continuity.

Rainbow should set aside a yearly budget in order to undertake a minimum brownfields exploration programme aimed at defining 5,000 t to 10,000 t of potentially mineable mineralisation every year. The brownfields exploration activities should comprise trenching/benching, ground gravity surveys and drilling.

Rainbow should continue to encourage academic studies on the Gakara deposits, with a particular focus on the structure of the deposits. The present PhD study has provided information that has proved invaluable for the understanding of the geology of the Gakara REE mineralisation.

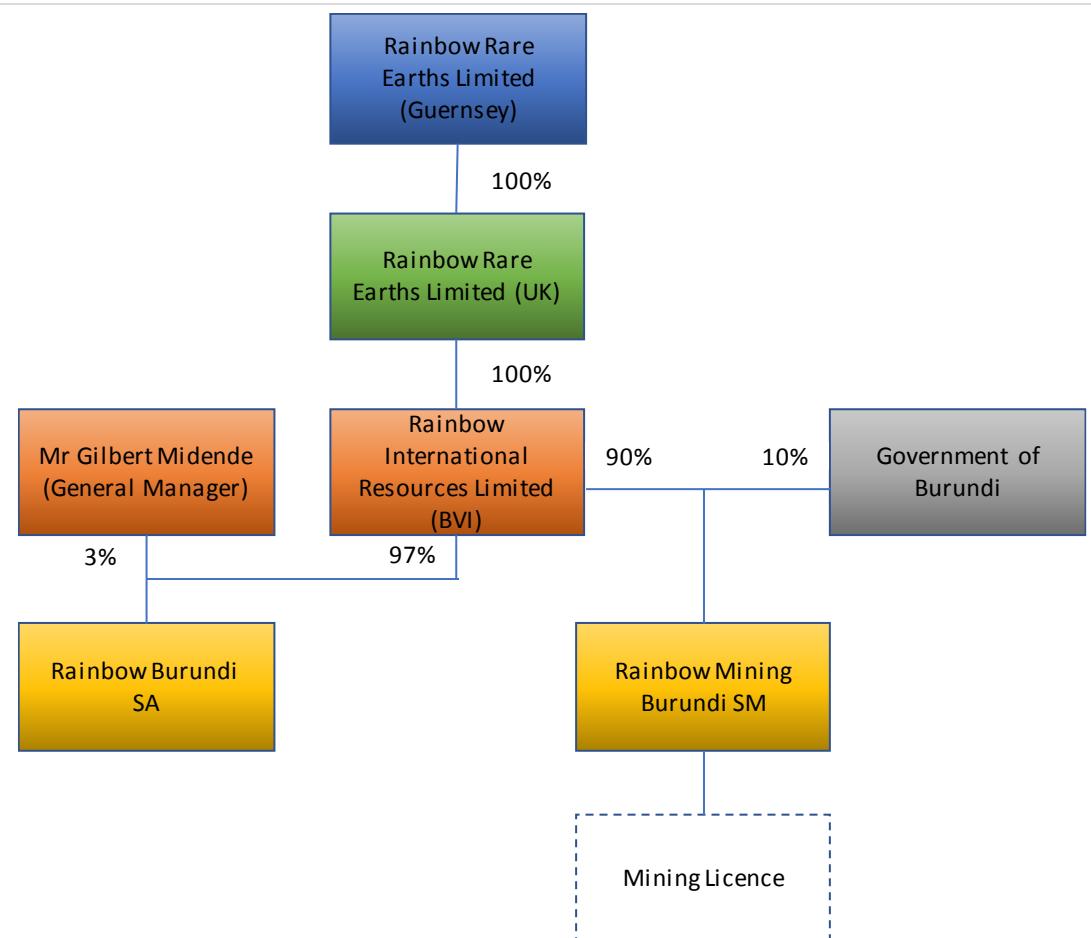
## 2 INTRODUCTION

### 2.1 Scope of Work

The MSA Group (Pty) Ltd ("MSA") was commissioned by Rainbow Rare Earths Limited ("Rainbow" or the "Company") to compile a Competent Person's Technical Report (the "Report" or "CPR") in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the "JORC Code" or the "Code"), 2012 Edition.

Rainbow is presently mining a Rare Earth Element ("REE") deposit, the so-called Gakara REE Project (the "Project"), which is located in western Burundi and comprising of a Mining License ("ML") (the "Property"). Rainbow was the holder of an Exploration Licence ("EL") which expired in July 2018 and is no longer part of the Company's Property. Rainbow is a Guernsey registered company and has a 90% interest in the ML (Figure 2-1).

**Figure 2-1**  
**Rainbow Company Structure**



**Source:** Rainbow, Modified by MSA

This Report presents data and results of the exploration work and includes information on Rainbow's mining and processing activities conducted since the end of 2016 to November 2018. In



addition, the Report incorporates relevant information from the previous CPR (the "2016 CPR") compiled by MSA in October 2016.

Apart from the mining activities, the Project is still considered an Exploration Target, as defined in the JORC Code, despite substantial historical and present mining activities and considerable exploration work undertaken by Rainbow.

All three authors of this Report have visited the Project and their findings, conclusions and recommendations are presented in the respective Sections.

## **2.2 Principal Sources of Information**

MSA has based its review of the Property on information provided by Rainbow, along with technical reports by Government agencies, previous tenement holders and other relevant published and unpublished data. A listing of the principal sources of information is included at the end of this Independent Technical Report. We have endeavoured, by making all reasonable enquiries, to confirm the authenticity and completeness of the technical data upon which the Independent Technical Report is based. A final draft of the report was also provided to Rainbow, along with a written request to identify any material errors or omissions prior to lodgement.

MSA considers that the Property has been acquired on the basis of sound technical merit. The property is also generally considered to be sufficiently prospective, subject to varying degrees of mining and exploration risk, to warrant further exploration and a full assessment of its economic potential.

The Independent Technical Report has been prepared on information available up to and including 28 February 2019.

## **2.3 Qualifications, Experience and Independence**

MSA is an exploration and resource consulting and contracting firm, which has been providing services and advice to the international mineral industry and financial institutions since 1983.

This Report has been compiled by Dr Friedrich Johannes Reichhardt, Mr Jeremy Witley and Mr Jonathon Hudson

Dr Reichhardt is a professional geologist with over 30 years' experience and has been involved in the design, execution, management and evaluation of exploration programmes and public reporting on various mineral deposit types and commodities particularly in southern, central and west Africa. He is a Principal Consulting Geologist with MSA, a Member of the German Geological Society, is registered with the South African Council for Natural Scientific Professions ("SACNASP") and is a Fellow of the Geological Society of South Africa ("GSSA"). Dr Reichhardt has the appropriate relevant qualifications, experience, competence and independence to act as a "Competent Person" as defined in the JORC Code.

The Exploration Target estimates were undertaken by Mr Jeremy Witley who is a professional geologist with 30 years' experience in base and precious metals exploration and mining as well as Mineral Resource evaluation and reporting. Mr Witley is Principal Resource Consultant for MSA, is registered with SACNASP and is a Fellow of the GSSA. Mr Witley has the appropriate relevant



qualifications, experience, competence and independence to be considered a "Competent Person" under the definitions provided in the JORC Code.

Mr Jonathan Hudson, responsible for Sections 13 and 17 of the Report, is a professional mining engineer with 30 years' experience. He is registered with the Engineering Council of South Africa ("ECSA") and is a Fellow of the South African Institute of Mining and Metallurgy ("SAIMM"). Mr Hudson is an Associate Principal Mining Engineer for MSA and has the relevant qualifications, experience, competence and independence to be considered a "Competent Person" under the definitions provided in the JORC Code.

Peer review of the report has been undertaken by Mr David Dodd, Head of Geology at MSA. Mr Dodd has over 20 years of multi-commodity exploration experience throughout Africa and the Middle East. He is registered with SACNASP and is a Member of the GSSA.

Neither MSA, nor the authors of this report, have or have had previously, any material interest in Rainbow or the mineral properties in which Rainbow has an interest. Our relationship with Rainbow is solely one of professional association between client and independent consultant. This report is prepared in return for professional fees based upon agreed commercial rates and the payment of these fees is in no way contingent on the results of this report.



### 3 RELIANCE ON OTHER EXPERTS

In preparing this document, the Qualified Persons have relied on technical input and the provision of data from Rainbow staff, particularly with regard to historical exploration activities undertaken on the licence by previous operators.

Rainbow staff consulted with respect to the geological and geophysical exploration programmes include:

- Mr Cesare Morelli has over 30 years' experience in minerals exploration in Africa including 18 years in diamond exploration with De Beers, managing projects in south, west and central Africa. Mr Morelli was appointed as Technical Director of Rainbow since the inception of the Project in 2011. He has designed and executed all the exploration works completed on the Property as well as part of the mining development operation. As Technical Director of Rainbow, Cesare remains responsible for all geological, exploration and technical programmes executed by Rainbow and has been visiting the Project nearly on a monthly basis in the past two years.
- Dr Medard Kubanza, who holds a PhD in Geophysics from the University of Tohoku, Japan. He is a geoscientist and seismic and electrical imaging specialist with expertise in minerals exploration geophysics for base metals, gold and REE. Dr Kubanza has experience with various geophysical techniques used in minerals exploration including ground and airborne magnetic and radiometric surveys, gravity, and induced polarisation. He has over ten years' experience in academic research and exploration geophysics across Africa, Japan and Canada.
- Joël Ntungwanayo, who holds a Hons. Degree in Geological and Mineralogical studies from the Free University of Brussels (Belgium) and is Chief Geologist at Rainbow. He has over 25 years' experience and has worked on a variety of exploration programmes in Burundi.
- The drilling programme on the Kiyenzi target was managed and executed by Mr Uswege Seme. Mr Seme is a Tanzanian national and has executed several REE exploration programmes for the past two years. Mr Seme has over 25 years' industry experience, most of it with De Beers in diamond exploration, and joined BHP Billiton in 2008 where he managed diamond, manganese and nickel exploration projects. Mr Seme joined Benzu Minerals (Pty) Limited ("BM") in 2010 with which he has been managing precious and base metals projects.
- Dr Gilbert Midende (Burundian) is responsible for all of Rainbow's administration and Government relations in Burundi, but he also brings to the Project a vast knowledge about REE mineralisation and deposit styles. Mr Midende obtained his Doctorate in Geological Science in 1984 at the Université Libre de Bruxelles, Belgium. His PhD thesis was on the Matongo REE carbonatite in central Burundi. He was appointed Burundi Director General of Geology and Mines in 1987 and was Minister of Mines between 1988 and 1993. From 1996 to 2001, he was Principal of the University of Burundi and Minister of Higher Education and is currently Professor in Economic Geology at the University of Burundi.
- The geological, mineralogical and petrographic sections of this Report have been largely compiled by Ms Seconde Ntiharirizwa, a Burundian student who is preparing a PhD at the Geosciences Laboratory, University of Rennes 1 in France. The title of her PhD thesis, which is partly sponsored by Rainbow and which should be completed in 2019, is the following:



"The REE mineralisation of the Gakara area (Burundi): structural controls, petrological and geochemical characterisation and metallogeny model".

- Mr Braam Jankowitz (South African) was appointed Project Manager at Rainbow Mining Burundi in early 2017. Mr Jankowitz has worked in the mining industry since 1979 and has a Masters degree in geology, which he obtained in 1986 at the University of the Orange Free State, South Africa. He has worked as a consultant in the minerals exploration industry in many countries and is experienced in the sampling and analytical techniques relevant to the Gakara REE Project.

Chemical analyses, were undertaken by the following independent accredited laboratories:

- ALS Chemex South Africa and Canada
- SGS Lakefield South Africa.

Metallurgical test work, processing and plant design were conducted by Obsideo Consulting (Pty) Limited in Irene, South Africa.

MSA has relied on a report titled: "Gasagwe and Gashirwe West Conceptual Study (Mine Plan and Schedule)", dated February 2016 and authored by Dr Steven Rupprecht, for information on the conceptual mine plan.

Environmental and Social Impact studies were carried out by Burundi based EGEE S.A.

Risk analysis data were obtained from ControlRisks, an independent global risk consultancy specialising in political, integrity and security risk.

Rainbow's Project is understood to consist of a Mining Licence covering an area of approximately 39 km<sup>2</sup> issued in terms of the Mining Code (2013) of Burundi. MSA has not independently verified, nor is it qualified to verify, the legal status of the license. The present status of the licences is based on information and copies of documents provided by Rainbow, and the Report has been prepared on the assumption that the licence will prove lawfully accessible for further exploitation and evaluation.

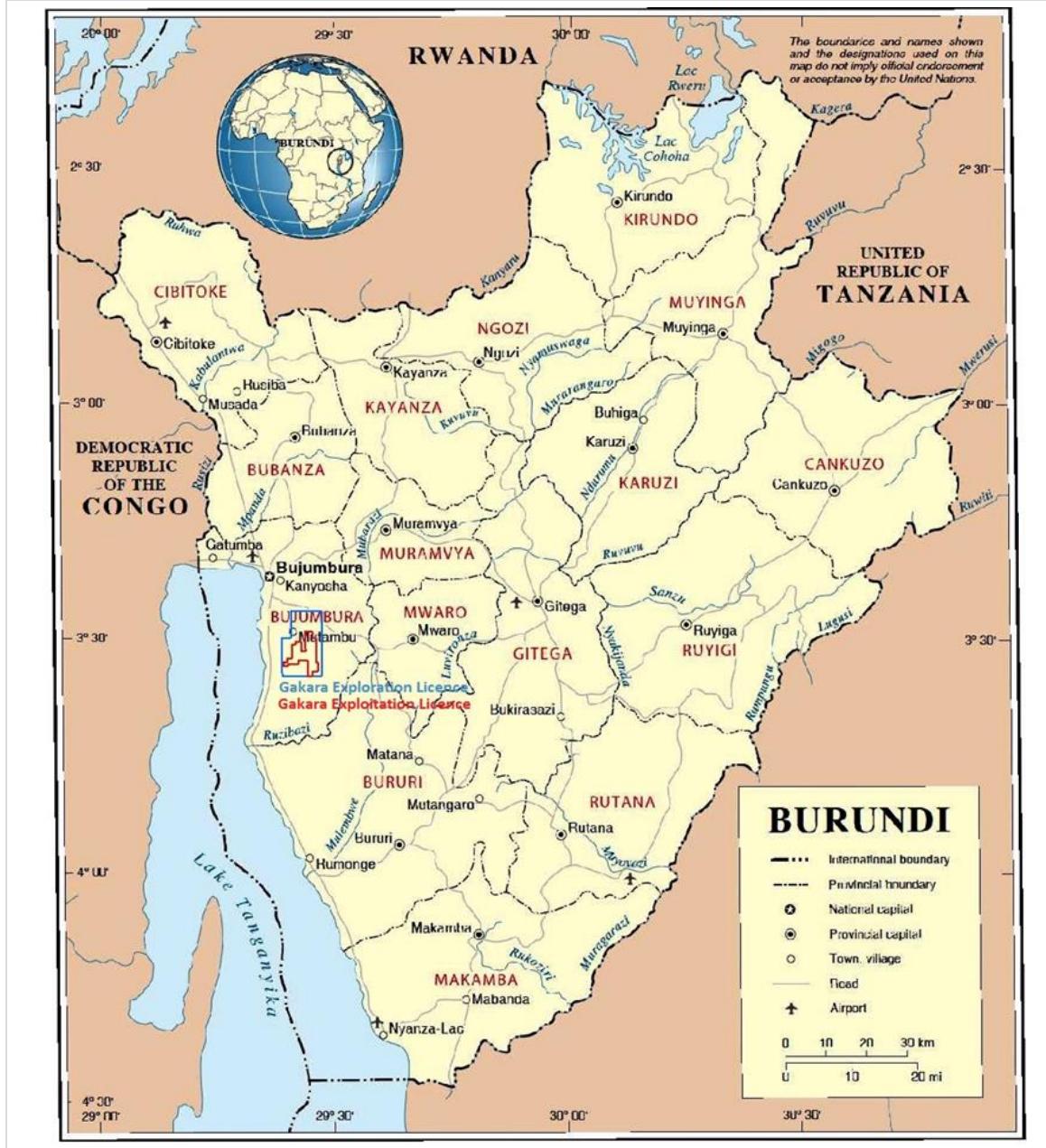
No warranty or guarantee, be it express or implied, is made by MSA with respect to the completeness or accuracy of the legal aspects of this document, or environmental issues associated with Rainbow's Property.

## 4 PROPERTY DESCRIPTION AND LOCATION

### 4.1 Location

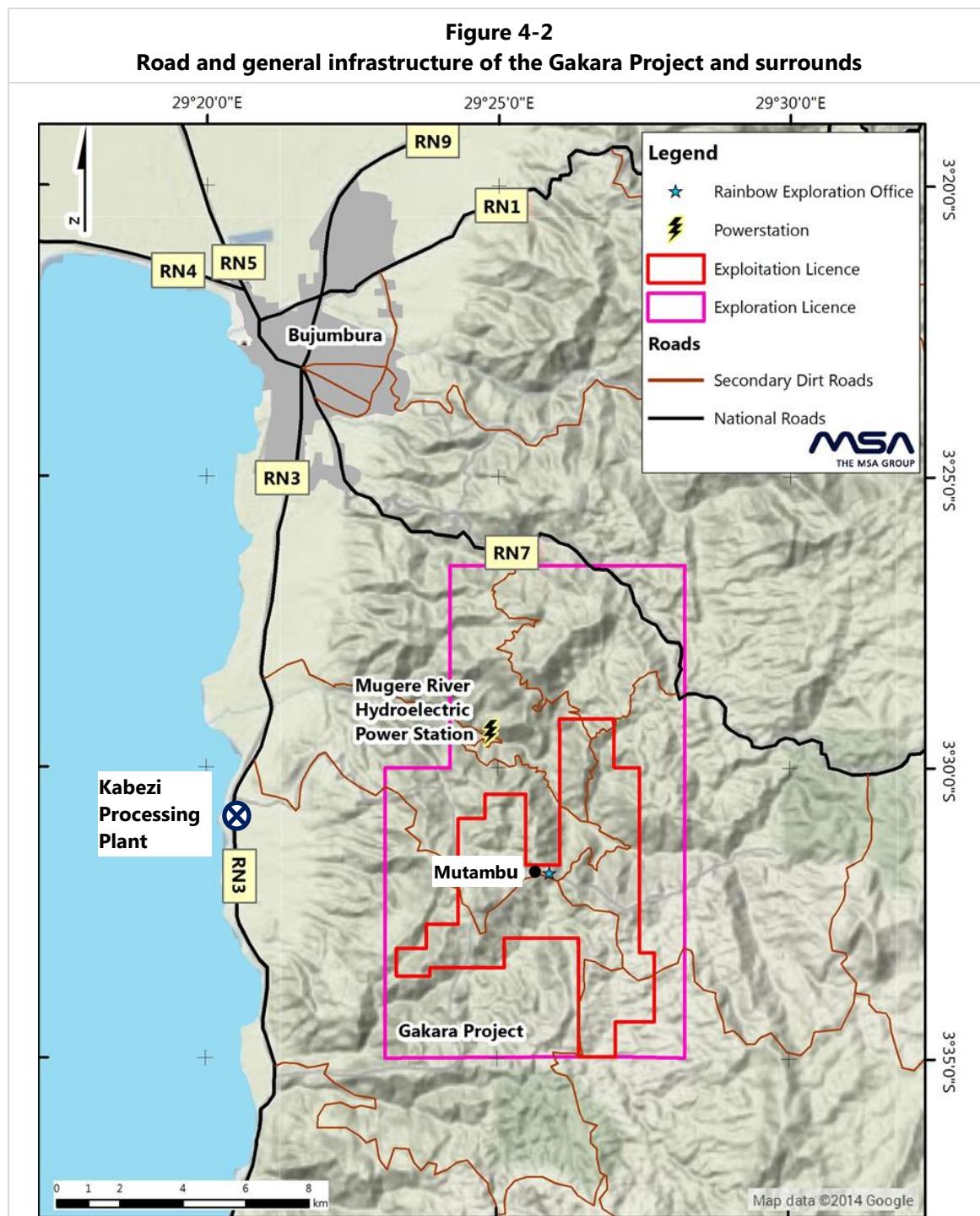
The Gakara REE Project is located in the Bujumbura Province in Western Burundi (Figure 4-1), approximately 20 km south-southeast of Bujumbura. The Project area previously covered an area of approximately 135 km<sup>2</sup>, comprising an Exploration License of 96 km<sup>2</sup> and a Mining License of 39 km<sup>2</sup>. The EL expired in July 2018 and the Project area now covers only the ML (39 km<sup>2</sup>).

**Figure 4-1**  
**Location of the Gakara Exploration (EL) and Exploitation (ML) Licenses in western Burundi**



**Source:** Modified after map from the Cartographic Section of the United Nations (2013)

An exploration and mining operation base camp has been established at the Gasenyi Catholic Mission in the village of Mutambu, a local administrative centre located in the north-central part of the ML. The processing plant was constructed 15 km south of Bujumbura, adjacent and to the west of the RN3 tar road (Figure 4-2).

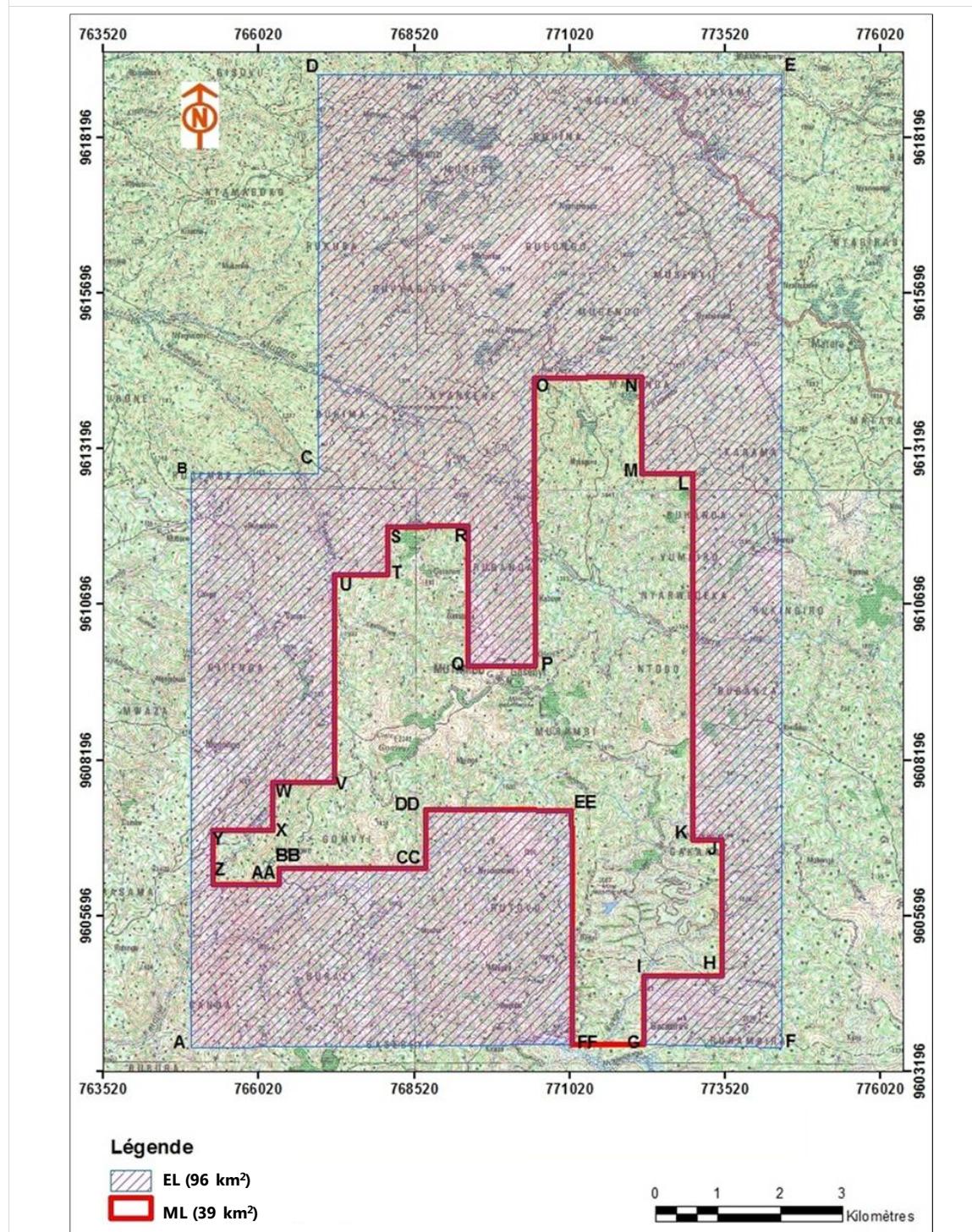


**Source:** Background map sourced from Google, 2014

## 4.2 Mineral Tenure, Permitting, Rights and Agreements

The Gakara REE Project comprises a ML. Previously, an EL was included but this has since expired. The extents of the expired EL and the current ML are shown in Figure 4-3. The corner coordinates for the ML, as reported in the Mining License issued by the Ministry of Energy and Mines are listed in Table 4-1.

**Figure 4-3**  
**Detailed map with corner points of the Gakara ML and expired EL**



**Note:** Area with blue hatching shows the Exploration License (EL); area outlined in red is the Mining License (ML)

**Table 4-1**  
**Gakara Mining Licence coordinates**

| ML<br>Date<br>Granted                          | ML<br>Expiry<br>Date | ML<br>Commodity   | WGS 1984 |           |           |    |           |           |
|--|----------------------|---|----------|-----------|-----------|----|-----------|-----------|
|  |                      |   |          | Latitude  | Longitude |    | Latitude  | Longitude |
| 27 March<br>2015,<br>ratified 18<br>April 2015 | 17 April<br>2040     | Rare Earth<br>Elements<br>and<br>Associated<br>Minerals | G        | 29°27'01" | 3°34'58"  | T  | 29°24'47" | 3°30'52"  |
|  |                      |   | H        | 29°27'42" | 3°34'21"  | U  | 29°24'19" | 3°30'52"  |
|  |                      |   | I        | 29°27'01" | 3°34'21"  | V  | 29°24'19" | 3°32'41"  |
|  |                      |   | J        | 29°27'42" | 3°33'11"  | W  | 29°23'47" | 3°32'41"  |
|  |                      |   | K        | 29°27'26" | 3°33'10"  | X  | 29°23'47" | 3°33'6"   |
|  |                      |   | L        | 29°27'26" | 3°29'59"  | Y  | 29°23'16" | 3°33'6"   |
|  |                      |   | M        | 29°26'59" | 3°29'59"  | Z  | 29°23'16" | 3°33'34"  |
|  |                      |   | N        | 29°26'59" | 3°29'09"  | AA | 29°23'51" | 3°33'34"  |
|  |                      |   | O        | 29°26'04" | 3°29'09"  | BB | 29°23'51" | 3°33'26"  |
|  |                      |   | P        | 29°26'04" | 3°31'40"  | CC | 29°25'07" | 3°33'26"  |
|  |                      |   | Q        | 29°25'29" | 3°31'40"  | DD | 29°25'07" | 3°32'55"  |
|  |                      |   | R        | 29°25'29" | 3°30'27"  | EE | 29°26'23" | 3°32'55"  |
|  |                      |   | S        | 29°24'47" | 3°30'27"  | FF | 29°26'23" | 3°34'58"  |

Rainbow International Resources Limited ("RIR"), which is 100% held by Rainbow Rare Earths Limited ("Rainbow") was granted an EL (in French "Permis de Recherche") for REE and associated minerals in the Gakara region by Presidential Decree No. 100/141 of 16 May 2011. The Decree was based on the Mineral Agreement ("Convention de Recherche Minière"), dated 9 May 2011, between the State of Burundi and RIR. The EL was valid for an initial period of three years and was renewed twice for periods of two years each time. The 2<sup>nd</sup> and last renewal was granted to RIR in July 2016 (by Decree No. 100/174) with a reduced area of 96 km<sup>2</sup>. The EL expired in July 2018.

The ML ("Permis d'Exploitation") was granted by the Burundi Ministries of Energy and Mining and Finance and Economic Development on 27 March 2015 through the execution of a "Convention Minière" (Mining Agreement) between the State of Burundi and RIR. The ML was subsequently ratified by Presidential Decree No. 100/110 on 18 April 2015. Following the grant of the ML, a new company, Rainbow Mining Burundi SM ("RMB") was created in which the State of Burundi acquired a 10% interest by Presidential Decree No. 100/194 of 16 June 2015.

The ML, which covers an area of approximately 39 km<sup>2</sup> (Figure 4-3), provides RMB (as well as Rainbow and its shareholders) with a guaranteed stability of fiscal and legal regimes which will be applicable to the mining operations over a 25-year validity period of the ML.

Rainbow does not own the surface rights covered by the ML but has free and unrestricted access to the Project area, following statutory consultation with the local communities.

### 4.3 Burundi Mineral Legislation

The current Mining Code of Burundi was enacted by President Pierre Nkurunziza on 15 October 2013 as Law No 1/21, after being approved by Burundi's Senate on 10 October 2013. The Mining Code 2013, which deals only with the mining sector, replaces the previous Mining Code which was in force in the country since 1976.



Rainbow has complied with all statutory requirements and was granted a Mining Licence in April 2015 in which the State of Burundi has a 10% interest. The individual conditions and commercial terms with the State have not been assessed by MSA and no commentary can be provided.

Rainbow is presently the only industrial-scale mining operation in Burundi.

#### **4.4 Environmental Liabilities**

The Environmental and Social aspects of the Gakara mining Project are ruled by the following Burundian laws and regulations:

- The Environmental Code of Burundi, Law No. 1/010 (dated June 2000).
- The Decree N°100/22 of 7 October 2010 pertaining to the application of the Environmental Code regarding the process to establish environmental impact studies.
- The national strategy on the environment in Burundi (2002).
- The scope of environmental and social impact assessments.
- The Mining Code of Burundi (Law No. 1/21 of October 2003) and its Regulations in respect of matters related to environment.

#### **4.5 Royalties, Taxes and other Contributions**

Rainbow's operations in Burundi are subject to the following Tax and Royalty conditions:

- An annual Environmental fixed tax of Burundian Francs ("BIF") 500,000, (as at 2 May 2019, US\$ 272.47, using an exchange rate of BIF 1 = US\$ 0.000545 ([www.xe.com](http://www.xe.com))).
- Exploration and mining companies are subject to the fiscal and customs regime in place in Burundi. Rainbow is subject to a corporate income tax rate of 30% per the Loi 01/02 du 24 janvier 2013 Relative aux Impots sur les Revenus, Article 94 (p28). Companies can benefit from tax advantages and incentives in accordance with the applicable law. A 5% reduction in the tax rate is applicable to companies that employ more than 200 Burundian Nationals per Article 4 of the 2009 Code des Investissement. Rainbow employs more than 200 Burundian Nationals. The minimum tax is 1% of turnover in the event that no taxable profits are made.
- USD 30,000 per year statutory commitment to two local communes (US\$ 15,000 each) within the Project area, as per agreement (Convention Minière, Chapter 11, Article 41) between Rainbow and the State of Burundi.
- A Royalty of 4% is paid to the Government of Burundi, as per the Burundian Mining Code, Article 147.

#### **4.6 Country Risks**

According to the CIA World Factbook Burundi is "...a landlocked, resource-poor country with an underdeveloped manufacturing sector. Agriculture accounts for over 40% of GDP and employs more than 90% of the population. Burundi faces several underlying weaknesses – low governmental capacity, corruption, a high poverty rate, poor educational levels, a weak legal system, a poor transportation network, and overburdened utilities – that have prevented the implementation of planned economic reforms". The World Bank's 'Doing Business 2019' report ranks Burundi 168 out of 190 economies. Access to credit and to electricity are two areas where the country has the most progress to make. The 'World Investment Report 2018' noted Foreign Direct Investment inflows of



US\$ 0.1 million and US\$ 0.3 million in 2015 and 2016 respectively, down from US\$ 47 million in 2014.

#### **4.6.1 Project Risks**

The pinch-and-swell nature, a lack of continuity along strike and down-dip and minor variations in the REE concentrations of the REE veins can impact negatively on the available tonnage and grade of an individual mining area. The occurrence of REE veins with a high concentration of radioactive minerals needs to be anticipated and mitigated by regular measurements with a Geiger counter.

Evaluation of the REE veins involves a high degree of uncertainty. Although Rainbow's understanding of vein continuity has significantly improved as a result of mining activities at Gasagwe, anticipated future mining on the Property is based on an Exploration Target.

Further potential risks to the financial success are declining REE prices, rising operating costs, availability of fuel and qualified labour.



## 5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

### 5.1 Accessibility

Access to the Property from Bujumbura is by tarred road via the RN3 in a southerly direction along the eastern coastline of Lake Tanganyika (Figure 4-2). The tarred road then connects via an all-weather dirt road to the local administrative centre of Mutambu, located in the central part of the Mining License, where Rainbow has established an operation base camp within the Gasenyi Catholic Mission premises, with safe accommodation, storage facilities, water, electricity and communication. The total distance by road from Bujumbura to Mutambu is 40 km and takes approximately 90 minutes in a 4x4 vehicle.

The Project area is served by variably maintained dirt roads, which due to the rugged terrain, become difficult to negotiate during the rainy season. The dirt roads or tracks usually follow local watersheds, with access to valley bottoms and/or primary and secondary drainages via local footpaths that are extensively developed throughout the Project area.

### 5.2 Physiography and Climate

The Project area is located on the eastern escarpment of the Lake Tanganyika Graben in the Mirwa Mountains area. The topography is rugged with deep V-shaped valleys and a dense, well-developed erosional drainage system. The main rivers in the Project area are the Mugere and the Karonge Rivers which flow into Lake Tanganyika over a short distance of 12 km to 15 km with a vertical drop of approximately 1,500 m.

The Project area lies at an altitude of between 1,500 mamsl and 2,000 mamsl. The Gomvyi Mountain (2,040 mamsl) forms a dominant topographic high in the region. The eastern part of the Gakara Project area marks a transition to the Congo-Nile ridge and plateaux and is characterised by steep slopes and convex-shaped valleys. The Heha Mountain (2,670 mamsl) which is the highest peak in Burundi, is located approximately 5 km to the southeast of the Project area.

The entire area has undergone significant and deep lateritic weathering, which results in a paucity of hard-rock outcrops, the vast majority of which can only be observed along road cuts or along streams.

The Project area is intensely cultivated with subsistence plantations (manioc, vegetables, coffee, maize, trees etc.). Remaining areas of natural vegetation are being cleared to make way for the expanding subsistence agricultural needs, and to supply local building requirements. Due to the steeply incised terrain and intensive subsistence agricultural methods (Figure 5-1), erosion is intensive and marked by the development of several deep erosion gullies and landslides.

Burundi has a humid, equatorial climate influenced by the rift altitude, with a rainy season from October to May. There is a period of decreased rainfall in December to January, the so-called "petite saison sèche". The dry season lasts from June to September. The average annual rainfall for Burundi is about 1,300 mm. Temperatures are relatively moderate, varying between 17°C and 23°C on the plateaux. Above 2,000 mamsl, the average winter minimum temperature is 6°C.



**Figure 5-1**  
**Rugged terrain with incised drainage, intense cultivation and thick weathering profile**



**Source:** MSA, 2016

### 5.3 Local Resources and Infrastructure

Burundi has a large rural population with a density of 470 inhabitants per square kilometre. Modern facilities, goods and services are available from Bujumbura, while Mutambu provides basic food supplies. Bujumbura is served by daily commercial flights from Nairobi and Kigali (Kenya Airways and Rwandair). Cellular phone coverage is available over most parts of the Project area.

The 8-megawatt Mugere River hydroelectric plant, the main power supplier to Bujumbura, is situated approximately 3 km north of Mutambu and has been identified as a potential source of electricity to the Project area, although at this stage Rainbow provides electricity to the Kabezi processing plant via its own power generators.

The nearest rail link can be accessed by road and/or by boat on Lake Tanganyika down to the port of Kigoma (Tanzania), which is linked by rail to the port of Dar es Salaam in Tanzania. Rainbow exports its final concentrate product to the ports of Mombasa (Kenya) using the tarred network linking the various East African countries.

A comprehensive and detailed account of the history of the Gakara Project, both in terms of exploration and mining, was compiled by MSA in the 2016 CPR. The compilation comprised reviews of all historical reports and data, from the 1930's up to the mid 1980's, gathered by Rainbow from various sources (mainly from the Tervuren Central Africa Museum in Belgium and from the Bundesanstalt für Geowissenschaften und Rohstoffe ("BGR") in Germany).

Very few new historical records have been retrieved by Rainbow since the MSA report was compiled and therefore only a brief history of the Gakara Project is provided in the present CPR, with the focus on the historical mining information.

**6.1****Summary of Historical Exploration and Mining**

The Gakara Mining Project from the 1930's to the 1970's was held and controlled by the Belgian company SOMUKI (Société Minière de Muhinga et de Kigali) and later by SOBUMINES, (51% owned by the Belgian Société Minerale de Karonge and 49% by the Government of Burundi) (Ntungwanayo *et al.*, 2013).

The first reports of the presence of REE in the Project area date back to 1936 when SOMUKI discovered bastnaesite in alluvial deposits. From 1941 to 1942, research into the bastnaesite vein occurrences resumed and trial mining was undertaken from alluvial deposits but mainly from in-situ REE veins at Gakara. However, this operation was suspended due to unfavourable market conditions associated with the Second World War.

An increase in REE prices from 1947 to 1957 resulted in renewed mining activities at the Gakara and Rusutama deposits with a total of 2,137 tonnes of bastnaesite produced from these two deposits. A further two discoveries of bastnaesite mineralisation were made at Gasenyi and Murambi, with the bastnaesite mineralisation occurring in a network of thin veins and stockworks. Exploration and mining stopped in 1957 due to a fall in the global REE prices. In those years the main rare earth elements of interest were cerium and lanthanum.

SOBUMINES returned to the Gakara area in 1965, by which time the general understanding of the geochemistry, mineralogy and metallurgical characteristics of REE had advanced. Improved separation techniques resulted in higher purity of concentrates and better processing technology assisted in the extraction of individual REE oxides. In the 1970's exploration and mining operations were extended to other sites including Gasenyi, Murambi, Gasagwe and Mugere. Mining operations until 1978 comprised open pits (terraces and galleries) for most deposits except for Mugasenyi and Murambi, where underground mining was conducted due to the paucity of surface veins and the considerable thickness of overburden. In 1978 SOBUMINES stopped all operations due to a decline in REE prices, which rendered mining in the Gakara area uneconomical (Ntungwanayo *et al.*, 2013).

In summary, during nearly 30 years of intermittent mining, approximately 5,000 t of high grade (>50 % TREO) bastnaesite/monazite mineralised vein material was extracted, processed and exported with the majority derived from the Gakara mine (BGR, 1983).

From 1981 to 1985 BGR undertook an exploration and evaluation programme on six selected REE-bearing sites, within a framework of bilateral cooperation between the Burundian and the German

Governments. Their "Feasibility Study" (BGR, 1985) reported an estimated 5,000 tonnes of REE material at a grade of 50% TREO available for mining at these six deposits. The Gasagwe deposit alone was estimated by BGR to contain approximately 2,800 tonnes of REE material (BGR, 1985).

Prior to the granting of the Gakara EL to Rainbow, no other exploration or mining licences were awarded in the Project area since the cessation of mining activities in the late 1970's.

## 6.2 Historical Mining Areas

BGR (1983) estimated that approximately 5,000 tonnes of high grade bastnaesite-/monazite-bearing material/concentrate (>60 % TREO) were produced from 12 to 15 individual sites during the approximately 30 years of mining activities. The majority of this reported historical production was derived from the Gakara, Rusutama and Gasenyi mines which together were estimated to have produced approximately 4,500 t, of which 3,465 t was produced from the Gakara mine (BGR, 1983). The historical estimates are summarised in Table 6-1.

**Table 6-1**  
**Summary of historical mining and exploration records**

| Deposit Name                     | Estimated Tonnes of Deposit | Exploration and Mining Works                                  | Historical Production Tonnes | Mineralisation   | Maximum Vein Thickness Observed or Exploited (cm) |
|----------------------------------|-----------------------------|---|------------------------------|--|---|
| <b>Gasagwe (SOBUMINES, 1977)</b> | 3,603                       | Pits, trenches, galleries (150 m)                             | 27                           | Bastnaesite & Monazite   | 50  |
| <b>Gasagwe (BGR, 1983-85)</b>    | 2,773                       | Pits (1,500 m; 20 m depth), 7 trenches & 13 galleries (556 m) | n/a                          | Bastnaesite & Monazite   | 40  |
| <b>Mugere 1</b>                  | 1,032                       | 17 pits, 9 trenches, 2 galleries                              | n/a                          | Bastnaesite  | 4   |
| <b>Mugere 2</b>                  | 354                         | 29 pits, 4 trenches   | 1.5                          | Bastnaesite  | 8   |
| <b>Nyamikole</b>                 | 741                         | 8 pits, 14 trenches, 1 gallery                                | n/a                          | Bastnaesite  | 10  |
| <b>Rugembe (Gomvyi N)</b>        |                             | 18 pit, 7 trenches  | 1.5                          | Bastnaesite  | 15  |
| <b>Murambi Sud</b>               | 491                         | 36 pit, 2 trenches, 3 galleries                               | n/a                          | Bastnaesite & Monazite; eluvium and veins                          | 7   |
| <b>Murambi</b>                   |                             | Pit, 2 galleries  | n/a                          | Bastnaesite & Monazite   | 5   |
| <b>Rusutama</b>                  |                             | Benches, galleries  | 500                          | Monazite; irregular stockwork type veinlets                        | 15  |
| <b>Gasenyi</b>                   |                             | Pits, 9 galleries   | 504                          | Bastnaesite: 3 veins exploited                                     | 15  |
| <b>Gakara</b>                    |                             | Benches, galleries  | 3,465                        | Bastnaesite: massive and breccia types with large lenticular veins | 10  |
| <b>Misugi</b>                    |                             | Pits, trenches  | 1                            | Eluvial monazite   | n/r   |
| <b>Bigugo</b>                    |                             | 1 gallery   | 16                           | Monazite; 3 lenticular veins in gneiss, max. 10 m depth            | 20-30   |
| <b>Nyabigati Nord &amp; Sud</b>  |                             | Trial quarry  | 13                           | Monazite   | n/r   |
| <b>Karinzi</b>                   |                             | Trial quarry, pits  | 1                            | Bastnaesite & Monazite   | n/r   |
| <b>Kigunguzi</b>                 |                             | Gallery, trenches   | 5.5                          | Monazite   | 10  |
| <b>Zinga</b>                     |                             | Small scale quarry  | 1.6                          | Bastnaesite & Monazite: lenticular vein                            | 12  |

**Note:** n/r = not reported; n/a = not applicable

**Source:** Aderca and Van Tassel (1971); Thoreau et al. (1958); BGR (1983, 1985)

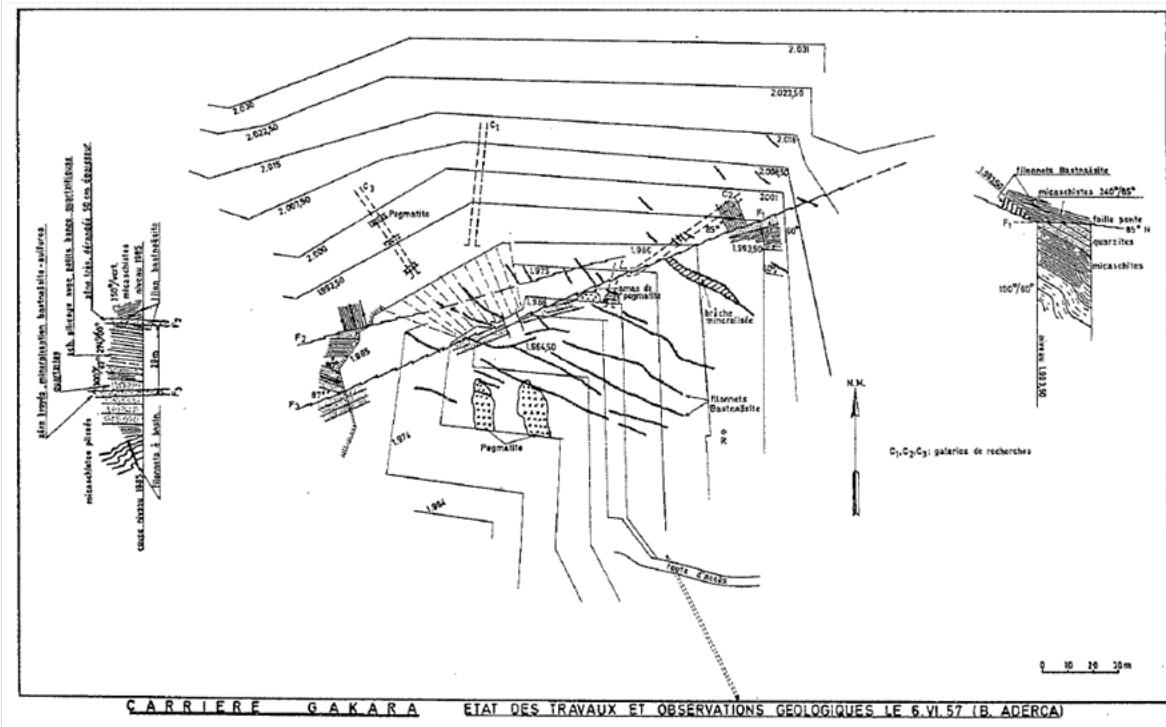
The information in Table 6-1 was compiled from various historical reports including Aderca and Van Tassel (1971), Thoreau et al. (1958) and the BGR (1983, 1985) and from photos and diagrams presented in these reports. These records provide invaluable descriptions of the dimensions of historical mines, depth of excavations, lateral extent of REE veins and information on average widths, type of mineralisation and vein types. Rainbow's mining of the Gasagwe deposit since mid-2017 has corroborated most of the morphological characteristics of the REE deposits historically reported, such as vein lateral and depth continuation, vein thickness variations and general consistency of TREE (total rare earth element) grades.

### 6.2.1 Gakara Historical Mine

A copy of the Gakara mine plan is published in Aderca and Van Tassel (1971) (Figure 6-1). From this plan the following can be observed:

- Gakara pit was excavated to a depth of at least 80 m, with benches of between 1.5 m to 2 m (Figure 6-1 and Figure 6-2).
- Approximately thirty veins were mined over a lateral extent of 180 m, with reports of some single veins continuous over strike lengths of up to 60 m.
- The vein system is reported to continue beneath the (now abandoned) mine floor.
- Some 3,465 t of final export product (grading >55% TREO) are reported to have been extracted from this deposit.

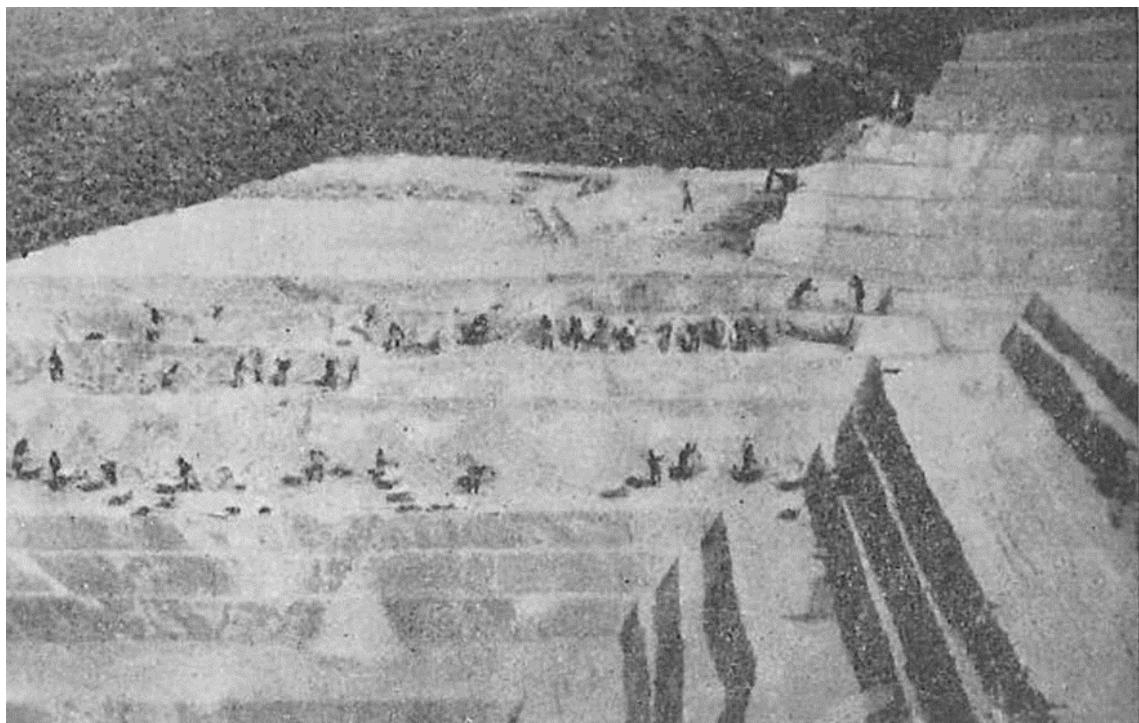
**Figure 6-1**  
**Gakara Mine Plan prior to 1971**



**Source:** Aderca and Van Tassel, 1971



**Figure 6-2**  
**Photo of the Gakara Mine in 1957**



**Source:** Thoreau et al., 1958

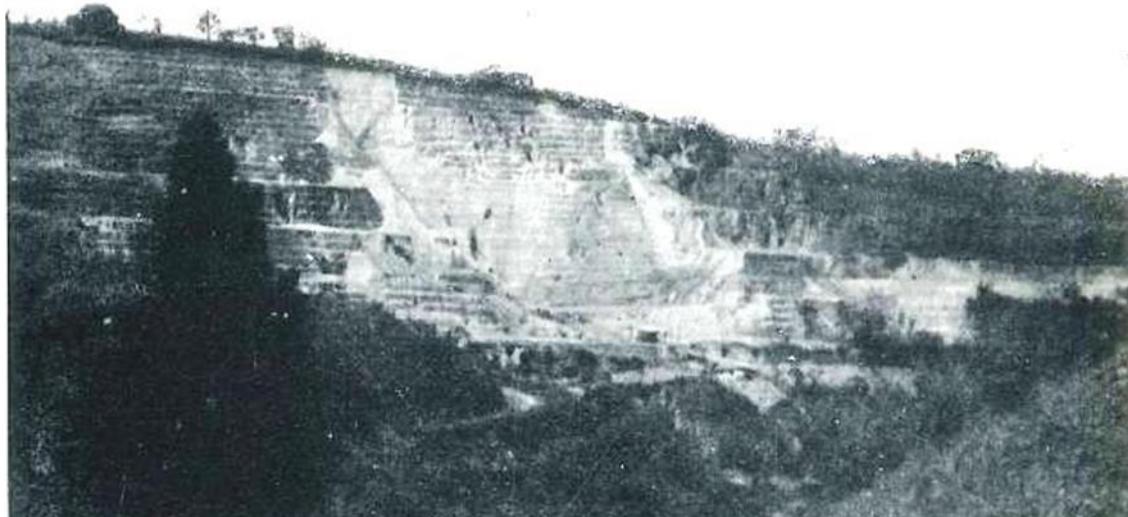
### 6.2.2 Rusutama Historical Mine

The historical records of the Rusutama Mine (Aderca and Van Tassel, 1971) describe geology and mining as follows (Figure 6-3):

- The lateral extent of the mine was approximately 150 m and the vertical height was 50 m to 60 m.
- Approximately 30 benches of 1.5 m to 2.0 m height were excavated by hand.
- The deposit consisted of a very irregular stockwork of thin but numerous veins, often brecciated as well, with the largest veins being 15 cm wide/
- Some 500 t of mineralised vein material were extracted and produced from this site.



**Figure 6-3**  
**Historical photo of one portion of the Rusutama Mine**



**Source:** Aderca and Van Tassel, 1971

#### **6.2.3 Bigugo Historical Mine**

A recent photo from the defunct Bigugo mine (Figure 6-4) provides additional evidence of the size of some of the deposits mined: 10 benches of 2 m height each for a total depth of excavation of 20 m.

The veins mined at Bigugo are reported to have been relatively thick ranging from 20 cm to 30 cm (Aderca and Van Tassel, 1971).

**Figure 6-4**  
**Overgrown benches of the historical Bigugo Mine**



**Source:** Rainbow, 2018

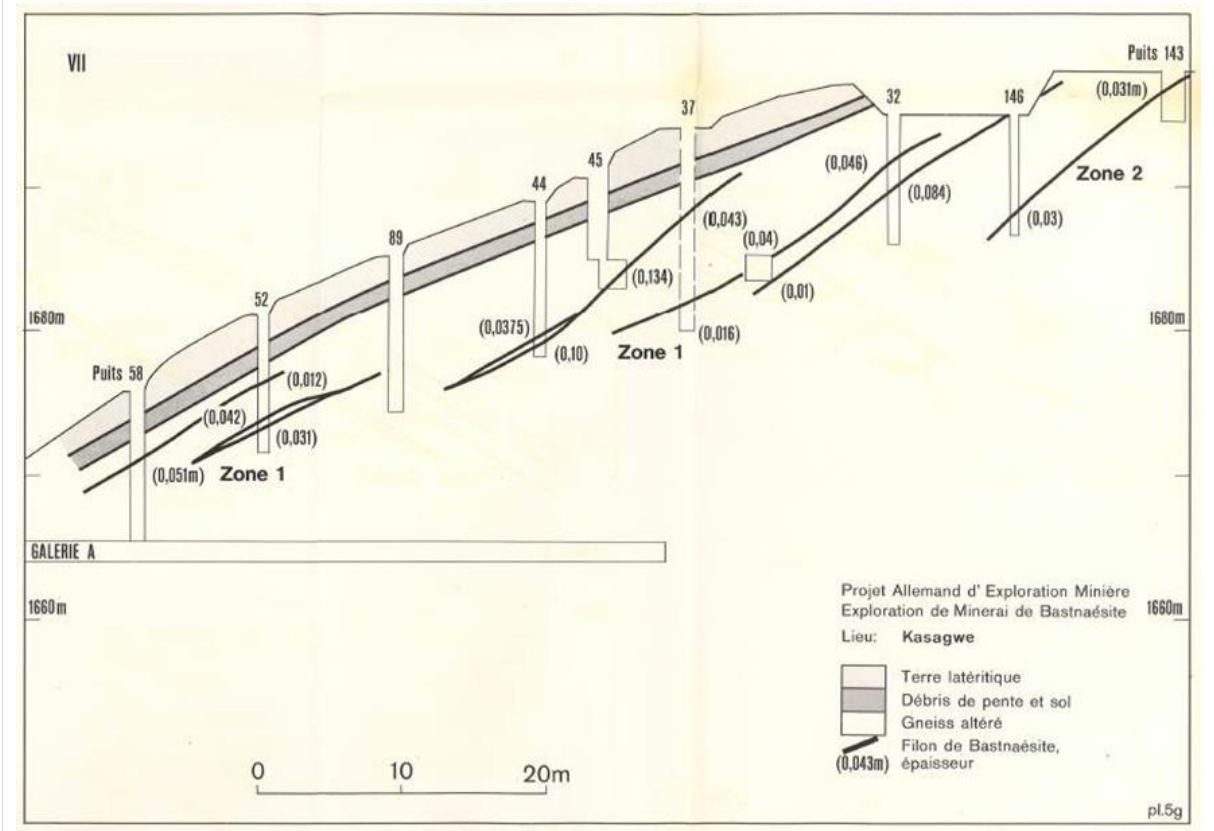
#### 6.2.4 Gasagwe Historical Mine

The Gasagwe deposit was sporadically mined by the Belgians before the operation closed in the mid 1970's, with less than 30 t reportedly produced. However, BGR undertook a comprehensive exploration and tonnage estimation programme at Gasagwe between 1983 and 1985, culminating in the delineation of approximately 2,700 tonnes of REE mineralisation.

The detailed historical exploration plans and sections (Figure 6-5) provide further information on the general deposit characteristics, already observed at the other historical mines:

- Vein stockwork extension over a depth of 40 m.
- Irregular continuation of the vein system at depth.
- Stacking of sub-parallel veins, the thickest of which was reported to be 50 cm wide (BGR, 1985).

**Figure 6-5**  
**Example of a section through the Gasagwe Mine**



**Source:** BGR, 1985



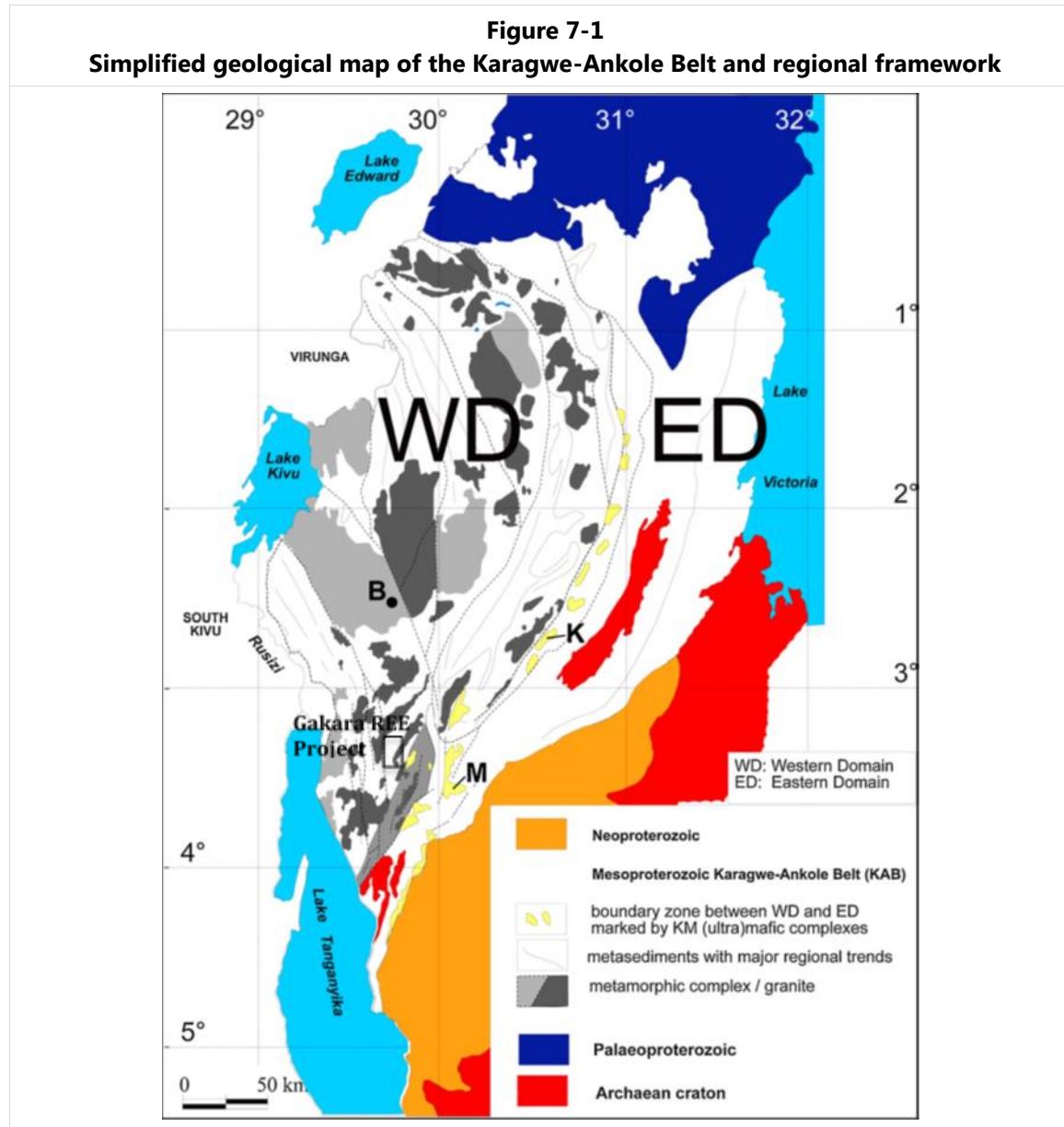
## 7 GEOLOGICAL SETTING AND MINERALISATION

### 7.1 Regional Geology

The regional geology of Burundi is dominated by the northeast trending Kibaran Fold Belt, commonly named the Karagwe-Ankole Belt ("KAB") (Tack *et al.*, 2010) (Figure 7-1). The KAB is subdivided into a Western Domain ("WD") and an Eastern Domain ("ED"). The ED is less deformed and metamorphosed and is thrusted over the Neoproterozoic-age continental sedimentary and volcanic rocks which rest upon the Archaean Tanzanian Craton (Deblond and Tack, 1999; Duchesne *et al.*, 2004). The WD consists of a highly deformed sequence of Mesoproterozoic granites, granitoids and amphibolite-greenschist facies metasedimentary units and metavolcanic rocks, referred to as the Burundi Supergroup (Deblond and Tack, 1999; Tack *et al.*, 2010). The granitoids occur as large, heterogeneously deformed sheet-like intrusions within the metasediments of the Burundi Supergroup and frequently form the core of antiformal domes. The granitoids are commonly associated with metasedimentary inclusions, mainly quartzite, and have ages between 1.37 Ga and 1.38 Ga (Tack *et al.*, 2010), coinciding with extensional deformation and peak thermal metamorphism in the Kibaran Belt.

The Burundi Supergroup is believed to have accumulated in shallow basins during an early rifting phase of the Kibaran orogeny (Deblond and Tack, 1999) and is intruded by a series of mafic and ultramafic complexes (the Kabanga–Musongati belt) and two types of granites and granitoids classified as A-type and S-type (Tack *et al.*, 1994).

The north-easterly aligned Kabanga–Musongati belt (Figure 7-1) is located along the interface between the Kibaran orogen to the west and its foreland basin sediments overlying the Tanzanian Craton in the east (Tack *et al.*, 2010). Granitic rocks are more concentrated in the western part of the Kibaran Belt where they form extensive and complex intrusions which are frequently associated with smaller mafic intrusions of amphibolite-bearing dolerite and gabbro (Klerkx *et al.*, 1987). The geological and tectonic framework of Burundi and adjacent countries have been strongly influenced by repeated episodes of rifting along existing structural trends (Lehmann *et al.*, 1994).



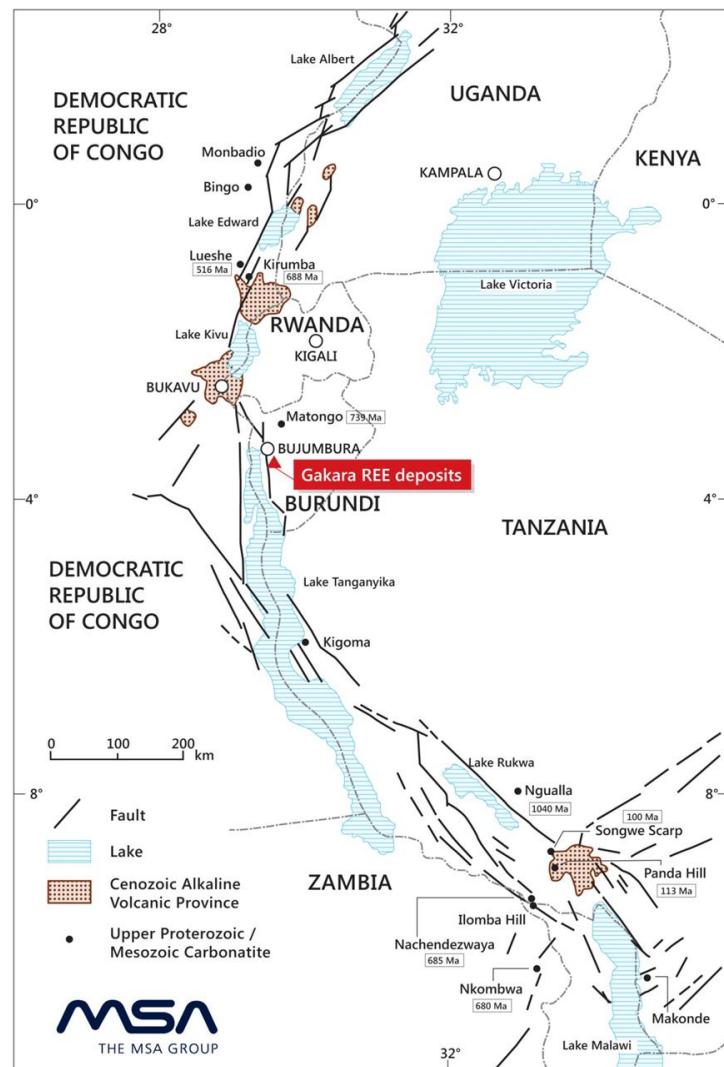
**Note:** K: Kabanga Complex; M: Musongati Complex

**Source:** Rainbow, 2018 modified after Tack *et al.*, 1994 and Fernandez-Alonso, 2007

## 7.2 Local Geology

The Gakara REE deposits are located near Lake Tanganyika, on the western branch of the East African rift (Figure 7-2). REE mineralisation is typically related to carbonatitic and/or peralkaline magma emplacement. Such magmatic and mineralised context has been identified along the western branch of East African rift, about 60 km northward from Gakara in the alkaline complex of the Upper-Ruvubu containing the Matongo carbonatite (Midende, 1984, Midende *et al.*, 2014; Decrée *et al.*, 2015). This complex and the associated REE mineralisation have been dated around 600-700 Ma, i.e. during the Pan-African orogen. The REE mineralisation at Gakara is however 100 Ma younger than at Matong. As early as 1958 (Thoreau *et al.*, 1985) a tentative relationship between these deposits and carbonatites was suggested. Although never definitively confirmed, this hypothesis is commonly accepted (Andrade *et al.*, 1999; Rasoamalala *et al.*, 2014).

**Figure 7-2**  
**Carbonatite and alkaline intrusions of the western branch of the East African rift system**



**Source:** Modified from Lehmann *et al.*, 1994

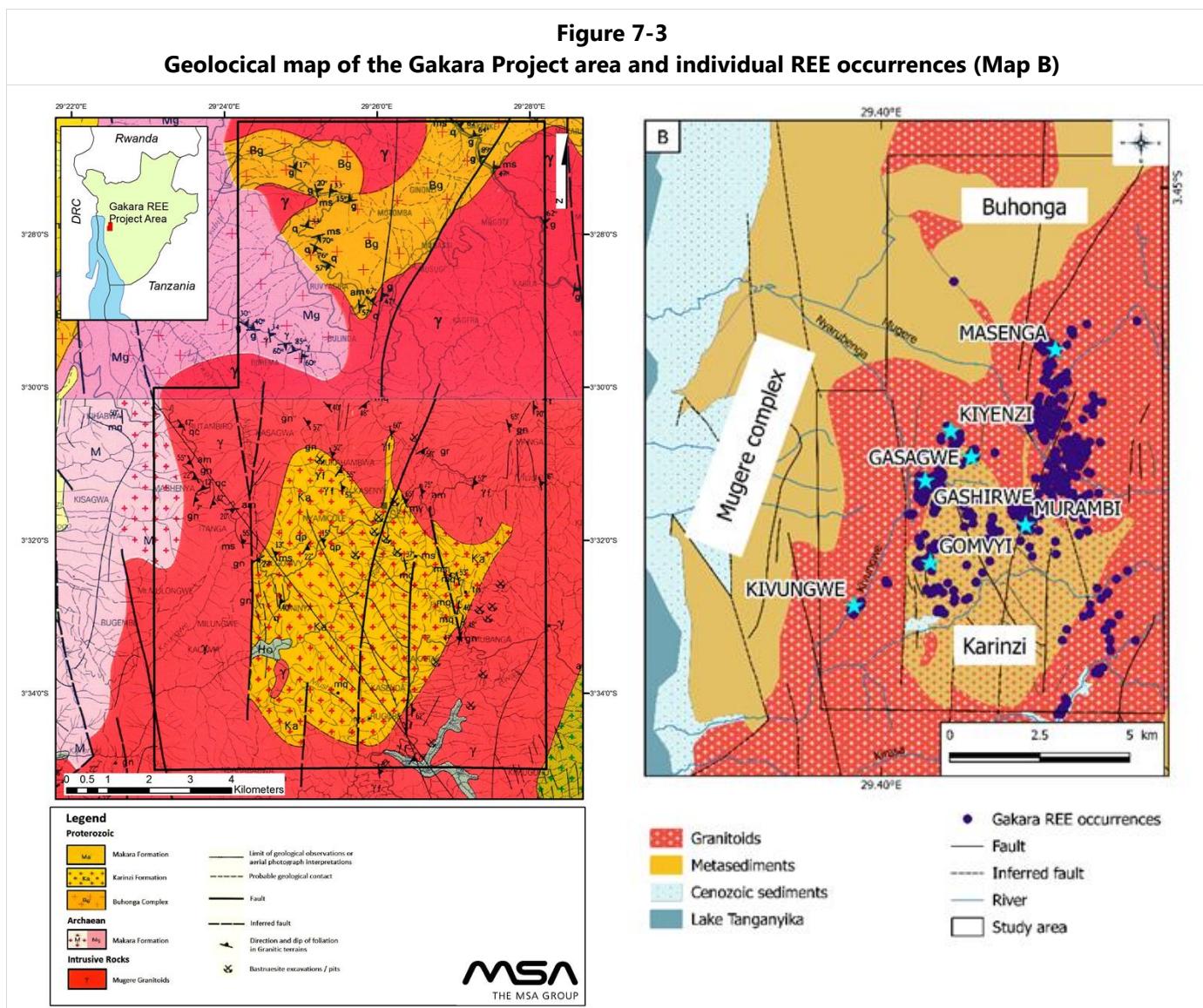
Except for the Archean Mugere complex, the mineralisation is hosted in Mesoproterozoic rocks belonging to the Karagwe-Ankole polymetamorphic belt composed of metasediments and orthogneisses intersected by pegmatites which have been dated at  $969 \pm 17$  Ma (Lehmann *et al.*, 1994). Several formations have been described including the Karinzi Formation, consisting of metaquartzites and metapelites intruded by Kibaran granitoids (Klerkx *et al.*, 1984), in which the Gakara mineralisation is hosted (Figure 7-3). The Gakara Property is mainly composed of rocks formed during the Mesoproterozoic, Kibaran orogenic event between 1,375 Ma and 985 Ma. Those rocks are divided into metasediments and granitoids (Figure 7-3). These units are intruded by a high-density network of Kibaran pegmatites and aplite (Lehmann *et al.*, 1994). REE veins have been found in both types of rocks. The mineralised veins cross-cutting host rocks have been dated around 600 Ma (Ntiharirizwa's PhD in progress and Nakai *et al.*, 1988). Consequently, if a single mineralising event is postulated, this mineralisation is Pan-African in age and postdates the last events of the Kibaran orogeny.

## 7.3 Property Geology

The Mugere migmatitic complex in the westernmost part of the Project area is the oldest formation present and consists of metamorphic sediments including phyllites and migmatitic gneiss, with a probable age of deformation and metamorphism of 2.8 Ga (Brinckmann *et al.*, 1983).

The Kibaran-aged ( $\pm 1.4$  Ga) Mugere granitoid and Karinzi and Makara metasediments are the dominant host rocks for the bastnaesite/monazite mineralisation in the Project area. The granitoid is a large batholithic complex of foliated granites and banded gneiss containing quartzite lenses. The foliation shows commonly a northerly orientation and dips to the east. The Mugere granitoid and the metasediments are intruded by massive or sill-type pegmatite and meta-dolerite dykes. Pegmatite bodies can be several hundred metres thick and cut the host rocks at various angles and in an irregular and intermittent manner. The commonly foliated meta-dolerites are intrusive bodies in the form of dykes and sills and can be several hundred metres wide.

**Figure 7-3**  
**Geological map of the Gakara Project area and individual REE occurrences (Map B)**



**Source:** Background geology from Feuille Rumonge S4/29 SW and Feuille Bujumbura S4/29 NW, Republique de Burundi, l'Institut Geographique National de Belgique, 1986; Map B: Rainbow, 2018 showing locality names of individual REE occurrences referred to in this CPR.

## 7.4 Mineralisation

The information and data presented in the following sections of the Report (7.4, 7.5, 7.6 and 8.2) were mostly derived from the PhD study by Ms Seconde Ntiharirizwa, which is in progress (partly sponsored by Rainbow).

The Gakara REE mineralisation occurs as a stockwork of centimetre to decimetre wide veins and consists mainly of coarsely grained, locally brecciated, metasomatised bastnaesite and monazite (Lehmann, 1994). The gangue accompanying the mineralisation consists of quartz, biotite, barite, microcline, pyrite and galena (Thoreau *et al.*, 1985; Aderca and Tassel, 1971; Van Wambeke, 1977, Ntiharirizwa, in preparation). The supergene alteration gave way to a new mineralogical assemblage composed of rhabdophane, cerianite, crandallite-florencite, goethite and kaolinite.

The paragenetic sequence (Van Wambeke, 1977; Ntiharirizwa, in preparation, Figure 7-4) shows that the genesis of the mineralisation took place in three successive stages:

- The first stage consists of depositing the primary mineralisation comprising bastnaesite, barite, biotite, galena and quartz (Qz 1).
- The second stage begins with the formation of monazite (Ce-rich) and quartz (Qz 2).
- The third stage is the formation of monazite (La-rich), cerianite and rhabdophane, and is probably associated with a process of lateritisation.

The texture of the veins corresponds to a brittle opening of the fracture with crystallisation of the bastnaesite in the space created. The "monazitisation" of primary bastnaesite (Figure 7-5) was due to a series of fractures responsible for brecciation with jigsaw-puzzle texture observable in the field and in thin section. The presence of automorphic crystals of quartz co-precipitating with monazite (Figure 7-5 and Figure 7-6) implies space available for crystal growth (i.e. cavities must have been opened before crystallization of quartz and of the monazite).

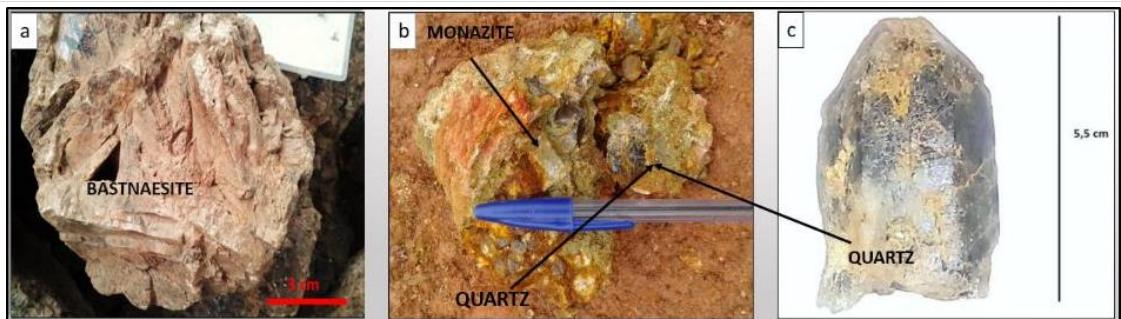
**Figure 7-4**  
**Paragenetic sequence of Gakara REE mineralisation**

| MINERAL     | ORE STAGE | Time |    |
|-------------|-----------|------|----|
|             |           | I    | II |
| Bastnaesite |           |      |    |
| Biotite     |           |      |    |
| Galena      |           |      |    |
| Barite      |           |      |    |
| Quartz      | 1         | 2    |    |
| Goethite    |           |      |    |
| Monazite    |           | Ce   | La |
| Rhabdophane |           |      |    |
| Cerianite   |           |      |    |

**Source:** Ntiharirizwa, PhD thesis in preparation

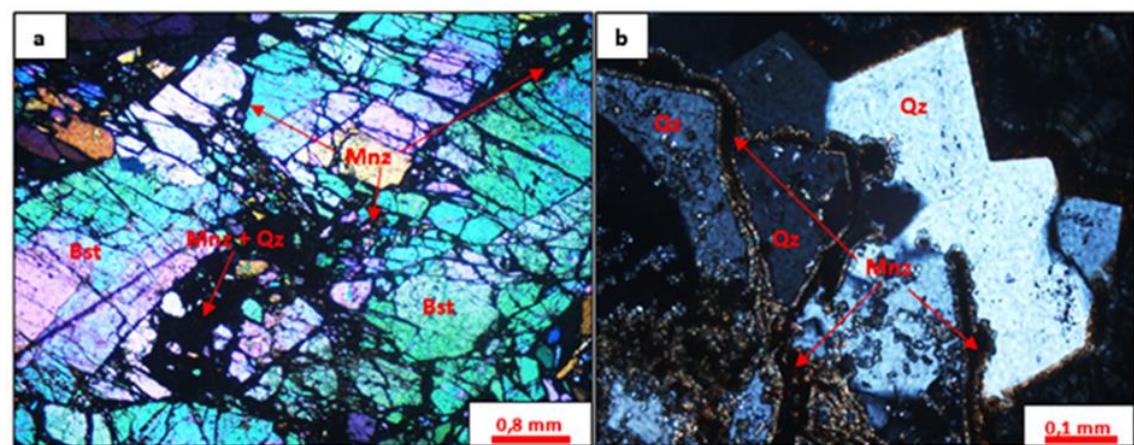
Many host rock clasts are also incorporated into the veins, corresponding to the brecciation of the host rock by numerous mineralised veins. These observations made it possible to hypothesise that the mineralised veins were set up in a brittle deformation regime where the fracturing was reinforced by hydrostatic fluid pressures that could have a pulsatile character during the formation of the bastnaesite and the subsequent alteration in monazite that followed (Ntiharirizwa, in preparation).

**Figure 7-5**  
**Photographs of representative samples of dominant minerals in the Gakara deposit**



**Source:** Rainbow, 2018; a: pure bastnaesite; b & c: automorphic quartz crystals associated with monazite from Gasagwe

**Figure 7-6**  
**Microphotographs of representative samples of Gakara REE mineralisation**



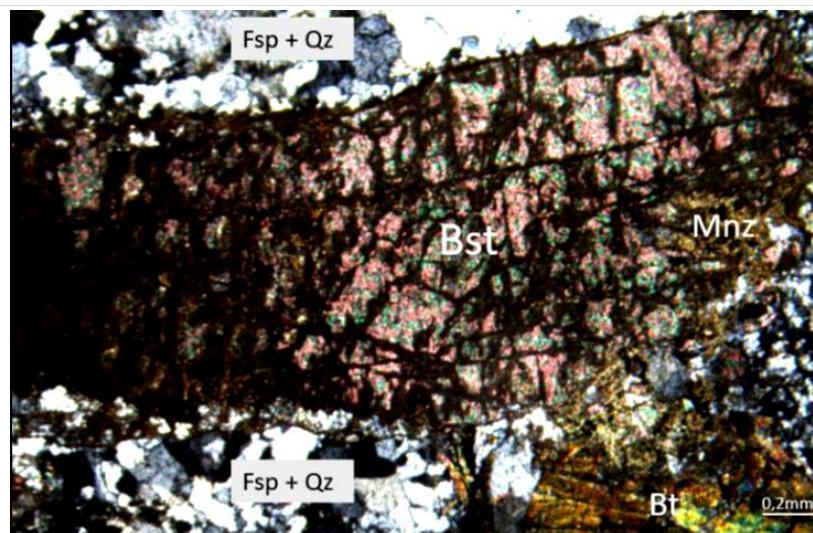
**Source:** Rainbow, 2018; a: Bastnaesite (Bst) brecciated in jigsaw-puzzle texture with fracture-filling by monazite (Mnz) and quartz (Qz); b: Monazite (Mnz) and automorphic quartz crystals (Qz)

Twenty four samples from the Kiyenzi core were collected for petrographic work (Ntiharirizwa, 2018). They included samples from breccias (9), from aplites (2), from gneisses (4), mafic rocks (4) and various contacts between these rocks (5). The key findings of this study are the following:

- The aplites and gneisses, at the contacts with the breccias, contain REE mineralisation in the form of bastnaesite and monazite veinlets as well as large phenocrysts or xenocrysts (Figure 7-7 and Figure 7-8).
- The monazite appears to occur as a secondary alteration of the bastnaesite; the monazite being found on the rim of the bastnaesite crystals as well as inside those crystals (Figure 7-9).

- One of the gneiss samples is a paragneiss showing a strong schistosity and is very rich in biotite. A very strong sericitisation alteration has affected this rock (Figure 7-10). By definition, sericitisation is a hydrothermal alteration which is expected to occur in close proximity to carbonates.
- One of the mafic rocks has been identified as a metamorphic rock very rich in alkaline and calc-alkaline amphiboles. This rock, together with the aplite, which contains such an abundance of alkaline minerals (albite and microcline in the aplite; glaucophane and hornblende in the mafic rock) provides further evidence of the presence of alkaline (viz carbonatitic) formations in the Gakara area.

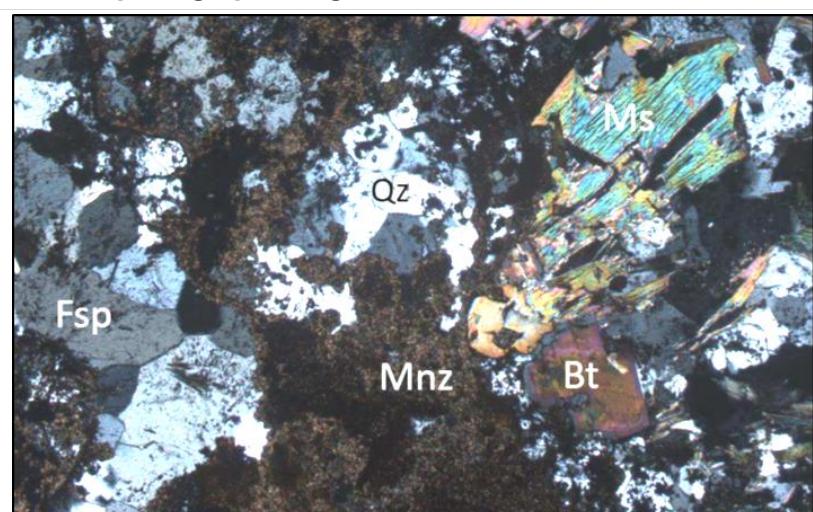
**Figure 7-7**  
**Microphotograph of a sample of aplite in drill hole GAK-DD-029**



**Note:** White and grey colours indicated with *Fsp + Qz* showing a large bastnaesite crystal (or vein?) with monazite alteration at its edge as well as inside the aplite fabric. Note the size of the bastnaesite grain.

**Source:** Rainbow, 2018

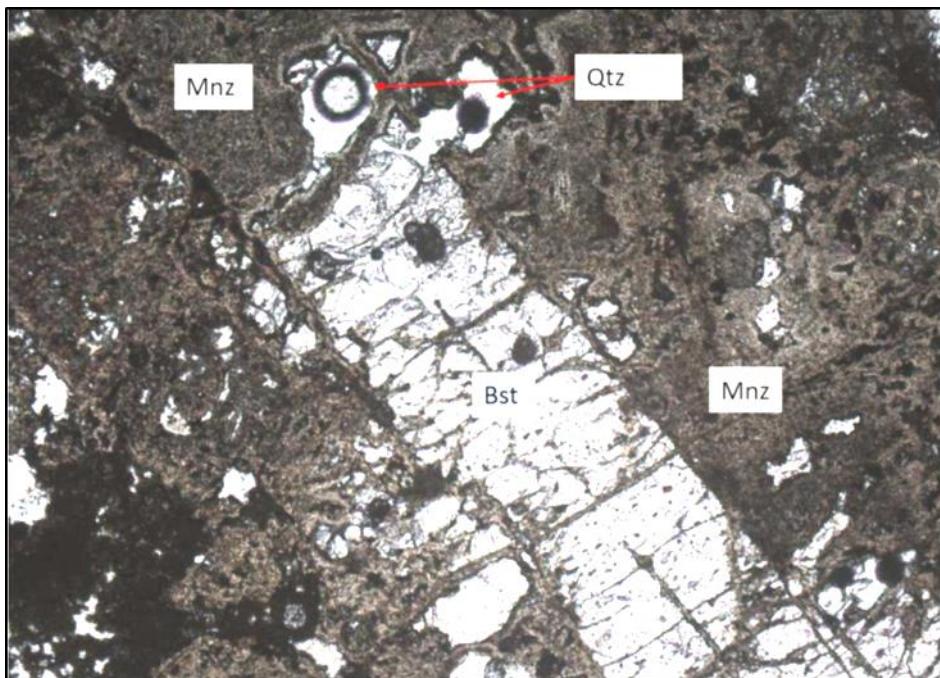
**Figure 7-8**  
**Microphotograph of a gneiss with two micas and monazite**



**Note:** Biotite (Bt) and muscovite (Mn) showing monazite (Mnz) invading the gneiss fabric (feldspar Fsp and quartz qz).

**Source:** Rainbow, 2018

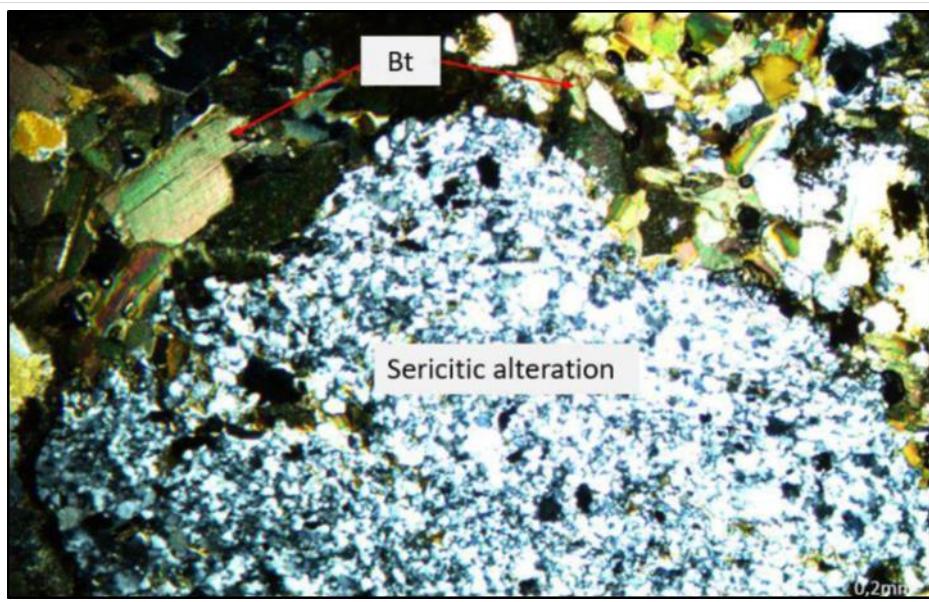
**Figure 7-9**  
**Microphotograph of a sample of breccia showing large phenocrysts of bastnaesite**



**Note:** Bastnaesite occurs within a matrix of monazite (Mnz) and dissolution voids filled with quartz (Qtz).

**Source:** Rainbow, 2018

**Figure 7-10**  
**Microphotograph of a sample of biotite gneiss (Bt) showing sericitic alteration**



**Source:** Rainbow, 2018

## 7.5 Structural Controls of the REE Mineralisation

The REE vein stockworks formed in a brittle regime of deformation and re-used/re-opened former heterogeneity of the gneissic and granitic host rocks. The fragmentation of the host rocks was enhanced by hydraulic fracturing, with probable supra-hydrostatic fluid pressures which might present a pulsatile character during bastnaesite deposition and subsequent monazitisation. It is this



"violent" intrusion mode that could have caused the formation of the REE-bearing breccia facies described in the Project area (e.g. at Kiyenzi).

The REE veins morphologies and textures are very similar to magmatic sills and dykes injected within very shallow water-rich rocks, as for example hypabyssal feeder zones of volcanoes with a phreato-magmatism dynamism. In such context, the regional stress field (if it exists) exerts a weak control due to the very low overburden (i.e. lithostatic load close to zero bars) and the injected hot melts/magmas intrude by a self-propagation mechanism in which former anisotropies of host rocks are systematically re-opened. At Gakara, it is not known exactly what the physical nature of the REE-bearing liquids may have been: melt, magma or dense brines or a polyphased mix of these. The REE-bearing liquid was hot and likely dense and might have behaved as a magma rising up below a phreato-magmatic igneous intrusion.

## 7.6 Geochronology

The only geochronological data available from the Gakara area was obtained on bastnaesite by Nakai *et al.*, 1988. They used the  $^{138}\text{La}$  -  $^{138}\text{Ba}$  isochron method applied to bastnaesite and obtained a Pan-African age of  $586.8 \pm 3.7$  Ma. The main unresolved question from the work of Nakai *et al.* (1988) concerned the time elapsed between bastnaesite deposition and its alteration into monazite.

In her PhD study, Ntiharirizwa uses the U-Th-Pb dating technique for bastnaesite and monazite, making it possible to discuss the evolution of mineralisation in the regional geodynamical context. U-Th-Pb geochronology of bastnaesite and monazite grains from the Gakara deposit was conducted by Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) at Géosciences Rennes Laboratory in France.

Twenty-six grains of bastnaesite were dated, following a double-standardisation protocol, using the U and Th contents measured directly in the Bastnaesite by LA-ICP-MS (U < 26 ppm and Th < 63 ppm). When all the data acquired on bastnaesite (i.e. standardised with monazite and calcite) are plotted, they define a lower intercept date of  $602.1 \pm 7.2$  Ma which is therefore the age of the bastnaesite crystallisation; in other words, it is the age of the bastnaesite mineralisation emplacement.

Thirty-five rutile grains contained in aplite samples from the Gashirwe and Kiyenzi deposits were also analyzed by LA-ICP-MS using a monazite standard. The age obtained around 600 Ma suggests that the white aplite is co-genetic with the primary mineralisation in bastnaesite.

Fourteen monazite grains were analysed. All the chronometers utilised (U/Pb and Th/Pb) have returned dates that are comparable within error at approximately 589 Ma, a date that is interpreted to correspond to the age of the crystallisation of these monazite grains.

In summary, the geochronological sequence of events that would explain the Gakara REE mineralisation is as follows:

- Firstly, at 600 Ma, a massive intrusive igneous event resulted in the emplacement of the aplites within gneiss/granite host rocks
- Nearly contemporaneously, the bastnaesite mineralisation occurred with injection of hot fluids in the form of veins and/or in breccias deposits



- Finally, at c.588 Ma (i.e. some 10-15 million years after the emplacement of the aplites and the bastnaesite mineralisation), the monazite mineralisation occurred, reusing the fracturing in the host rocks caused by the previous magmatic intrusions

## 8 DEPOSIT TYPES

### 8.1 General Models

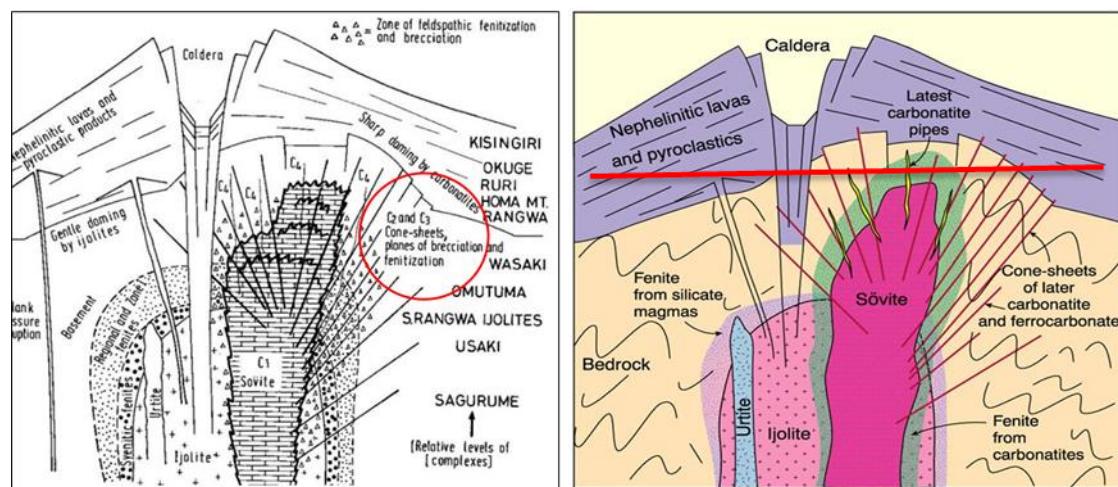
REE mineralisation is typically related to carbonatitic and/or peralkaline magma emplacement. Carbonatite is a type of intrusive or extrusive igneous rock defined by mineralogical composition consisting of greater than 50% carbonate minerals.

Carbonatites usually occur as small plugs within zoned alkaline intrusive complexes, or as linear dykes, arcuate dykes (also referred to as 'ring dykes' and 'cone sheets'), sills, breccias, and veins. Carbonatite complexes are always built of several intrusive phases. These igneous intrusions are characteristically rimmed by metasomatised country rocks, a "fenitised aureole" with both sodium (Na) and potassium (K) dominated metasomatism found sometimes in one aureole.

Carbonatites are almost exclusively associated with continental rift-related tectonic settings, which is precisely the geological context of the Gakara REE deposit. Such magmatic and mineralised context has indeed been identified along the western branch of East African Rift, about 60 km northward from Gakara in the alkaline complex of the Matongo carbonatite (Midende, 1984, Midende *et al.*, 2014; Decrée *et al.*, 2015).

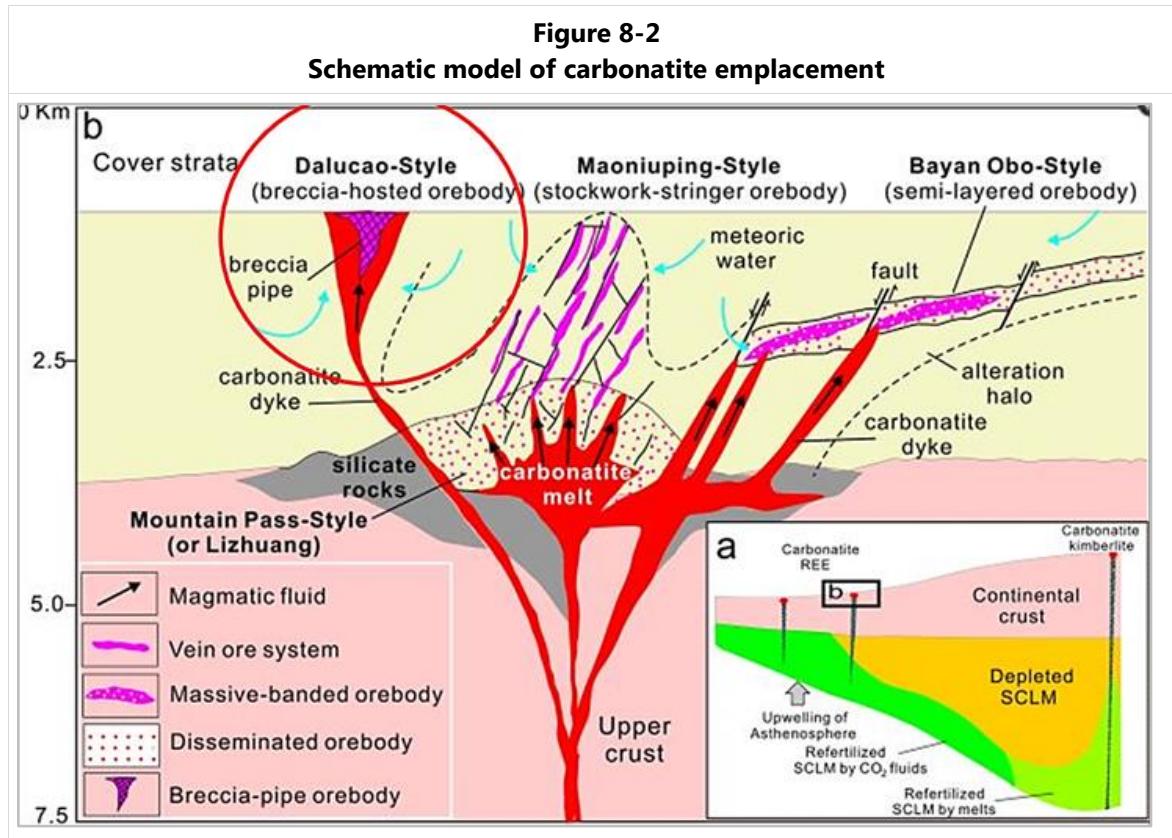
The commonly referred to schematic carbonatite model of Le Bas (1987, Figure 8-1) has been reviewed in recent times by Hou *et al.*, 2015 and Xie *et al.*, 2015 and provide updated models of emplacement of REE-related carbonatites (Figure 8-2).

**Figure 8-1**  
**Schematic model of emplacement by Le Bas; original drawing (left); revised (right)**



**Note:** The red line in the right picture indicates the conjectured level at which the Gakara REE mineralisation is observed today. The red circle in the left picture indicates the occurrence of breccias associated with the carbonatitic intrusion event.

**Source:** Le Bas, 1987



**Note:** The model shows the different forms of intrusions and of REE mineralisation, including a so-called "breccia pipe orebody" (red circle).

**Source:** Hou et al., 2015.

As illustrated in Figure 8-2, REE mineralisation can occur in variable forms derived from a carbonatite melt; vein systems, massive and disseminated bodies and breccia pipes. The vein system characterises most of the Gakara mineralisation (e.g. Gasagwe, Murambi South) whereas the breccia type has been identified at Kiyenzi. Breccias have been frequently described in many carbonatitic intrusions e.g. Matongo in Burundi (Midende, 1984) and Songwe Hill in Malawi (MSA, 2015).

## 8.2 The Gakara REE Deposit Model

The PhD research work carried out by Ms Ntiharirizwa helped in the understanding of the importance of magmatic fluids in the formation of the Gakara deposit as well as their pressure - temperature conditions at the time of emplacement. Mineralisation took place at temperatures between 400°C and 450°C in the upper crust with pressure variations (160 MPa to 330 MPa), under a brittle deformation regime as evidenced by the presence of microfractures. These results are consistent with field observations that indicate that mineralisation has occurred in a fragile area with significant pressure gradients accentuating the fracturing of the host and the mineralisation itself.

The results from the PhD study demonstrate that the transition from primary mineralisation to secondary mineralisation occurred during the hydrothermal stage, whereby the major element composition of the fluid has not changed between the two phases of mineralisation. This is compatible with ages obtained for bastnaesite ( $602 \pm 7$  Ma) and monazite ( $589 \pm 8$  Ma). Despite these two ages being almost within the margins of analytical error, it demonstrates that the



secondary mineralisation (monazitic) formed very shortly after the precipitation of the primary mineralisation (bastnaesitic).

The composition of the fluids contained in the Gakara bastnaesites as well as the isotopic signatures strongly suggest that the mineralisation precipitated first from a brine exsolved from a carbonatitic magma. The latter then fractionated and another fluid with lower salinity was subsequently introduced to the mineralisation. The age of approximately 600 Ma obtained for aplites from Gashirwe and Kiyenzi, suggest that REE mineralising event is related to an alkaline intrusion. The occurrence of white aplitic veins therefore presents a useful guide for REE exploration within the Gakara area.

Cenozoic rifting affected the whole area with a general uplift. Normal faults accommodating this rifting are not clearly recognized in the Gakara area, however some large blocks could have been tilted during these extensional tectonics. There is evidence of deformation postdating the REE mineralisation e.g. at Kiyenzi. Deformation occurred along polyphased cataclasite fault zones, which were reactivated at each tectonic event particularly if the deformed pegmatites and foliation have a vertical orientation. Consequently, continuity of REE-veins is limited in those areas and the mineralisation may occur as discontinuous lenticular clasts within a cataclasite matrix with various amount of offset between them. Therefore, drilling could miss large lenses of mineralisation in the latter scenario.

## 9 EXPLORATION

### 9.1 Exploration work 2011 to 2016

The exploration programmes completed by Rainbow between 2011 and 2016 are summarised in chronological order in Table 9-1.

**Table 9-1**  
**Summary of exploration work on Gakara EL completed between 2011 and 2013**

| Activity                             | Details  |
|--------------------------------------|--|
| Pitting and trenching                | 85 pits (75 in Gasagwe and 10 in Kiyenzi area); 34 trenches in 8 target areas                          |
| Geological mapping                   | 3,418 observations points including 813 REE occurrences of which 520 are <i>in situ</i> veins/veinlets |
| Rock grab sampling                   | 632 sites sampled and analysed by Niton; 150 samples analysed by ALS Chemex, South Africa              |
| Soil sampling (orientation survey)   | 591 samples from 3 blocks (500 m by 500 m); all analysed by Niton and at ALS Chemex, South Africa      |
| Ground Gravity (orientation survey)  | 3.6 line kilometres on 7 sites   |
| Ground Magnetic (orientation survey) | 10 line kilometres on 7 sites  |
| Detailed soil geochemical sampling   | 2,906 samples from 4 geophysical grids; all analysed by Niton only                                     |

**Source:** MSA, 2016

Rainbow's exploration programme in 2011 started with a pitting and trenching programme in an attempt to validate historically reported REE vein occurrences. However, this prospecting approach was discontinued because of its inefficiency.

Geological mapping traverses were conducted along existing tracks, foot paths and river incisions due to general paucity of outcrop, and the hilly nature and intense agricultural usage of the Project area. Approximately 3,400 individual observation points with geological information were recorded, including the discovery of close to 800 REE vein or vein float occurrences. The emplacement of veins appears to be controlled by a regional structure pattern, with the REE veins observed intruding all lithologies except the Archaean basement inlier in the western part of the Project area.

Geophysical orientation work included ground gravity and magnetic surveys. The former method is considered an effective but time consuming technique to delineate the approximate position of REE veins, whilst ground magnetics appears to be a useful tool to assess structural and lithological features.

The results of a detailed soil sampling programme over selected areas with known REE occurrences, showed relatively broad and diffuse anomalies with a wide range of anomalous REE concentrations. Although this technique is very effective in confirming the occurrence of REE veins or float in a targeted area, it fails to locate the narrow veins with the precision required to follow up with a single pit or short trench.

The main objective of the geological mapping was to locate *in-situ* REE veins and float material. By April 2013 a total of 798 occurrences of bastnaesite/monazite *in-situ* veins and float had been identified in the Project area.



No further exploration fieldwork was undertaken by Rainbow between the end of April 2013 and 2016, except the collection of a 125 kg sample of REE vein material for mineralogical and metallurgical test work and detailed mapping at Gasagwe and Gashirwe West. These two localities are within the ML and were subject of conceptual mining studies in 2016 and a trial bench mining exercise conducted by Rainbow in 2015.

Trial benching and trenching was conducted as an exploration activity to establish the continuity of mineralised veins. The exercise confirmed the strike and down-dip continuity of the veins on a local scale.

## **9.2 Exploration work 2016 to 2018**

The following greenfields exploration programmes were carried out in the EL by Rainbow between 2016 and July 2018, when the validity of the EL expired:

- Regional geological mapping with consequent locating and sampling (rock chips) of new REE occurrences
- A high-resolution airborne geophysical survey (magnetics and radiometrics).

The exploration focus was placed on activities to increase the confidence in REE tonnage and grade estimates. Brownfields exploration was undertaken on three sites identified for their potential for trial mining. These sites are: Kiyenzi, Murambi South and Gomvyi Centre. On these deposits intensive exploration programmes were completed and included:

- Drilling at Kiyenzi.
- Trenching and associated channel sampling at Murambi South and Kiyenzi.
- Trenching and rock chip sampling at Gomvyi Centre.
- Detailed ground gravity surveys at Kiyenzi, Murambi South and Gomvyi Centre.

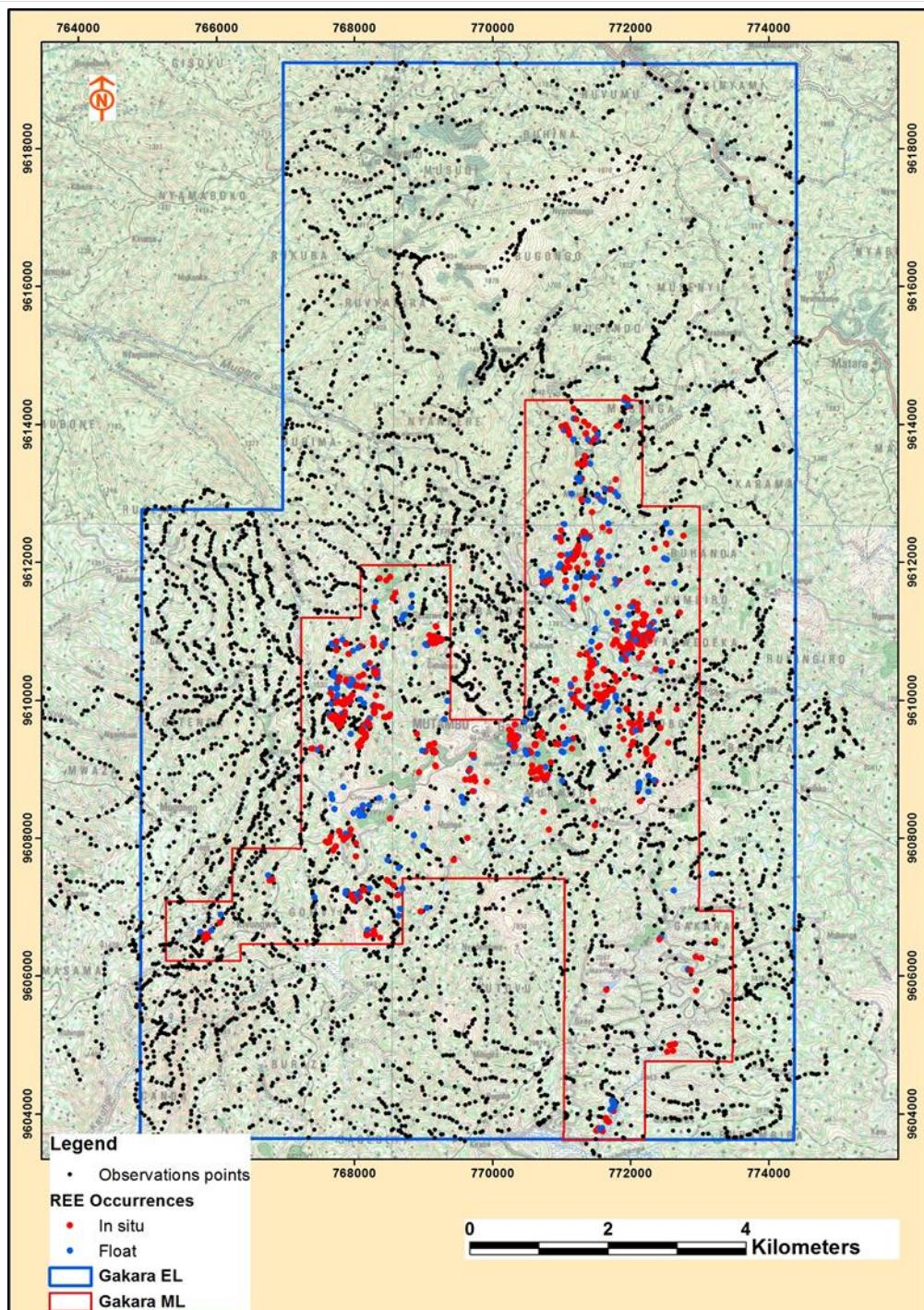
The objectives of the brownfields exploration work were twofold: a) to produce estimates of tonnage and grade, and b) to locate new sources of mineralisation for the mining operation.

Additionally, an intensive channel sampling programme of REE veins exposed during mining was completed at the Gasagwe mine. This was completed on order to get a better understanding of continuity and thickness of the veins in the stockwork, which may be applicable to other deposits of similar type within Rainbow's ML.

### **9.2.1 Mapping, Locating and Sampling of REE Occurrences**

Due to the hilly nature, sparse outcrop and intense agricultural coverage of the Project area, mapping was conducted in the form of traverses along existing tracks, foot paths and streams. Most of the regional mapping and REE occurrence detections between 2016 and 2018 were focussed on the areas outside the ML (Figure 9-1) prior to the expiry date of the EL. The key objective of this prospecting work was to determine if any of the REE veins within the boundary of the ML extend into the surrounding EL. The other objective was to identify and sterilise areas with no, or very low potential.

**Figure 9-1**  
**Mapping traverses, observation points and positions of REE occurrences**



**Source:** Rainbow, 2018; Blue line outlines the EL while the red line marks the area covered by the ML

Geological mapping was undertaken by Rainbow staff with the main objective of locating in-situ and float occurrences of REE veins. This exercise also involved the local population who located numerous REE vein occurrences due to their good knowledge of the area and previous exposure to the historical exploration and mining operations. All vein occurrences were verified in the field by Rainbow geologists and the diagnostically high REE content was semi-qualitatively confirmed with a portable XRF spectrometer (Niton XL3t GOLDD+). The position of all in-situ REE veins and floats

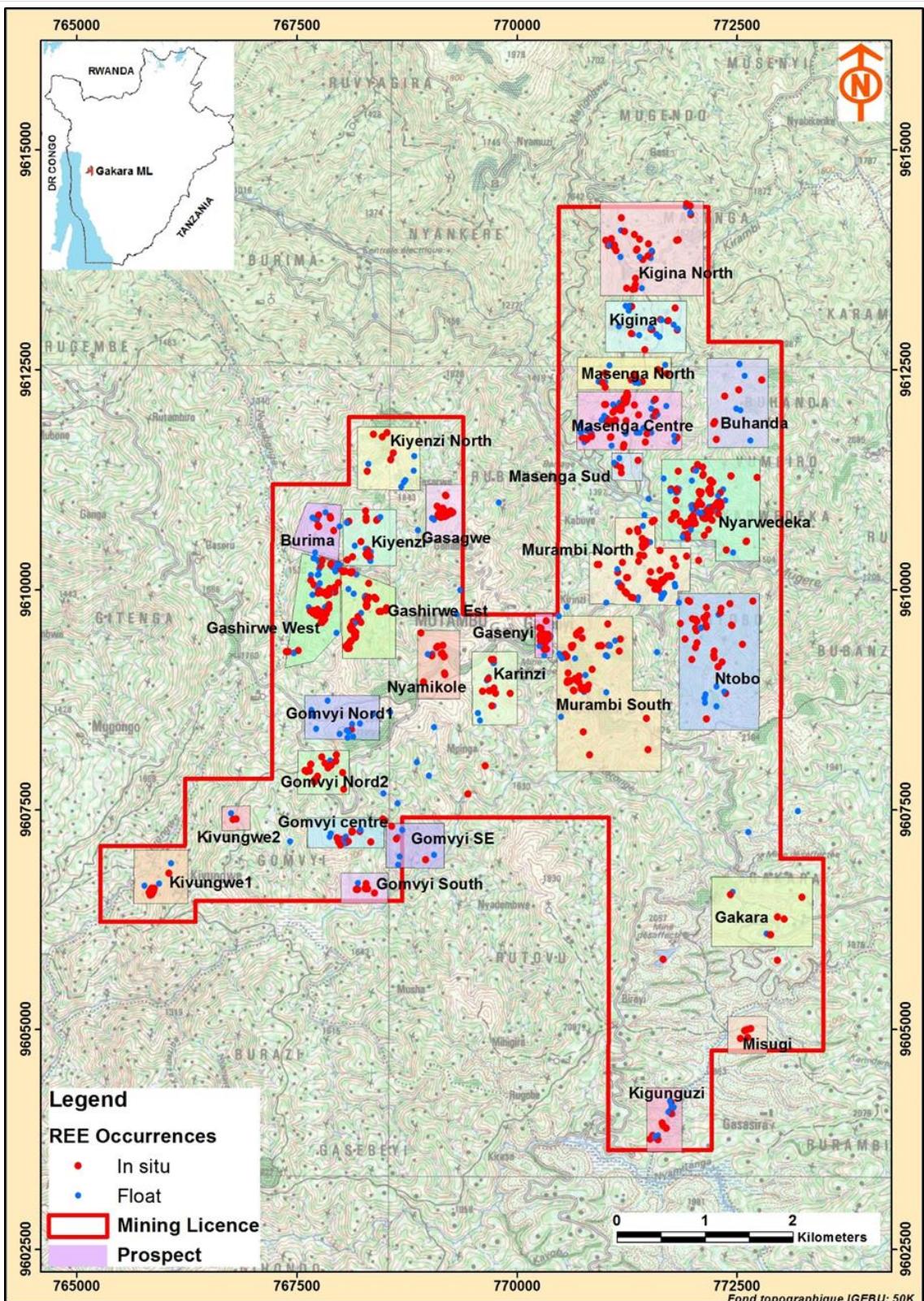


were recorded with a handheld GPS and geological parameters, such as width, length, strike and dip direction, were recorded in customised field sheets together with a brief description of the physical site, lithology of the respective host rock and the degree of weathering. This information was captured in the Project database (MS Office Excel spreadsheet) at the Rainbow field office and regular data back-ups were carried out at Rainbow's head office in Bujumbura.

The regional mapping and REE occurrence locating exercises were completed by January 2018, although new REE occurrences within the ML are continually being reported. Rainbow's current database contains 1,332 REE occurrences, of which 843 are in-situ veins with the remainder being recorded as "float". The latter include loose fragments, boulders and cobbles of REE veins found within colluvium, eluvium or saprolite horizons in cultivated lands, gullies and most often on steep hill slopes. The locations of all the REE occurrences within the Project area that are recorded in Rainbow's database are shown in Figure 9-1 and Figure 9-2.

Based on the frequency and locality of REE vein occurrences, Rainbow defined 28 "prospects" (or targets) which were named after the nearest village or other geographic features (Figure 9-2). A ranking exercise has been performed by Rainbow in order to assign a relative level of potential and priority to each prospect. The categorisation took into account geological factors as well as infrastructure and mining parameters.

**Figure 9-2**  
**Location of the 28 Prospects defined by REE occurrences**



**Source:** Rainbow, 2018



### 9.2.2 Airborne Geophysics

An airborne geophysical survey involving magnetic and radiometric techniques was completed in October 2017 covering the entire Gakara Property (Figure 9-3). The key objectives of the survey were twofold:

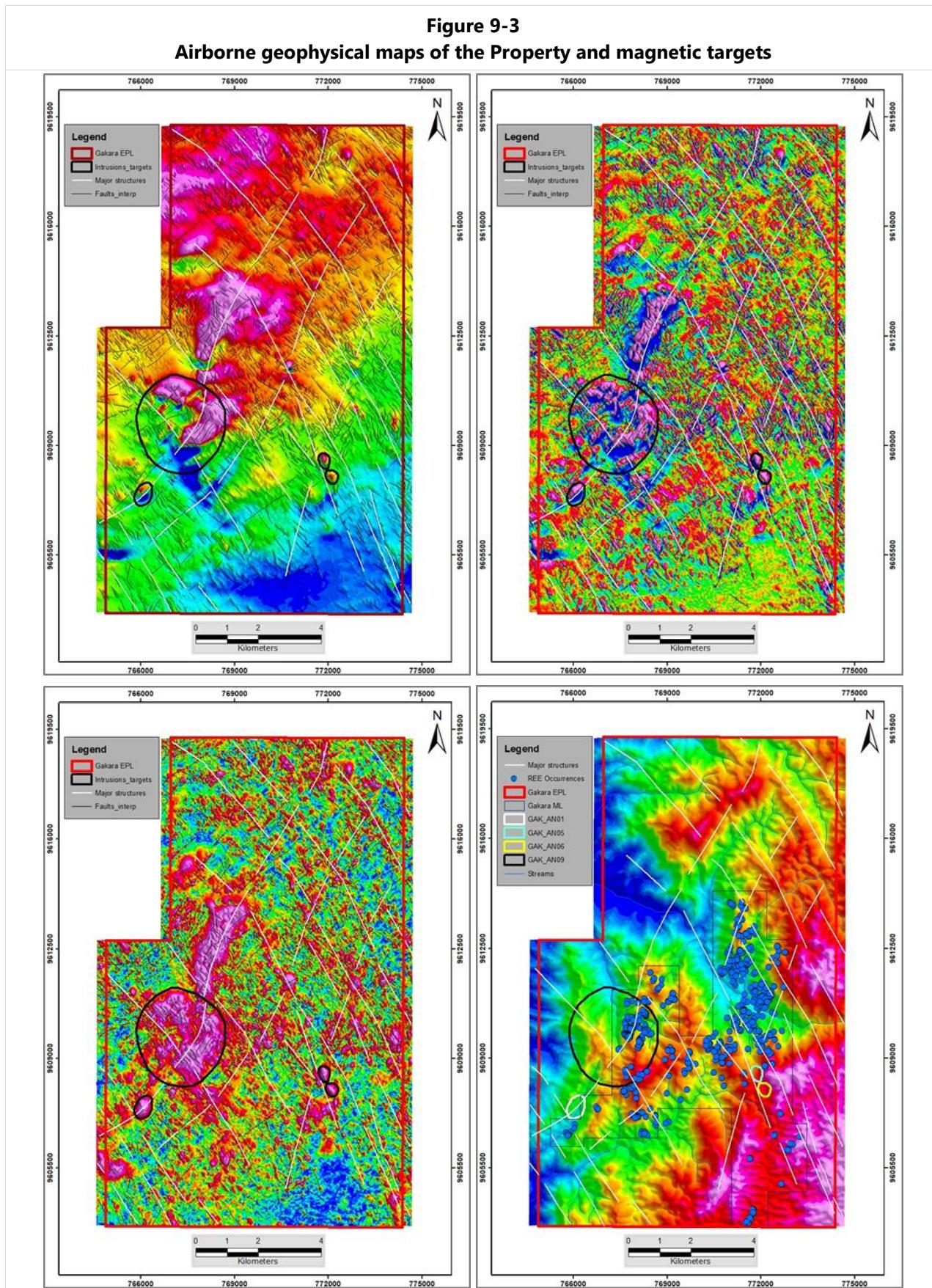
- Mapping and selecting magnetic anomalies that could be associated with intrusions potentially indicative of large carbonatite bodies that could be the source of the REE vein system
- Mapping of geological structures/lineaments apparently associated with REE mineralisation in order to improve the geological understanding of the deposit

Rainbow contracted New Resolution Airborne Geophysics (Pty) Ltd ("NRG") to undertake the helicopter-borne geophysical survey, which covered a 130 km<sup>2</sup> area. The survey flight lines were east to west orientated, with 50 m line spacing, and comprised of a total of 2,969 line km flown at an average altitude of 20 m to 30 m above the general topography.

Magnetic data proved effective in mapping and identifying potential targets for REE mineralisation associated with high magnetic zones and geological structures. As such, five conspicuous magnetic anomalies were selected for further investigation. These targets, which were conjectured to be related to large intrusions at depth, appear to be structurally controlled and vary in diameter from 300 m to 2,700 m. The magnetic data also mapped geological formations and structural fabric of the entire original EL and current ML, thus greatly improving the understanding and knowledge of the geology of the Property.

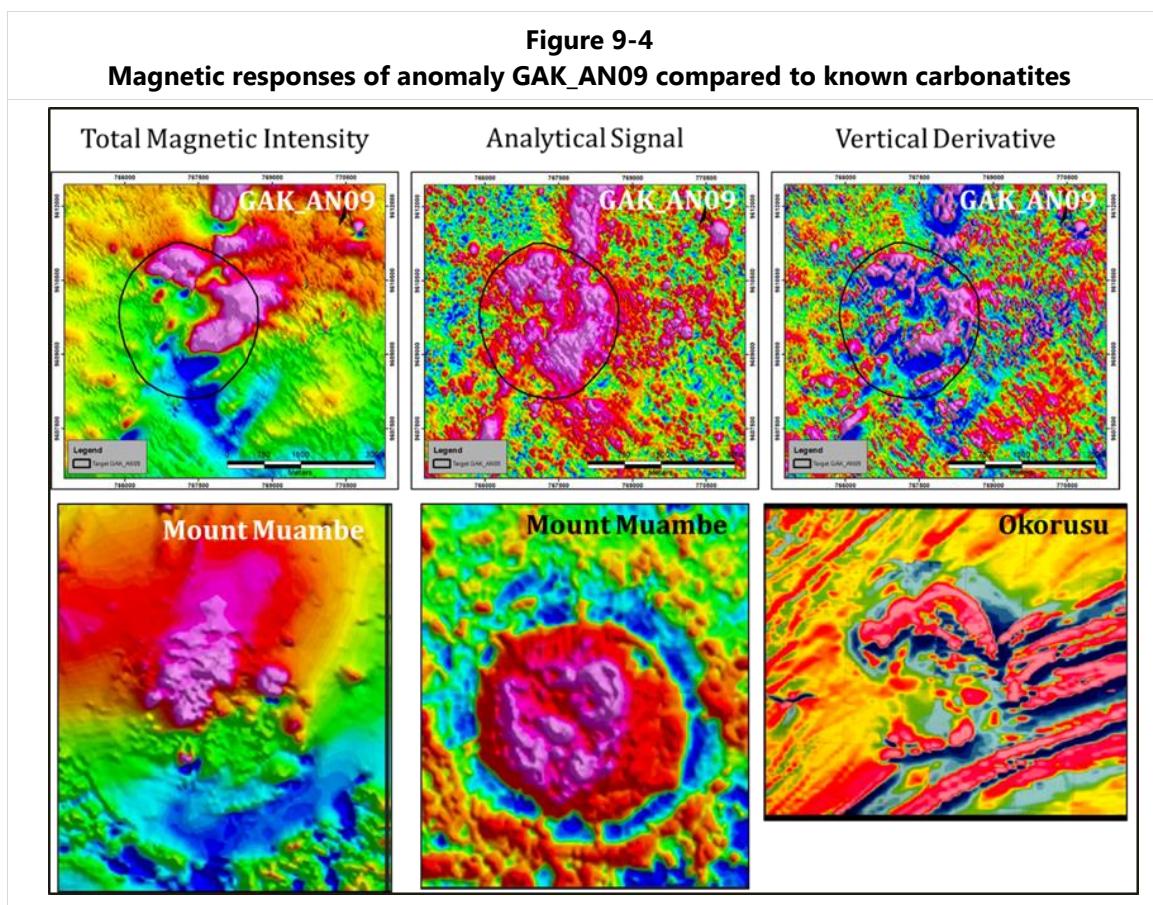
Radiometric data also proved useful as a reconnaissance geological mapping tool revealing major changes in lithology due to the change in the concentration of the three radioactive elements K, Th, and U. However, the radiometric data being limited to surficial geological mapping, they could not contribute to the selection of targets which are deemed to be deep-seated or under cover. Nevertheless, eight radiometric (Th) anomalies were selected for further investigations, three of which coincided with the already known prospects of Gasagwe, Kiyenzi and Gasenyi.

Of particular interest is target GAK\_AN09 because of its size (2,700 m in diameter), its complex magnetic signature and its location covering several key clusters of REE occurrences, including Gashirwe East & West, Kiyenzi, Gasagwe and Gomvyi North. The various filtered magnetic signatures of this broad and heterogenous anomaly resemble those published for large carbonatite bodies (e.g. Zandkopsdrift, Mount Muambe, Okorusu, Kalkveld, Evate). A collection of magnetic responses of large, known carbonatite complexes is shown in Figure 9-4 as a comparison with the magnetic signatures of GAK\_AN09.



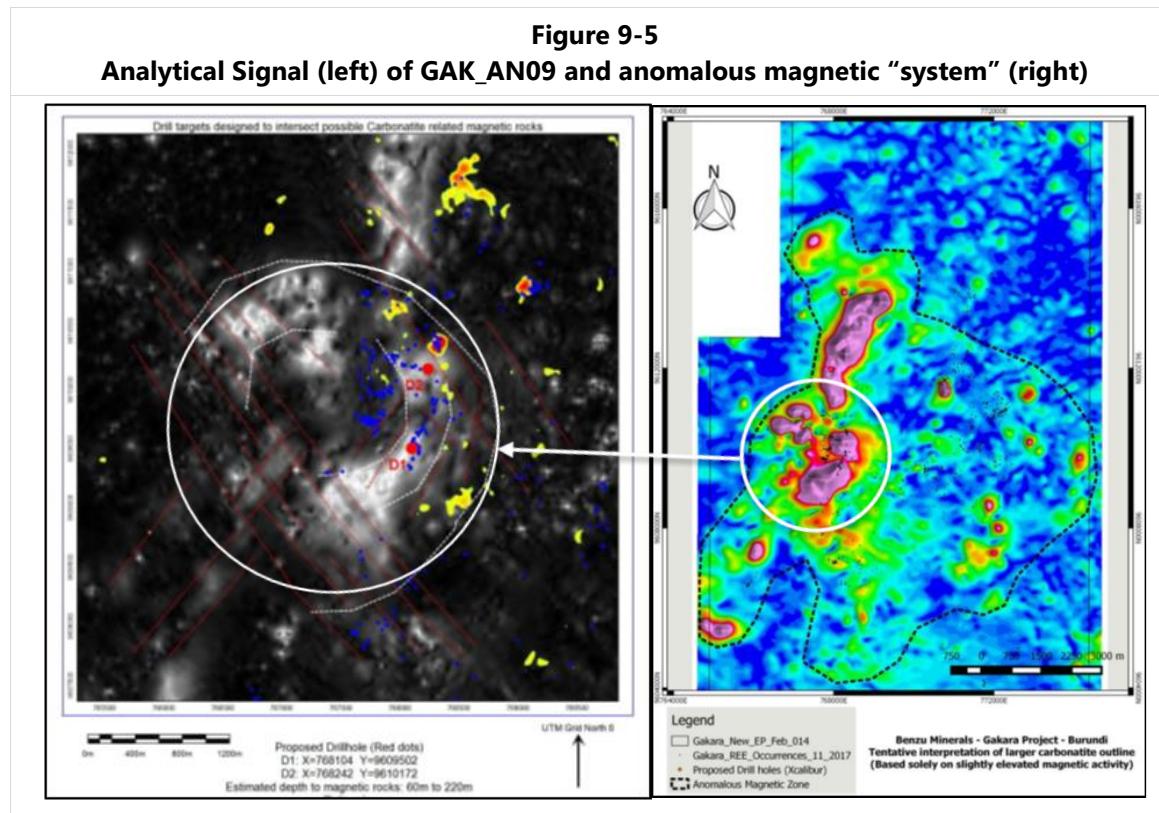
**Note:** Top Left: Total Magnetic Intensity field. Top Right: Vertical Derivative 1. Bottom left: Analytical Signal. Bottom Right: Digital elevation model ("DEM") and REE occurrences

**Source:** Rainbow, 2018



**Source:** Rainbow, 2018

A broader, regional interpretation of the airborne magnetic and radiometric data by Le Roux and Steenkamp (Xcalibur Geophysics, 2017 and 2018) has confirmed the high interest of anomaly GAK\_AN09 as a potential carbonatite intrusion within a much larger “system” defined by slightly elevated magnetic anomalism as seen in the Analytical Signal, and thus probably caused by a moderately deep intrusion (Figure 9-5).



**Note:** Anomalous magnetic "system" was interpreted to potentially represent a large carbonatite complex

**Source:** Rainbow, 2018

From Figure 9-5 (left), it is evident that many of the REE occurrences mapped (blue dots) follow an apparent zonation shown as a semi-circular pattern of magnetic anomalies (grey and white shades) and elevated Th readings (yellow spots).

#### 9.2.2.1 Results of Core Drilling of Magnetic Targets

Because the magnetic anomalies were believed to be relatively deep-seated, drilling was required to investigate the nature of these selected magnetic and radiometric targets. Six holes were drilled to explore the anomalies, as shown in Table 9-2.

**Table 9-2**  
Airborne geophysical targets tested with core drilling

| Anomaly No.           | Anomaly Type | Drill Hole No. | Drill Depth | Result/Causative Source                      |
|-----------------------|--------------|----------------|-------------|--|
| <b>GAK_AN01</b>       | magnetic     | GAK_DD017      | 80 m        | Magnetic gneiss at 53-71m                    |
| <b>GAK_AN06</b>       | magnetic     | GAK_DD016      | 60 m        | Magnetic gneiss at 15-17m                    |
| <b>GAK_AN09-1</b>     | magnetic     | GAK_DD014      | 150 m       | Inconclusive – no magnetic rocks intersected |
| <b>GAK_AN09-2</b>     | magnetic     | GAK_DD015      | 147 m       | 3 separate magnetic horizons traversed       |
| <b>DX06 (Gasagwe)</b> | radiometric  | GAK_DD018      | 50 m        | Weathered gneiss – no causative rocks        |
| <b>DX07 (Kiyenzi)</b> | radiometric  | GAK_DD09       | 50 m        | REE mineralised breccias                     |

**Source:** Rainbow, 2018



In three of the magnetic targets, the source of the anomalies was found to be highly magnetic horizons within gneissic lithologies. The magnetic readings in such units ranged between 400 and  $6,000 \times 10^{-5}$  SI units.

In the fourth magnetic target, GAK\_AN09-1, drilling was stopped at a depth of 150 m without intersecting any magnetic causative lithologies. The modelled depth for this target ranged between 60 m and 220 m and it is therefore possible that this hole was not drilled deep enough to accommodate the inherent modelling uncertainty for a relatively deep-seated anomaly. It remains plausible that GAK\_AN09-1 could be caused by a large and deep circular intrusion, akin to a carbonatite complex.

It is important to note that GAK\_AN09-1 is located less than 500 m from the Kiyenzi target which comprises of a large amount of aplite intruded in the gneiss. From the petrographic work carried out by Ntiharirizwa (2018), it has now been established that the aplitic intrusion event was synchronous with the emplacement of REE-bearing bastnaesite mineralisation and hence part of a deeper-seated carbonatitic complex. Similar occurrences of aplite have also been mapped at Gashirwe West, which, together with Gashirwe East and Gasagwe, fall within the large magnetic rim that characterises anomaly GAK\_AN09. It is therefore possible that GAK\_AN09 represents the magnetic signature of a 3 km wide carbonatite complex.

### **9.2.3 Trenching and Channel Sampling**

Trenching and the associated channel sampling were carried out as brownfields exploration activities with the objective of obtaining sufficient data to constrain the spatial distribution and characteristics of REE veins in order to determine the likely tonnage and REE grade of three sites selected for mining; Murambi, Gomvyi Centre and Kiyenzi.

Trenches were excavated either by hand or by using excavators. Twenty-four trenches totalling 1,524 m in combined length, were excavated over the three mining targets. In total, 745 channel samples (as well as 95 quality control and quality assurance samples) were collected for geochemical analysis.

#### **9.2.3.1 Channel sampling Protocol**

Once a REE vein is exposed by trenching, the surveyor delineates contour lines on the outcrop (Figure 9-6). A sample is then taken between two successive contour lines and given a number. The channels, which are 10 cm wide, are cut using a petrol engine rock cutter or a chisel and hammer. Two to four kilograms of sample are collected and put in a pre-numbered calico bag. The distance between channels is 2 m (Figure 9-7).

**Figure 9-6**  
**Example of a channel sample collected between 2 elevation contour lines**



**Note:** Contour lines (purple lines) are 1 m apart; The width of the channel is 10 cm (between two red arrows)

**Source:** Rainbow, 2018

The data collected by the geologist comprise sample ID, coordinates, length of the channel, trend, average thickness and a brief description of the material sampled. A photo is also taken. The thickness of the REE vein is measured with a measuring tape, taking a reading at the top, at the bottom and in the middle of the channel, and also by the surveyor using a DGPS to record the XYZ coordinates of the corners of the channel.

All these data are captured in an MS Office Excel database. The surveyor then processes all data recorded to produce Excel, dxf, and pdf files, which are later used to plot the channel samples using other software (ArcGIS or Micromine).



**Figure 9-7**  
**Channel sampling on a REE vein at Gasagwe Mine**



**Note:** Channels are 2 m apart and are cut to traverse hanging and foot walls to determine the vein thicknesses

**Source:** Rainbow, 2018

The channel samples selected for laboratory analyses were sub-sampled to achieve a weight of approximately 500 g per sample. The rest of the sample material was crushed and pulverised using a hammermill set up at the Kabezi plant. After each sample the mill was cleaned using a hand-held blower and a small fraction of the following sample was pre-crushed and discarded before the next sample was fully pulverised. This procedure was aimed at minimizing potential inter-sample contamination. The pulverised sample was riffled and split using a sample splitter. Around 500 g to 1000 g were extracted and bagged for Niton XRF analysis. Each sample was analysed at three different points through the bag and the readings were subsequently averaged. Only Ce, La, Nd and Pr were analysed. The Niton-analysed sample was then stored for future reference whereas the remainder was weighed, put in a bag and eventually put through the processing plant together with routine production vein material.

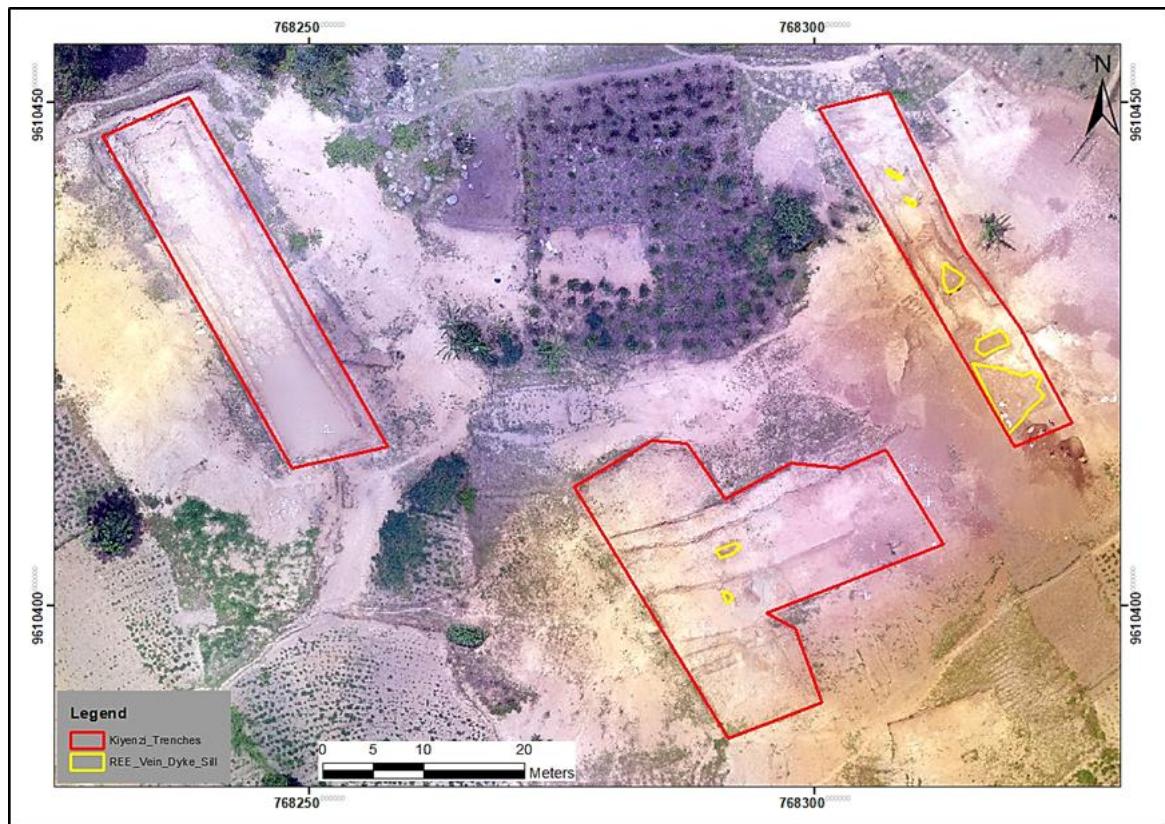
#### 9.2.4 Kiyenzi Target

Trenching on this target was carried out by hand using casual labourers. Three trenches with a combined length of 103 m were excavated (Figure 9-8). The first two trenches on the western side of the target were excavated for the purposes of investigating a circular ground gravity anomaly. The third trench was excavated to expose the continuation of REE veins discovered at surface when preparing drill platforms as well as the REE breccia intersected at shallow depth (<2 m) in two of the drill holes. The trenching work was carried out using the benching method in order to avoid sidewall collapse and this ensure a safe working environment.

The western-most trench did not expose REE mineralisation. Two veins of REE-bearing breccias were encountered in the middle trench and in the eastern trench, five REE-bearing veins were exposed. (Figure 9-8). One of these bodies, which appears to be extensive and fairly thick (0.2 m to

1.3 m), seems to be a sill comprising mostly pure bastnaesite/monazite but also of the mineralised brecciated type (Figure 9-9). Approximately 20 tonnes of this material were collected from this body for metallurgical test work.

**Figure 9-8**  
**Drone aerial image of the Kiyenzi target showing the location of the 3 excavated trenches**



**Note:** Trenches are shown with red outline as well as REE veins (yellow outline) exposed in the excavations

**Source:** Rainbow, 2018

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**Figure 9-9**  
**Exposed bastnaesite sill on the eastern trench at Kiyenzi**



**Note:** The white dotted line on the left photo outlines the upper surface of the sill. The white dotted line on the right photo shows the contact between the bastnaesite and the underlying aplite

**Source:** Rainbow, 2018

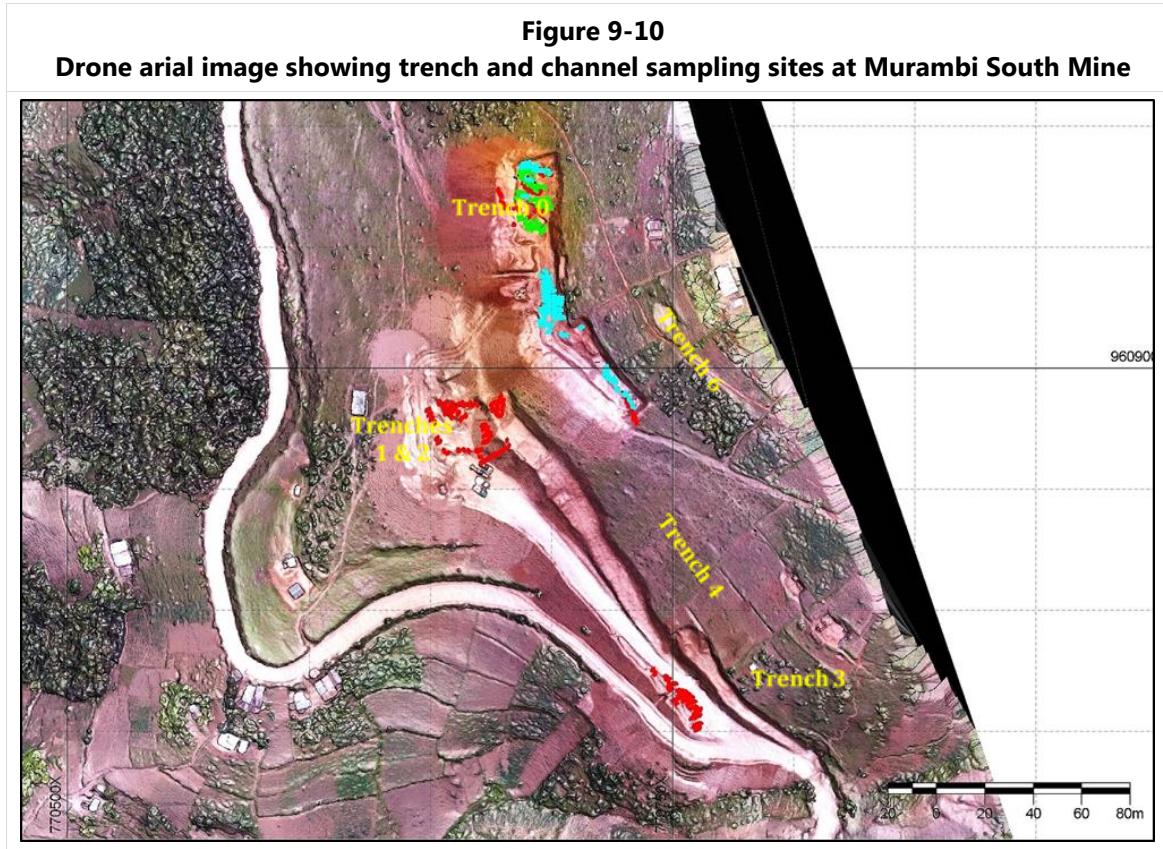
In total, 17 channel samples and 14 rock chip samples were collected from the flat-lying bastnaesite/monazite layer. These samples were analysed using the hand-held Niton XRF which yielded indicative TREO grades of between 49% and 57% with an average of 52.5% TREO.

For completeness, mention is made here that the Kiyenzi target was also extensively drilled and some 434 core samples were selected for full chemical analyses (refer to Section 10.7).

### 9.2.5 Murambi South Target

Trenching on this target was carried out by hand using mine labourers as well as by excavator. Six trenches with a combined length of 290 m were excavated (Figure 9-10). The intensive trenching programme at Murambi South was undertaken concurrently with the trial mining. As such the objectives of the trenching were twofold: a) to explore for the presence, extent and continuation of the REE veins historically reported by SOBUMINES and BGR and b) to gather bulk samples for metallurgy test work and for mine production.

In total, 452 channel samples, 34 rock chip samples and 73 tonnes of REE vein material have been extracted from Murambi South. The channel sampling was carried out strictly in accordance with the protocol described in Section 9.2.3.1 of this Report. Vein thicknesses were also measured according to the protocol using a DGPS for accurate topographic data. A total of 65 vein thicknesses have been recorded which form the basis for the tonnage and REE grade estimation at Murambi South.



**Note:** Channel sample sites are shown in red, green and magenta.

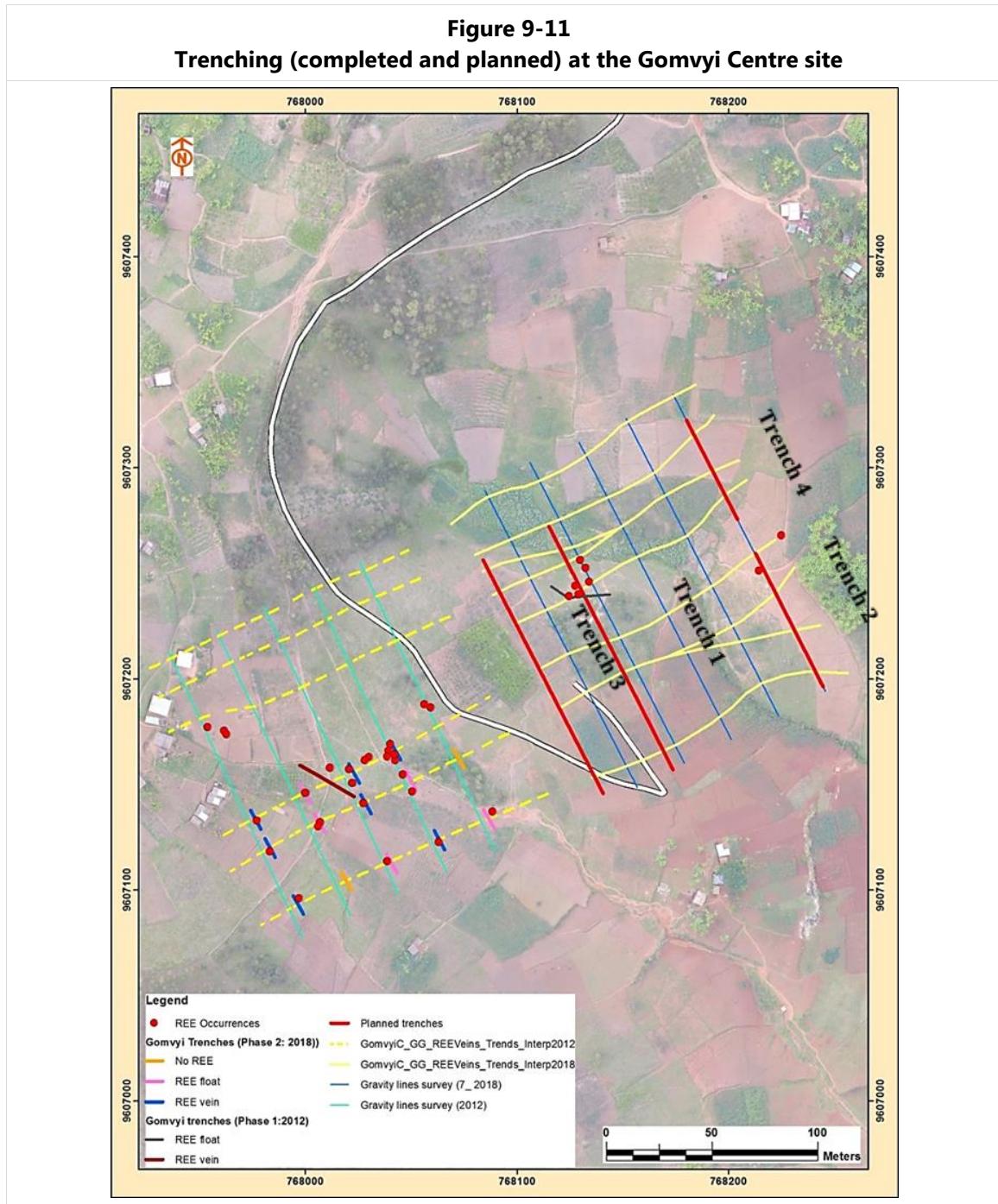
**Source:** Rainbow, 2018

### 9.2.6 Gomvyi Centre Target

Based on the outcome of the ground gravity survey at the Gomvyi Centre site (see section 9.3.3), a trenching programme consisting of four trenches (total of 500 metres) commenced in September 2018 by hand digging. The aim of the trenching programme was to verify the lateral extent of the REE veins that had been identified during a 2012 trenching exercise and investigate a series of NE-SW gravity lineaments highlighted by a detailed ground gravity survey. The same trends were observed by the 2018 survey, hence the recent trenching programme (Figure 9-11).

The discovery of veins coinciding with the gravity lineaments identified by the two gravity surveys, and their sampling (by channel or chips) has provided data that will be used in order to estimate the potential extent of the veins at this site.

In total, 26 REE occurrences have been discovered at Gomvyi Centre and all of these were sampled and analysed using the Niton XRF. Additionally, 15 of these samples were also submitted to ALS Minerals (Canada) for complete geochemical assays. Gomvyi Centre has yielded some of the thickest REE veins recorded in Rainbow's database, with some measurements being greater than 50 cm. These occurrences are in the northern part of Trench 1 (Figure 9-11).



**Source:** Rainbow, 2018

### 9.3 Ground Gravity Surveys

Detailed Ground Gravity Surveys ("GGS") were undertaken at three sites: Kiyenzi, Murambi South and Gomvyi Centre, with the objective to identify gravity-contrast anomalies that could be associated with bastnaesite/monazite bodies (veins, dykes, sills or larger bodies) (Kubanza, 2017). GGS were completed in 2012 over selected sites in order to establish the effectiveness of this technique in detecting REE mineralisation (Kubanza, 2012). The REE-bearing bastnaesite and monazite mineralisation is usually much denser than the host geology (gneiss, granite, aplite, laterites) and hence can result in a positive density contrast (i.e. a "high" in the gravity data). The

2012 GGS generated a series of gravity anomalies which were tested by trenching and proved to be caused by bastnaesite/monazite occurrences, notably on Gomvyi and Murambi.

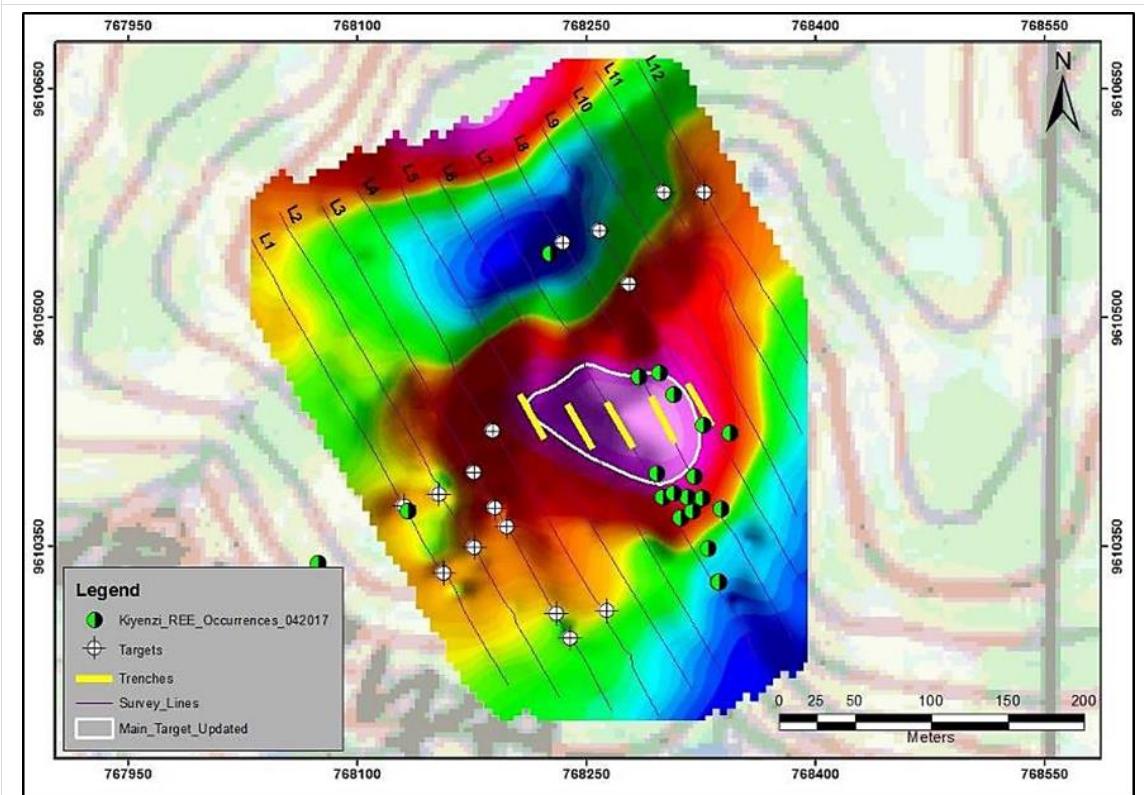
Whereas the ground gravity technique has proved to be the best geophysical tool to confirm REE occurrences (once a site is identified, i.e. not as a reconnaissance method), it remains inaccurate in certain physical situations, causing "false anomalies". Such errors could be accredited to the narrowness of the veins, which cannot always result in high density contrasts, as well as to the thickness of the overburden causing weak density contrasts and to the individual morphology of the mineralised body.

The GGS were carried out by GeoFocus Geophysical Services using a Scintrex CG5 gravimeter and a Javad DGPS for the topographic data. The surveys consisted of traverses orientated perpendicularly to the postulated REE vein directions, spaced every 25 m or 30 m with gravity readings taken every 5 m at Kiyenzi and every 1 m at Murambi and Gomvyi Centre.

### 9.3.1 Kiyenzi GGS

The GGS at Kiyenzi covered a block of 400 m by 250 m on which 12 lines were surveyed for a total length of 4.4 km. This survey yielded a very conspicuous elliptically-shaped gravity high anomaly (Figure 9-12), which was modelled in 2D and 3D as a broad, buried, high-density body of about 70 to 80 m wide, 200 m long and extending from 20 m to about 100 m below surface (Havemann, 2017 and 2018). The encouraging feature of this anomaly was that it appeared to coincide with the location of many REE occurrences previously discovered at the Kiyenzi prospect (Figure 9-12).

**Figure 9-12**  
**Interpretation of the line-based residual Bouguer anomaly map at Kiyenzi**



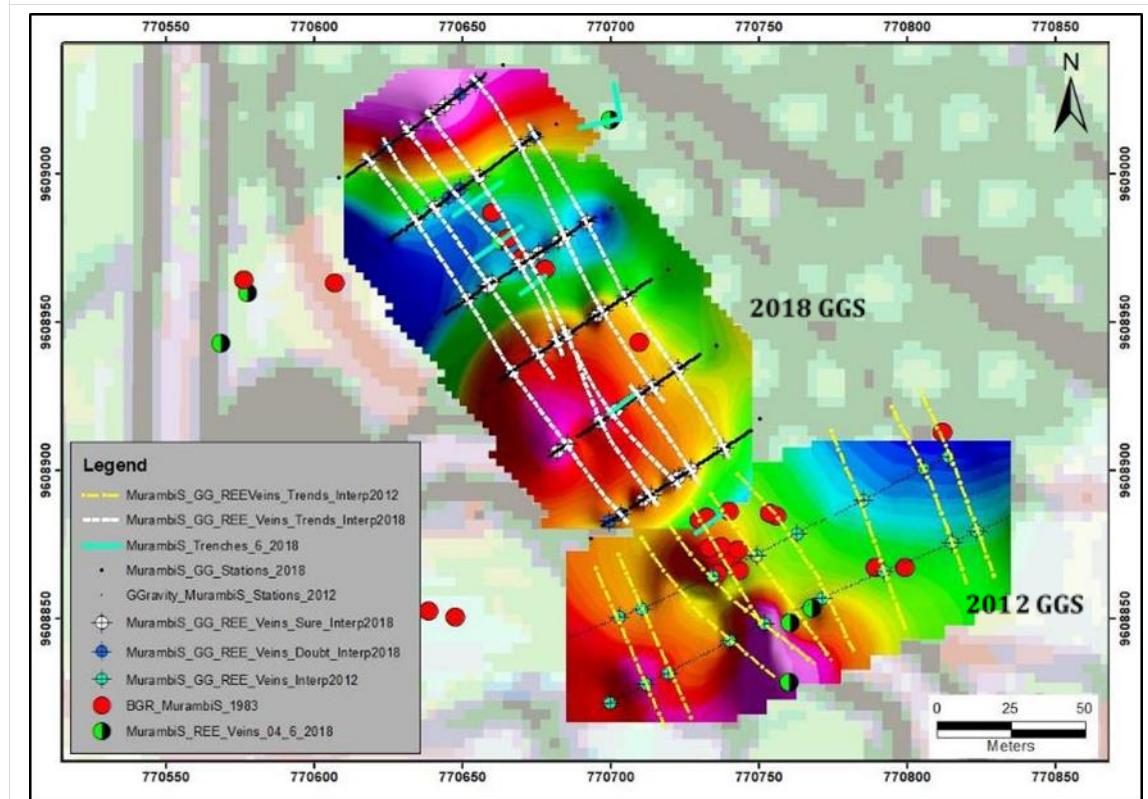
**Source:** Rainbow, 2018

The trenching and drilling that was carried out to investigate the source of the large gravity target proved "negative". Despite the intersection of several REE veins in the drill cores at different depths, these could not explain the cohesive, massive body modelled from the gravity data. Investigations on the REE intersection in the drill core in order to determine the technical factors that could explain the large semi-circular gravity target have not been completed and the causative body remains unexplained.

### 9.3.2 Murambi South GGS

The GGS on Murambi South covered a block of 150 m by 60 m on which six lines, 60 m long and 30 m apart, were surveyed for a total combined length of 360 m (Kubanza, 2018; Havemann, 2018). This survey yielded a series of sub-parallel gravity lineaments, generally trending NW-SE (white dash lines in Figure 9-13). Importantly, the gravity anomalies are aligned with known REE vein occurrences (most of which appear to display the same orientation) and correlate well with the lineaments interpreted from the 2012 GGS (Figure 9-13). A trenching programme was designed order to test the hypothesis that the gravity lineaments are related to bastnaesite/monazite veins; to date this has been confirmed to be the case in certain parts of the survey block. Trial mining is currently carried out at this site and a high frequency of veins in a stockwork complex has been observed at two sites.

**Figure 9-13**  
**Interpretation of thin linear gravity highs on residual gravity map at Murambi South**



**Note:** White stippled lines are from the 2018 gravity survey and yellow lines from the 2012 GGS

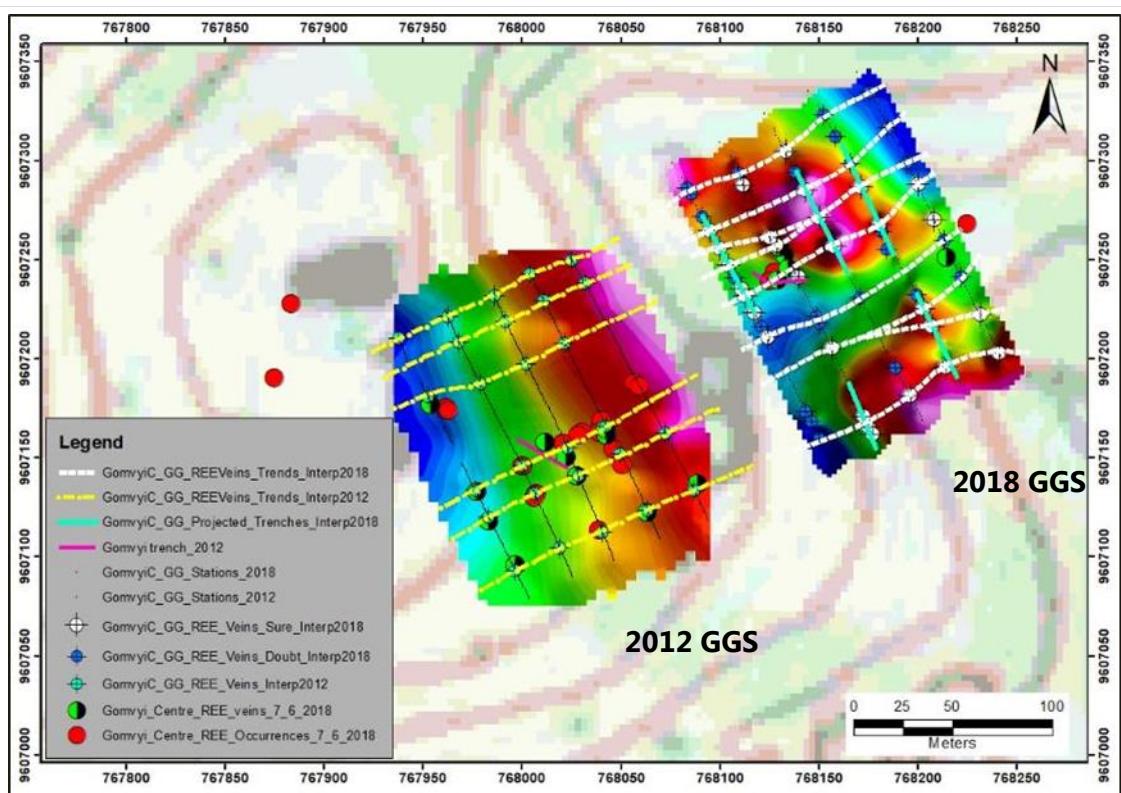
**Source:** Rainbow, 2018

### 9.3.3 Gomvyi Centre GGS

The GGS on Gomvyi Centre covered a block of 120 m by 160 m on which five lines, 160 m long and 30 m apart, were surveyed for a total combined length of 800 m (Kubanza, 2018; Havemann, 2018). This survey yielded a series of sub-parallel gravity lineaments, generally trending SW-NE (white dash lines in Figure 9-14). Similarly to the Murambi observations, the gravity anomalies alignments correlate well with known REE vein occurrences (most of which appear to display the same orientation) and correlate well with the lineaments interpreted from the 2012 GGS (Figure 9-14).

A trenching programme was set up following the outcomes of the GGS in order to test the model that the gravity lineaments are related to bastnaesite/monazite veins. To date, only a portion of Trench 1 has been completed where a series of new REE vein were observed in the northern section of this trench. These new bastnaesite/monazite occurrences occur where the gravity data has generated a broad semi-circular gravity high (Havemann, 2018).

**Figure 9-14**  
**Interpretation of thin linear gravity highs on residual gravity map at Gomvyi Centre**



**Note:** White stippled lines are from the 2018 gravity survey and yellow lines from the 2012 GGS

**Source:** Rainbow, 2018



## 10 DRILLING

The diamond drilling ("DD") was carried out by Rainbow between February and September 2018. This was the first drilling programme ever undertaken on the Gakara Project. The programme was divided into two phases which were aimed at achieving the following objectives:

- At the Gasagwe Mine: to test the possibility of using drilling as a method for establishing continuation of known/mined REE veins at depth.
- To investigate the sources for the magnetic and radiometric anomalies selected from the airborne geophysical survey (as reported in Section 9.2.2.1).
- To establish the source of the ground gravity anomaly at the Kiyenzi target.
- To evaluate the nature of the Kiyenzi mineralisation below surface.

The last objective was the exclusive focus of the second phase of this drilling campaign.

### 10.1 Drilling Techniques

Diamond (or core) drilling was the technique applied, using a combination of HQ and NQ core sizes, depending on the hole depth and hardness of the lithologies encountered down the hole. HQ size was mainly utilized in the top 50 m where the lithologies are highly fractured and the hardness ranges between soft and moderately hard. The NQ core size was utilized where drill holes exceeded 50 m depth and encountered more competent/hard rock. Standard core barrels were used for both core sizes. The cores were not oriented. The drill rig used for the two campaigns was a Discovery II Man-Portable Rig – Diamond Core Drill (Figure 10-1). The drilling contractor was ADT, a Uganda-based drilling contractor.

**Figure 10-1**  
**Discovery II diamond drill rig on the Kiyenzi target**



**Source:** Rainbow, 2018

## 10.2 Drill Hole Information

Thirty-eight diamond holes covering a total of 2115.50 m were drilled on six different target sites. The key information about these drill holes is summarised in Table 10-1.

**Table 10-1**  
**Summary of core drilling**

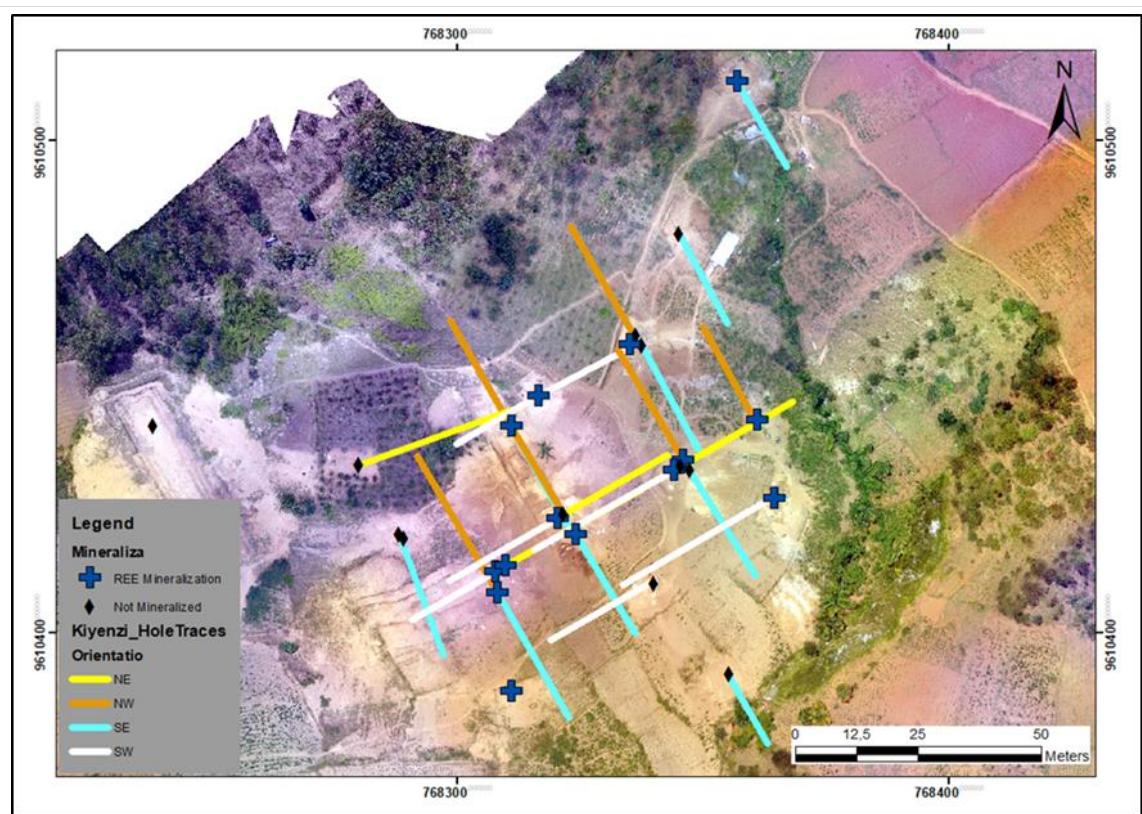
| Drilling Purpose                                       | Number of Targets Drilled | Number of Holes Drilled | Total Metres Drilled |
|--|---------------------------|-------------------------|----------------------|
| Gasagwe: establishing depth continuation of REE veins  | 1                         | 3                       | 150.0                |
| Airborne Magnetic Targets testing                      | 4                         | 4                       | 437.0                |
| Airborne Radiometric Targets testing                   | 2                         | 2                       | 100.0                |
| Kiyenzi: drilling of ground gravity anomaly            | 1                         | 6                       | 464.6                |
| Kiyenzi: evaluate nature of sub-surface mineralisation | 1                         | 24                      | 963.9                |
| <b>TOTAL</b>   | <b>9</b>                  | <b>38</b>               | <b>2,115.5</b>       |

**Source:** Rainbow, 2018

In total, 1,428.5 m were drilled on the Kiyenzi target from 30 diamond drill holes. The drill holes were located on a spacing of between 15 m and 33 m depending on practicalities of drill pad construction on the steep slope (Figure 10-2). Except for three holes which were drilled vertically in the initial stage of the campaign, all remaining 27 holes were drilled inclined at angles of either 50°

or 60°, depending on the hill slope. The angled holes were drilled in 4 directions: NW, SE, NE and SW (Figure 10-2).

**Figure 10-2**  
**Kiyenzi drilling grid and angled hole directions**



**Source:** Rainbow, 2018

### 10.3 Core Logging, Recovery and Rock Quality Designation Calculations

The core recovered from the core barrel was placed in metal core trays by the drill crew and wooden depth markers were inserted at the end of each core run. Once a core tray was full, it was transported to the logging bench where the geologists on site would carry out lithological logging (including radiometric detection using a handheld Polymaster) and record various measurements for each core run, including the following:

**F:** Depth From (m)

**D:** Depth To (m)

**L1:** Core Run i.e. Depth From – Depth To

**L2:** Length of Recovered Core

**R:** Core Recovery: L2/L1

**RQD (rock quality designation):** A measure of degree of jointing or fracture in a drill core run calculated was as follows:

$$RQD = \frac{\text{Sum of length of core pieces} > 100\text{mm}}{\text{Total core run}} \times 100$$



After completion of the core logging and taking of structural measurements, the core trays were photographed at the drill site (tray by tray) before being transported to the Mutambu base camp where final logging and core sampling work were undertaken.

## **10.4 Drill Core Sampling**

Drill core sampling was only carried on positive holes, i.e. on drill holes that intersected mineralised breccias upon visual identification/logging and radiometric detection. Within such holes sampling was carried out within all lithological horizons that were deemed to have the potential to contain REE mineralisation.

Core sampling was carried out after the completion of the lithological logging and marking of sampling intervals. This work typically involved three processes:

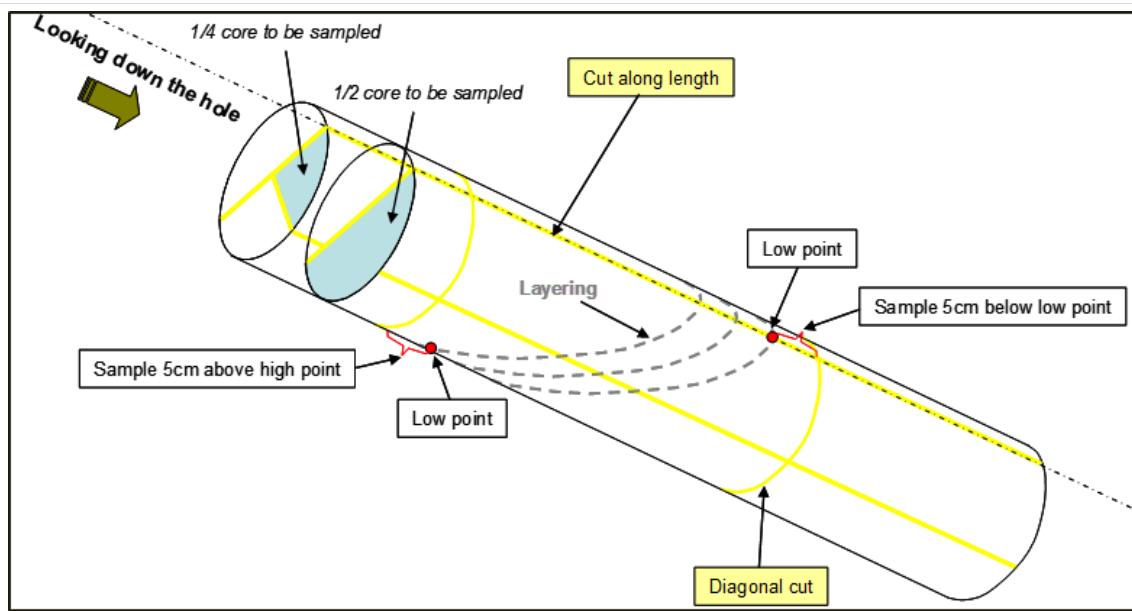
- Marking the apical trace of bedding ellipse on the core with permanent pen. Core splitting was carried out along that trace.
- Splitting the core along the marked lines
- Core sampling.

### **10.4.1 Core Marking and Splitting**

Core marking is a process that involves drawing a straight line on the core axis along which the core is split longitudinally into two halves (Figure 10-3). This normally involves the following steps:

- Laying out the core trays either on the ground, or on the logging table in the order of drilling depth, i.e. from the top to bottom.
- Aligning the core samples such that the core axis from the top to the bottom of the hole is the same.
- Drawing a straight line down the length of the core by using a permanent marker.

**Figure 10-3**  
**Typical core marking scheme**



**Source:** Rainbow, 2018

Core splitting involves cutting the core into two halves along the marked lines on the core axis. The core was cut using an electric core splitter installed at the Mutambu base camp.

#### 10.4.2 Sampling Procedure

Core sampling was carried out as follows:

- Core trays were laid out either on the ground or on the logging table in the order of drilling depth i.e. from the top to bottom.
- Care was taken to sample the same side of the core whereas the other half was left in the core tray for future reference and analysis.
- Sampling was by lithology whenever possible. The minimum sampling interval per lithological unit was 3 cm (this is due to the nature of the mineralisation, which mainly occurs as relatively thin veins).
- Sampling intervals were marked on the core before the sample was taken.
- One half of the core within the marked intervals was placed in designated sample bags.
- Sample tickets were placed in the calico sample bags which were later sealed.
- Each sample bag was weighed.
- Sample details such as sample number, interval and weight were recorded on a customised sample data sheet.
- QAQC samples were inserted at predetermined intervals within the sample sequence.
- For duplicate samples, an empty bag with a sample ticket was inserted at predetermined intervals. Instructions were given to the laboratory on the sample dispatch form as to which samples were required to be crushed, homogenised and split into two to obtain a duplicate sample.

- The calico sample bags were placed into big bags which were sealed prior to transport by road to Bujumbura from where they were dispatched to ALS Minerals Laboratory ("ALS") in Vancouver (Canada) via courier services (generally DHL).
- All the drill core sampling data were captured in the drilling database.

## **10.5 Topographic and Drill Collar Survey**

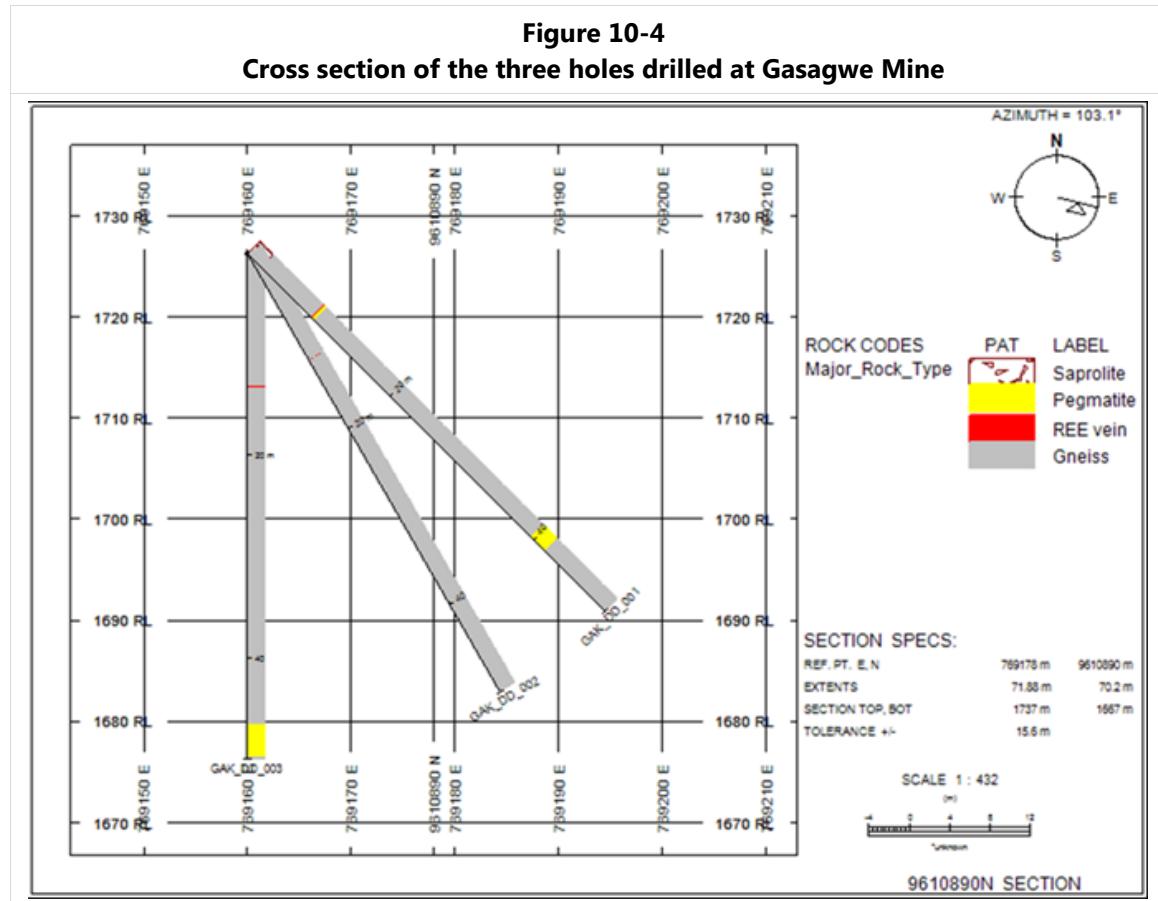
Drone and topographic surveys were carried out at the Gasagwe Mine site as well as the Murambi South, Kiyenzi and Gomvyi Centre targets. The surveys acquired coordinates for every channel sample cut through veins as well as for all drill collar positions. A differential GPS ("DGPS") was used, except for the drill collar positions of the 4 aeromagnetic targets which were surveyed using a standard handheld Garmin GPS.

The DGPS Equipment used by the Burundian survey contractor is a Leica TS02 R500 Reflectorless w/ Bluetooth Total Station, with a precision of 1 mm.

The Drone system was a Phantom 4 equipped with a 20 MP camera. The GPS units were a Trimble R2 GNSS receiver and a Trimble R8 GNSS receiver as the base station. A Trimble TSC3 controller was used equipped with GLONASS (which includes Russian satellites for better coverage). A centimetre accuracy is achieved with this system.

## **10.6 Drilling at Gasagwe Mine**

The three holes drilled at Gasagwe Mine (one vertical and two inclined), aimed to establish the depth continuation of the mined REE veins, confirmed the continuation of REE mineralisation up to a depth of 11 m from the mining level at the time of drilling (February 2018). REE veins with thickness ranging between 2 cm and 5 cm were encountered at downhole depths between 8.95 m and 13.27 m (Figure 10-4). Due to the highly weathered and friable nature of the bastnaesite/monazite and the incompetent saprolitic gneiss (host rock), one vein that should have been intersected close to the surface (1 m below the mining level at the time of drilling), was not observed/logged in the drill core because it was washed away during drilling. However, subsequent mining of the veins exposed this particular vein which was shown to have been pierced by the drill hole.



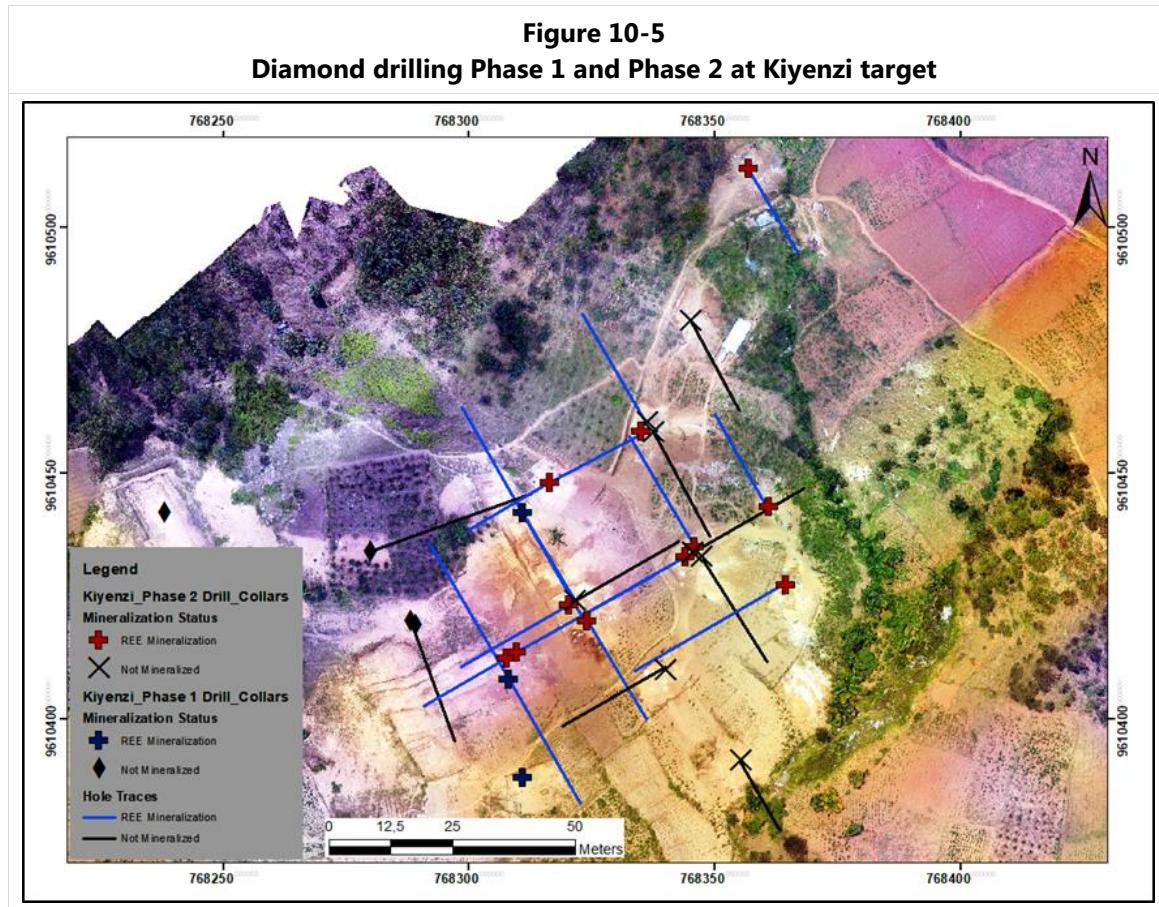
**Source:** Rainbow, 2018

### 10.7 Drilling at Kiyenzi Target

Kiyenzi is considered to have high potential because of the presence of exceptionally large REE-bearing breccia boulders (tens to hundreds of kg) found strewn on the steep flanks of the Kiyenzi hill. While some veins of purer bastnaesite/monazite were found in-situ on the target, most of the boulders of the mineralised breccia type lithology were float. Rainbow therefore believed that the prospect justified a systematic drilling campaign.

Drilling of the Kiyenzi target was carried out in two phases (Figure 10-5). Phase 1, from March to June 2018, consisted of 10 holes for a total meterage of 464.6 m. Phase 2, from July to September 2018, drilled 20 holes for a total meterage of 963.9 m.

Phase 1 was initially aimed at investigating the source of the postulated, large gravity anomaly, seemingly coincident with the occurrence of the large mineralised breccia floats. A total of six holes were drilled in the central part of the elliptical anomaly in order to achieve this first objective. However, the only dense lithologies encountered from this exercise were a thin layer (<20 cm wide) of massive sulphides at a depth of 98 m and a mafic rock (also <20cm thick) at a depth of 86 m with densities of 3.2 and 3.0 respectively. These intersections could not explain the relatively large gravity anomaly.

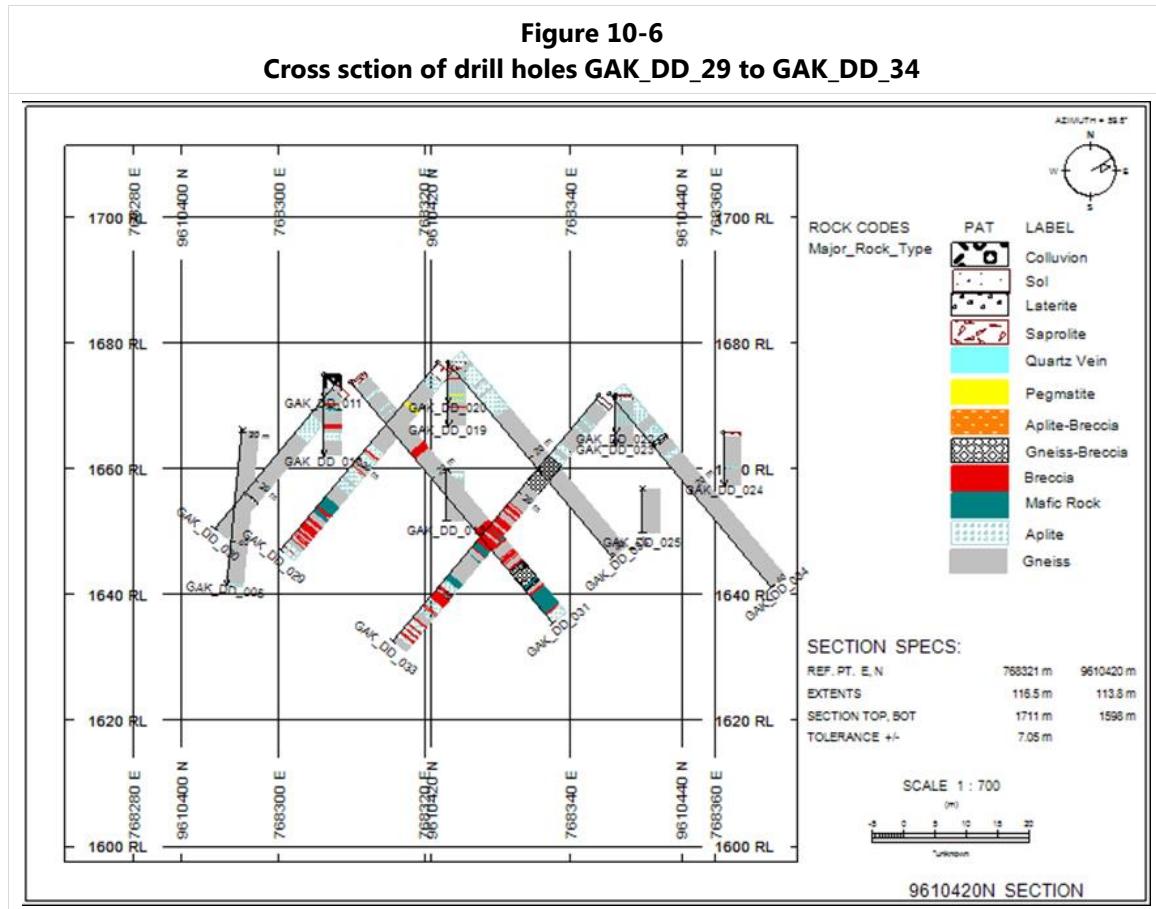


**Source:** Rainbow, 2018

Because the source of the large REE boulders remained unexplained, Rainbow decided to drill a series of inclined holes centred towards the area where the large floats occurred. This area also coincides with the Th anomaly detected from the airborne geophysical survey (DX07, see Section 9.2.2). All of these four holes intersected REE-bearing breccias often associated with a moderate to strong radiometric signature.

Following the positive intersection of mineralised breccia, the second phase of drilling was carried out with the objective of establishing the lateral and vertical extents of the REE-mineralised intersections.

A total of 20 inclined core holes were drilled in Phase 2 (Figure 10-5). Twelve of these intersected breccia type units (veins/dykes/sills) with associated radiometric signatures and often visible bastnaesite grains. The apparent thickness of these breccia units ranges between 3 cm and 1.73 m. A cross-section of the drill hole intersections is presented in Figure 10-6 which shows the complexity of the brecciated REE deposit.



Source: Rainbow, 2018

### 10.7.1 Lithologies Intersected

The DD of the Kiyenzi target has confirmed the geological and structural complexity of this deposit, which is very different to the REE veins being mined by Rainbow at Gasagwe and the mineralisation historically mined by the Belgians from the 1940's to the 1970's.

The macroscopic descriptions of the drill cores derived from the logging, the microscopic description of petrography thin sections from selected core samples and the REE grade data obtained from the core sample assays indicate that the Kiyenzi body is composed of a massive injection of REE mineralisation into the host rocks i.e. aplites and gneisses. This magmatic or hydrothermal injection has occurred in the form of:

- Breccias, as sills, dykes or veins (some zones of which reach thicknesses of up to 2 m).
- More homogeneous REE-bearing bastnaesite/monazite (as steep or shallow dipping veins).
- Phenocrysts of bastnaesite/monazite i.e. as individual crystals formed within the aplite and gneiss.

The morphology of such a complex deposit can be described as a "breccia pipe", commonly reported in the literature as a typical form of carbonatite system (Midende, 1984, Le Bas, 1987, Hou *et al.*, 2015, Xie *et al.*, 2015).

### 10.7.1.1 Breccias

The breccia units typically include fragments of aplite and gneiss, quartz, and in some cases bastnaesite and monazite crystals/grains that have been remobilised. A diagnostic, common feature of the breccias are dissolution cavities, probably the result of a later diagenetic or weathering process. Three principal types of breccias have been recognised during logging:

The first type is comprised of large country rock xenoliths/fragments, mainly aplite and gneiss but occasionally could also contain mafic rocks, within a fine-grained matrix comprising of REE minerals (Figure 10-7). This type of breccia appears to be associated with lower REE grades than veins, due to the large proportion of country rock xenoliths which have a diluting effect on the TREO grades.

**Figure 10-7**  
**REE-mineralised breccia with country rock xenoliths within fine-grained REE matrix**



**Note** The sheared texture in the central and bottom right parts of the core sample

**Source:** Rainbow, 2018

The second breccia type comprises of very coarse-grained bastnaesite xenocrysts with a small proportion of country rock xenoliths (Figure 10-8). The bastnaesite xenocrysts can reach lengths of up to 5 cm. This breccia type is generally characterised by relatively high REE grades.

**Figure 10-8**  
**REE-mineralised breccia with large xenocrysts and/or fragments of bastnaesite**



**Note:** Arrows indicate xenocrysts or fragments of bastnaesite; DC : dissolution cavity

**Source:** Rainbow, 2018

The third type of breccia consists of almost pure bastnaesite and monazite minerals with very few country rock fragments and quartz (Figure 10-9). This type of breccia was never intersected in any the DD holes and was only encountered in the trenches excavated at surface. The TREO grades in this formation tend to be very high, as can be expected given the more homogenous nature of the REE mineralisation.



**Figure 10-9**

**Breccia consisting mainly of bastnaesite/monazite with minor fragments of gneiss and quartz**



**Note:** The sample is approximately 10 cm wide

**Source:** Rainbow, 2018

The breccias with large bastnaesite xenocrysts and/or fragments were mainly encountered beyond 20 m drill depths within a zone where a sill-like body was exposed at surface during drill platform preparation. These breccias also appear to be associated with a fine-grained mafic, metamorphic rock containing abundant secondary quartz.

#### **10.7.1.2 Host rock lithologies: Aplite and Gneiss**

Generally, the Kiyenzi cores show a large proportion of fracturing and shearing which have often caused the drilling penetration to be slow and the core recovery to be sub-optimal. During logging it was noted that the host rock lithologies, namely the gneiss and the aplite, presented two broad facies: a) a massive, pristine and solid facies and b) a fractured, folded, sheared facies, indicating intensive deformation (Figure 10-10 and Figure 10-11). The fractured/sheared facies is often associated with the contact zones with the breccias, suggesting that such fracturing and deformation could be the result of the same event that caused the brecciation and the related REE mineralisation.

The contacts between the various lithologies, especially between the breccia units and the host rocks, are difficult to identify due to the fragmented nature of these contacts (Figure 10-12). Furthermore, where contacts could be observed and measured, it was often seen that these contact angles varied widely, between upper and lower contacts, illustrating that the mineralised units



(namely the breccias) do not follow simple, predictable patterns, trends and structures on a local, metre-scale (Figure 10-13).

The REE grade assays obtained from selected core samples of the host rocks facies and also from cores for entire drill holes (GAK\_DD012 and GAK\_DD013) showed that the aplites and the gneiss can also be mineralised, especially in the drill sections surrounding the breccias. TREO grades of 1% to 5% in units logged as aplites as well as gneisses can only be explained if some form of bastnaesite/monazite mineralisation is present. The most likely form of such mineralisation is through veins and veinlets (sometimes at microscopic scale) formed during the brecciation event (Figure 10-13). The petrographic study of samples from selected host rocks has also shown that bastnaesite and monazite can be present in form of phenocrysts.

**Figure 10-10**  
**The two facies of gneiss at Kiyenzi: deformed and sheared (top) and undeformed (bottom)**



**Source:** Rainbow, 2018



**Figure 10-11**  
**The two facies of aplite at Kiyenzi: fractured (top) and undeformed (bottom)**

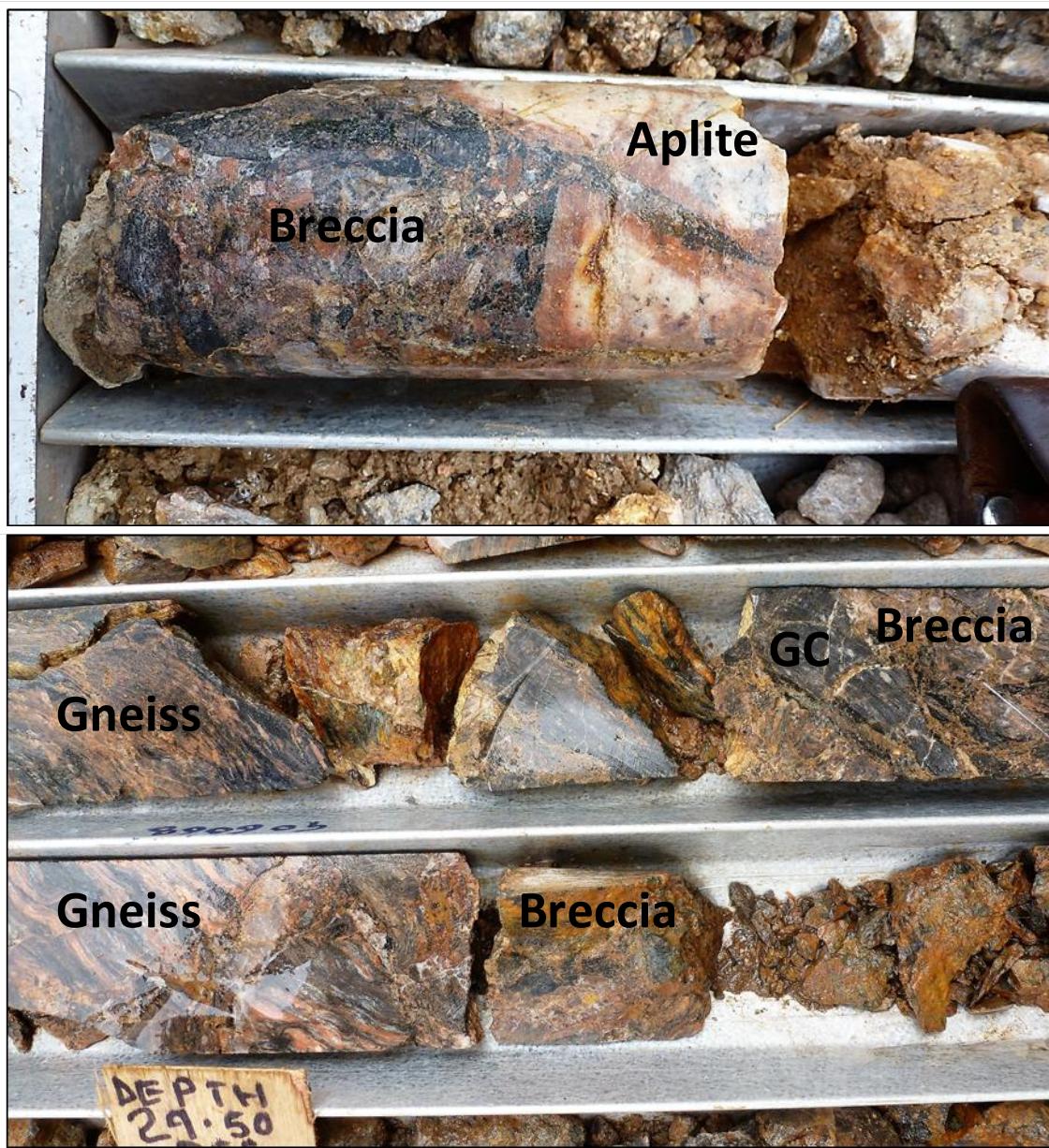


**Source:** Rainbow, 2018

An observation made during logging of the aplites is a pale pink colouration, including numerous pink to reddish veinlets, when they occur in close proximity to REE mineralisation. It is likely that the pink colouration is the result of alteration caused by the intrusion of REE-bearing fluids/hydrothermal fluids into the aplite. This was observed in some of the drill core where the pink/red colouration was confined to a thin zone adjacent to the REE-bearing veinlets (Figure 10-12, top, and Figure 10-13). This process could have also affected the gneisses, as those gneisses occurring in close proximity to REE mineralisation also tend to be pinkish in colour.

Figure 10-12

Examples of complex contacts between breccia units and country rock (top)



**Note:** Bottom tray shows breccia-gneiss with gneiss clasts (GC) inside the breccia

**Source:** Rainbow, 2018



**Figure 10-13**  
**Contact between breccia and aplite with REE veinlets in the aplite**



**Source:** Rainbow, 2018

#### **10.7.1.3 Other lithologies: mafic rocks**

Three types of mafic rocks were identified within the Kiyenzi target. These include dolerite which was mainly observed at surface, amphibolite and a "meta-mafic" rock. The last two were intersected during the drilling and not in outcrop.

The amphibolites encountered in the drill holes are very fine-grained and most of them are cross-cut by thin quartz veins (Figure 10-14). The "meta-mafic" rocks are also fine-grained, but they appear to contain numerous cavities filled by quartz (Figure 10-15). These rocks (meta-mafic rocks) were only encountered in very close proximity to REE mineralisation and in most cases were found to be interlayered with REE- bearing lithologies.

**Figure 10-14**  
**Amphibolite with quartz veins**



**Source:** Rainbow, 2018

**Figure 10-15**  
**Metamorphosed mafic rock occurring close to REE-bearing breccia**



**Note** the abundant quartz-filled pods in the metamorphosed mafic rock

**Source:** Rainbow, 2018

#### **10.7.1.4 Other lithologies: pegmatites and quartz**

The pegmatite and quartz (vein) units were only encountered in the drill intersections where they have intruded into the other units described above. These are generally thin units with their thickness ranging between 10 cm and a few metres.

#### **10.7.2 Mineralised REE Intersections**

Four hundred and thirty-four core samples were submitted to ALS for full geochemical analyses. All drill intersections with TREO grades greater than 3% are summarised in Table 10-2.

| Table 10-2<br>Summary of drillhole intersections with TREO greater than 3% |                |              |           |                      |                       |                                |
|--|----------------|--------------|-----------|----------------------|-----------------------|--------------------------------|
| Hole ID  | Depth From (m) | Depth To (m) | Width (m) | Lithology (basic)    | TREO (%) Intersection | TREO (%) Combined Intersection |
| GAK_DD_010   | 6.05           | 6.62         | 0.57      | Breccia              | 4.21                  | 6.94                           |
|  | 7.00           | 7.72         | 0.72      | Breccia + Mafic Rock | 6.01                  |                                |
|  | 10.50          | 11.50        | 1.00      | Breccia              | 8.17                  |                                |
|  | 19.00          | 19.12        | 0.12      | Breccia              | 15.23                 |                                |
| GAK_DD_011   | 27.36          | 28.00        | 0.64      | Breccia              | 3.28                  | 16.3                           |
|  | 30.86          | 31.30        | 0.44      | Breccia              | 35.32                 |                                |
| GAK_DD_012   | 1.97           | 2.20         | 0.23      | Breccia              | 18.25                 | 16.3                           |
|  | 12.05          | 12.09        | 0.04      | Breccia              | 5.36                  |                                |
| GAK_DD_013   | 23.75          | 24.25        | 0.50      | Breccia              | 30.34                 | 27.81                          |
|  | 24.25          | 24.75        | 0.50      | Breccia              | 25.28                 |                                |
| GAK_DD_019   | 0.00           | 1.75         | 1.75      | Saprolite + Breccia  | 9.05                  | 12.99                          |
|  | 9.46           | 9.53         | 0.07      | Breccia              | 8.59                  |                                |
|  | 15.00          | 15.50        | 0.50      | Breccia              | 27.41                 |                                |
| GAK_DD_020   | 0.00           | 2.05         | 2.05      | Saprolite + Aplite   | 3.96                  | 14.56                          |
|  | 3.47           | 3.70         | 0.23      | Breccia              | 37.67                 |                                |
|  | 11.65          | 13.45        | 1.80      | Breccia + Aplite     | 23.67                 |                                |
| GAK_DD_023   | 28.78          | 28.86        | 0.08      | Breccia              | 3.30                  | 3.3                            |
|  | 30.43          | 30.50        | 0.07      | Breccia              | 3.40                  |                                |
|  | 32.11          | 32.14        | 0.03      | Breccia              | 3.04                  |                                |
| GAK_DD_024   | 10.45          | 11.50        | 1.05      | Breccia + Gneiss     | 17.53                 | 16                             |
|  | 23.79          | 23.95        | 0.16      | Breccia              | 5.92                  |                                |
| GAK_DD_027   | 33.90          | 34.60        | 0.70      | Breccia              | 12.17                 | 12.17                          |
| GAK_DD_029   | 17.95          | 18.55        | 0.60      | Breccia + Gneiss     | 15.73                 | 9.5                            |
|  | 20.41          | 20.50        | 0.09      | Breccia              | 33.06                 |                                |
|  | 21.08          | 22.75        | 1.67      | Breccia + Aplite     | 5.39                  |                                |
|  | 27.15          | 27.70        | 0.55      | Gneiss               | 3.14                  |                                |
|  | 29.70          | 30.06        | 0.36      | Breccia              | 3.68                  |                                |
|  | 32.06          | 32.66        | 0.60      | Breccia              | 5.05                  |                                |
|  | 33.44          | 34.25        | 0.81      | Breccia              | 4.51                  |                                |
|  | 34.60          | 35.50        | 0.90      | Breccia + Gneiss     | 24.09                 |                                |
|  | 35.66          | 35.90        | 0.24      | Breccia              | 16.16                 |                                |
|  | 36.45          | 36.55        | 0.10      | Breccia              | 10.43                 |                                |
| GAK_DD_030   | 36.75          | 37.11        | 0.36      | Gneiss               | 4.35                  | 37.73                          |
|  | 38.10          | 38.15        | 0.05      | Breccia              | 14.94                 |                                |
| GAK_DD_031   | 10.18          | 10.22        | 0.04      | Breccia              | 37.73                 | 37.73                          |
| GAK_DD_031   | 30.65          | 32.02        | 1.37      | Breccia              | 10.66                 | 5.98                           |
|  | 34.83          | 35.05        | 0.22      | Breccia              | 3.46                  |                                |
|  | 35.50          | 35.67        | 0.17      | Breccia              | 13.62                 |                                |
|  | 35.80          | 35.91        | 0.11      | Breccia              | 9.37                  |                                |
|  | 36.81          | 36.90        | 0.09      | Breccia              | 7.45                  |                                |
|  | 37.10          | 37.70        | 0.60      | Breccia              | 7.95                  |                                |
|  | 37.85          | 38.05        | 0.20      | Breccia              | 4.42                  |                                |
|  | 44.50          | 48.05        | 3.55      | Mafic Rock + Aplite  | 3.58                  |                                |
|  | 22.25          | 22.34        | 0.09      | Breccia              | 4.42                  |                                |
|  | 22.89          | 23.05        | 0.16      | Breccia              | 7.75                  |                                |
| GAK_DD_033   | 23.77          | 23.90        | 0.13      | Breccia              | 5.80                  | 7.29                           |
|  | 25.37          | 25.63        | 0.26      | Breccia              | 11.46                 |                                |
|  | 25.85          | 25.98        | 0.13      | Breccia              | 3.66                  |                                |
|  | 27.30          | 27.50        | 0.20      | Mafic Rock           | 3.46                  |                                |
|  | 28.62          | 30.35        | 1.73      | Breccia              | 8.00                  |                                |
|  | 31.60          | 31.63        | 0.03      | Breccia              | 3.77                  |                                |
|  | 43.71          | 43.76        | 0.05      | Breccia              | 6.66                  |                                |
| GAK_DD_034   | 49.15          | 49.30        | 0.15      | Breccia              | 3.60                  | 3.56                           |
|  | 9.00           | 10.00        | 1.00      | Brecciated Gneiss    | 4.55                  |                                |
| GAK_DD_035   | 17.05          | 17.17        | 0.12      | Breccia              | 6.60                  |                                |
| GAK_DD_036   | 24.22          | 24.35        | 0.13      | Breccia              | 3.57                  | 3.56                           |
|  | 24.94          | 25.08        | 0.14      | Breccia              | 3.55                  |                                |
| GAK_DD_038   | 38.25          | 39.30        | 1.05      | Breccia              | 3.59                  | 3.59                           |

Source: Rainbow, 2018



A broad analysis of the grades of the 434 core samples assayed at ALS per lithology is presented in Table 10-3. It is evident, as demonstrated in previous Sections of the Report, that REE mineralisation occurs not only in the various breccia units, but also in the host rocks.

**Table 10-3**  
**Analyses of TREO grades of all lithologies intersected at Kiyenzi**

| Lithology  | No. of samples | Average TREO (%) | Min TREO (%) | Max TREO (%) |
|------------|----------------|------------------|--------------|--------------|
| breccia    | 156            | 7.74             | 0.08         | 45.80        |
| aplite     | 87             | 0.75             | 0.02         | 4.99         |
| gneiss     | 165            | 0.68             | 0.03         | 5.07         |
| mafic rock | 22             | 1.88             | 0.02         | 4.51         |
| pegmatite  | 4              | 0.41             | 0.02         | 1.33         |

Seventeen of the 87 aplite core samples (i.e. 20%) show TREO grades greater than 1%, including four samples with values of between 3% and 5% TREO.

Thirty-six of the 165 gneiss core samples (i.e. 22%) show TREO grades >1%, including 7 samples with values of 3% to 5% TREO. The REE mineralisation event has therefore clearly penetrated the host lithologies.

It should be pointed out that Rainbow did not submit all the drill core samples for assaying, therefore the extent of the "low grade" mineralisation within the host rocks is not fully appreciated.

## 11 SAMPLE PREPARATION, ANALYSES AND SECURITY

### 11.1 Sampling Protocols

Systematic and strict sampling protocols were used by Rainbow's geologists in all their activities including trenching (channel sampling), drilling (core sampling) and mapping (rock chip sampling). These protocols have already been discussed in the sections on drilling, trenching and mapping in this Report.

### 11.2 Sample Security and Dispatch

All samples collected by Rainbow's geologists were kept in guarded company facilities, either at the Mutambu base camp, the Kabezi plant store, or at the Head Office in Bujumbura (Figure 11-1). The drill cores are safely kept in metal trays in an old store annexed to the base camp at the Gasenyi Catholic Mission (Figure 11-1).

**Figure 11-1**  
**Sample storage facilities at head office in Bujumbura and base camp in Mutambu**



**Source:** Rainbow, 2018

Samples were delivered to commercial shipping agencies in Bujumbura (generally DHL), accompanied by a standard sample submission sheet with sample details and analytical instructions. Before any sample consignment could be exported, a written authorization had to be obtained from the authorities of the Ministry of Mines and Energy.

All samples destined for geochemical analyses were routinely sent to the ALS Minerals laboratory in Vancouver Canada ("ALS"). ALS is an independent and internationally accredited (ISO 17025) laboratory.

### 11.3 Quality Assurance and Quality Control

Rainbow's Quality Assurance and Quality Control ("QAQC") procedure consists of the insertion of one Certified Reference Material ("CRM"), one certified blank and one duplicate sample for every 50 samples submitted for analyses.

ALS utilises its own internal QAQC procedures which involve the insertion of CRM and blank samples as well as the analyses of duplicate samples for every batch.

432 core samples were consigned to ALS for assay. Rainbow inserted ten CRM samples, nine duplicate samples and nine blank samples, resulting in a total of 462 samples. QAQC samples accounted for 6.5% of the drill core samples submitted to ALS.

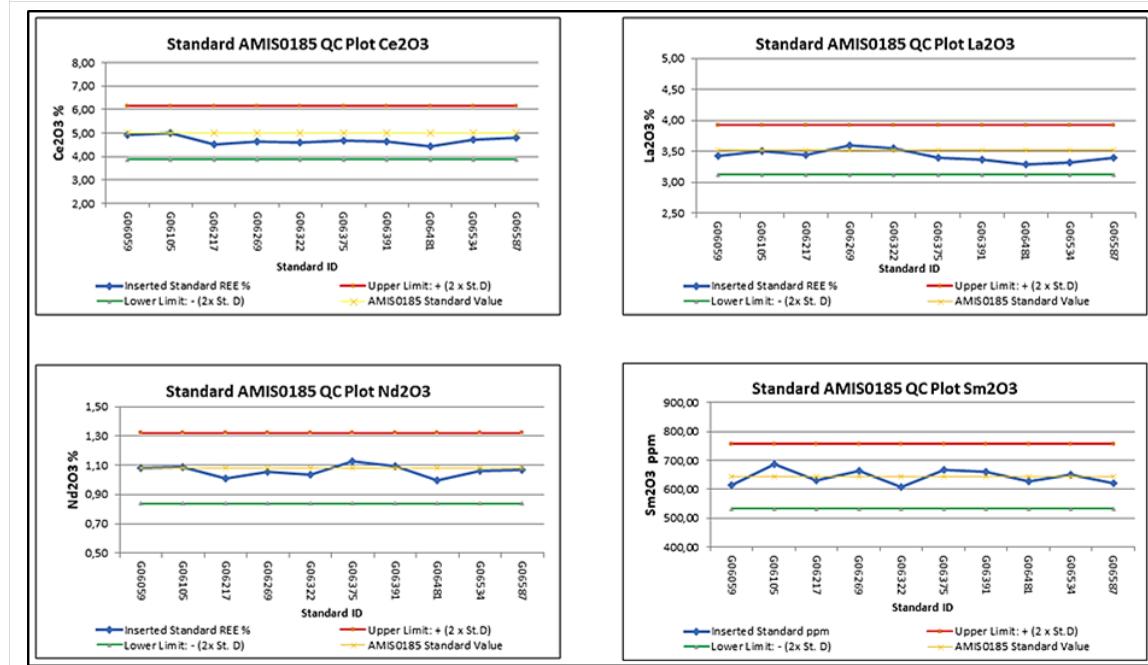
As part of ALS's internal QAQC procedures, a total of 33 CRMs (8 OREAS105, 15 OREAS146 and 10 AMIS0185), 15 duplicate and 15 blank samples were inserted in the batch of 462 samples consigned by Rainbow.

### 11.3.1 Standards

Certified Reference Material was used for the core samples that were assayed by ALS by ICP-AES method. The CRM samples were inserted at predetermined intervals during the sampling process. The aim of CRM analyses is to test the assaying accuracy of the laboratory.

All assay results of the inserted CRM AMIS0185 samples returned acceptable values which fall within 2 standard deviations ("SD") of the certified values (Figure 11-2). Similarly, the ALS internal CRMs returned element concentrations that are within acceptable limits of the certified values. Based on this observation, it can be concluded that the analytical results received from ALS are accurate and reliable.

**Figure 11-2**  
**Assay results for CRM AMIS0185 for the elements  $\text{Ce}_2\text{O}_3$ ,  $\text{La}_2\text{O}_3$ ,  $\text{Nd}_2\text{O}_3$  and  $\text{Sm}_2\text{O}_3$**



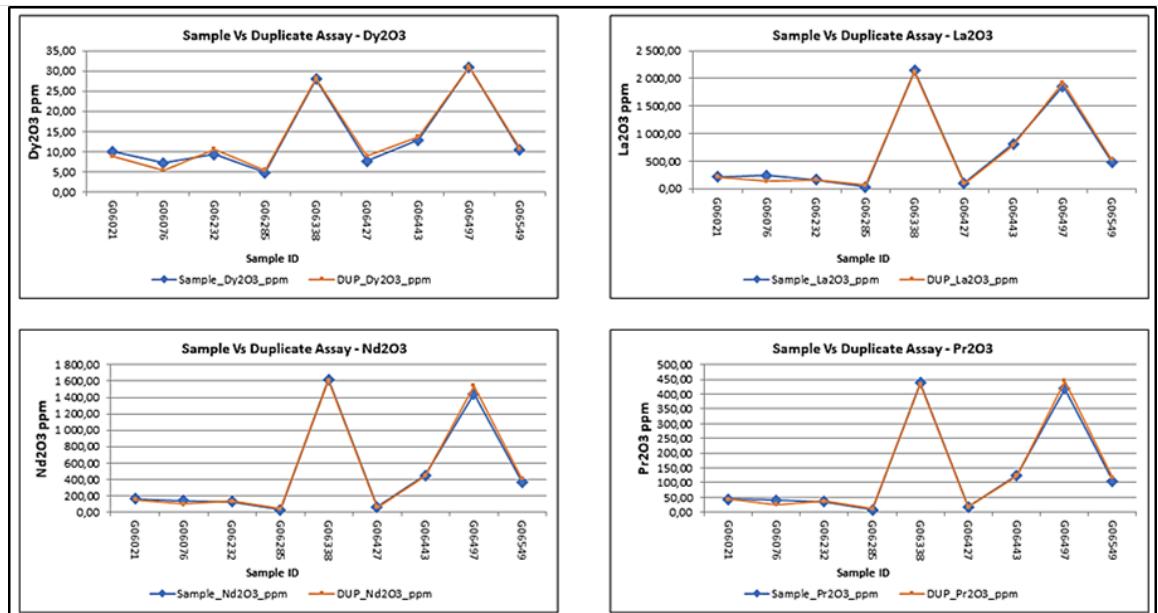
**Source:** Rainbow, 2018

### 11.3.2 Pulp Duplicates

Duplicate samples were created by splitting a sample after it was homogenised and assigning different sample numbers to the 2 fractions collected. The aim of this process was to test the precision of the analytical results.

A total of nine duplicates pairs were analysed. The assayed concentrations for the original sample versus duplicate sample were compared and the results show very good correlation (Figure 11-3). The ALS duplicate assays results show very good correlation for the sample pairs. This indicates that appropriate sample preparation techniques were used and that the analytical results have acceptable precision.

**Figure 11-3**  
**Original versus duplicate assay results for the elements  $Dy_2O_3$ ,  $La_2O_3$ ,  $Nd_2O_3$  and  $Pr_2O_3$**

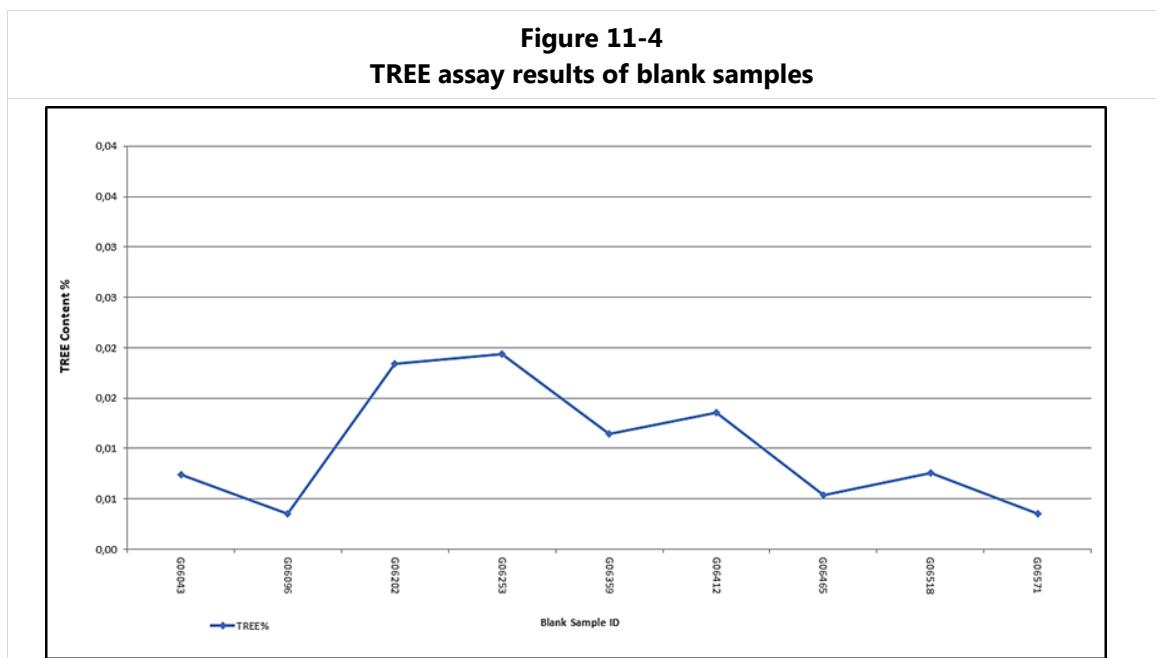


**Source:** Rainbow, 2018

### 11.3.3 Blanks

The blank samples contained minute concentrations of TREE but their total content was equal to or less than 0.02%. The main purpose of using blank samples is to check for contamination during the sample processing and analysing stages at the laboratory.

The nine blanks inserted by Rainbow returned very low TREE values, i.e. less than 0.02% (Figure 11-4). This indicates that no measurable contamination occurred during sample processing and analyses. It can therefore be concluded that the assay results received are acceptable and sufficiently accurate.



**Source:** Rainbow, 2018

The blank samples inserted by ALS returned either no value or very low TREE values i.e. less than 0.0004% TREE. This confirms that sample contamination at the lab was negligible.

#### 11.4 Laboratory Sample Analyses

The sample preparation and analysis carried out by ALS are described in Table 11-1 to Table 11-3.

**Table 11-1**  
**Sample preparation procedures at ALS**

| SAMPLE PREP CODE | SAMPLE PREPARATION PROCESS  |
|------------------|---|
| PREP-31D         | Crush to 90% less than 2 mm, riffle split off 1 kg, pulverize to better than 85% passing 75 microns |

**Source:** ALS, 2018

**Table 11-2**  
**Sample analyses procedures at ALS**

| SAMPLE ANALYSIS CODE | SAMPLE PREPARATION PROCESS   |
|----------------------|--|
| ME-MS81h             | Elements by lithium borate fusion and ICP-MS (Inductively Coupled Plasma-Mass Spectrometry). |
| ME-OGREE             | Over limit REE by ICPAES (Inductively Coupled Plasma-Atomic Emission Spectroscopy).          |

**Source:** ALS, 2018



**Table 11-3**  
**ALS analytical method ME-MS81h with elements and concentration ranges**

| CODE                     | ANALYTES & RANGES (ppm) |                |                |               |
|--------------------------|-------------------------|----------------|----------------|---------------|
| ME-MS81h<br>0.1 g sample | Ce* 3-50,000            | Ho 0.05-5,000  | Rb 1-50,000    | Tm 0.05-5,000 |
|                          | Dy* 0.3-5,000           | La* 3-50,000   | Sm* 0.2-5,000  | U 0.3-5,000   |
|                          | Er 0.2-5,000            | Lu 0.05-5,000  | Sn 5-50,000    | W 5-50,000    |
|                          | Eu 0.2-5,000            | Nb 1-5,000     | Ta 0.5-5,000   | Y 3-50,000    |
|                          | Gd* 0.3-5000            | Nd* 0.5-50,000 | Tb* 0.05-5,000 | Yb 0.2-5,000  |
|                          | Hf 1-50,000             | Pr* 0.2-5,000  | Th 0.3-5,000   | Zr 10-50,000  |

**Note:** \*These elements may be determined up to 30% by ME-OGREE

**Source:** ALS, 2018

## 11.5 Specific Gravity Measurements

Specific Gravity Measurements ("SG") were carried out in the field using Archimedes principle of weight in air versus weight in water. This exercise involved the following procedure:

- Drying the sample.
- Coating the core sample with wax.
- Weighing and recording the sample dry weight.
- Weighing and recording the sample wet weight. This was achieved by suspending the core from the scale with a fine thread into the water, while not letting the core touch the bottom or sides of the container.
- The difference between the dry and wet weight is equivalent to the weight or volume of displaced water.
- The Specific Gravity was then calculated using the following formula:

$$\frac{\text{Dry Weight}}{\text{Dry Weight} - \text{Wet Weight}}$$

In addition to the SG measurements carried out in the field, a total of 51 breccia core samples were collected and dispatched to ALS for SG measurements. Only breccia samples were dispatched to ALS as the other lithological units show SG figures that are more constant and with smaller standard deviations.

Details regarding the ALS procedures for SG are provided in Table 11-4:

**Table 11-4**  
**Bulk density measurement procedures at ALS**

| CODE      | DESCRIPTION                    | RANGE                       |
|-----------|--------------------------------|-----------------------------|
| OA-GRA09a | Bulk Density after wax coating | 0.01 – 20 g/cm <sup>3</sup> |

**Source:** ALS, 2018

A total of 234 SG measurements were made for Kiyenzi lithologies. Out of these, 178 measurements were taken from various lithological units from the drill core and the remainder were from breccia



samples collected from trenches. A summary of the SG measurements by rock type is shown in Table 11-5.

**Table 11-5**  
**Summary of SG data for various lithological units at the Kiyenzi target**

| Lithological Unit | Number of Measurements | Average SG |
|-------------------|------------------------|------------|
| Aplite            | 20                     | 2.52       |
| Breccia           | 104                    | 2.89       |
| Gneiss            | 97                     | 2.58       |
| Mafic Rock        | 11                     | 2.71       |
| Pegmatite         | 2                      | 2.55       |
| <b>Total</b>      | <b>234</b>             |            |

**Source:** Rainbow, 2018

The SG data for the Gasagwe and Murambi South lithologies were obtained in a series of Performance Tests completed at the Kabezi plant. The bulk density results of this test work are reported in Section 13.

## **11.6 Statement of Opinion on Sample Preparation, Security and Analysis**

All aspects of sampling (from collection to bagging, labelling, storing and submission to the laboratories) are covered by Rainbow's standard operating procedure ("SOP") to ensure that all routine activities are conducted in a consistent manner.

No deficiencies in the sample preparation process have been observed.

The sampling and analytical procedures and number of QAQC samples inserted into the sample streams are appropriate for the current scope of the project, the type of the deposit and for the analytical techniques used. The CRMs show acceptable performance for the elements analysed and relevant for the project. The duplicates and blank sample results validate the reliability and credibility of the laboratory assays. The number of control samples i.e. CRMs, duplicates and blanks should be increased to 5% each, should the analytical data be used for a code-compliant Mineral Resource estimation. The number of samples analysed by a second (umpire) laboratory should similarly not be less than 5% of total samples submitted.

Rainbow follows an auditable chain of custody which ensures security and integrity of the results.

Based on these results, it is concluded that the quality of the sampling and assay data is acceptable.



## 12 VERIFICATION

The following site visits were carried out by the authors of this report:

- Dr. Friedrich Reichhardt visited the property and inspected the occurrences from the 25<sup>th</sup> to the 28<sup>th</sup> of July 2012.
- Mr Jeremy Witley visited the property on the 14<sup>th</sup> and 15<sup>th</sup> of March 2019 in order to inspect the sampling, exposures in mines and trenches, and the Kiyenzi drilling core.

Mr Jonathan Hudson visited the property on the 14<sup>th</sup> and 15<sup>th</sup> of March 2019 in order to inspect the recent mine workings and the Kabezi Plant.

Verification activities were conducted by the Competent Persons ("CP") during their respective site visits. Amongst other routine reviews, the key verifications during the site visit included:

- Inspection of the Kiyenzi cores and sample results.
- Inspection of trenching and related channel sampling.
- Inspection of REE vein exposures in the Murambi South and Gasagwe mines and the sampling thereof.
- Review of the project database for consistency, completeness and accuracy.

The database was continually validated by Rainbow's Chief Geologist, Mr Ntungwanayo on receipt of assays from the lab. All the mining and exploration data/information were entered manually into the data capture template by the geologist responsible for the specific task. This information was then sent to an independent Database and GIS Specialist (NAGC) for validation and capturing into a MS Access database.

The authors consider the data to be of reasonable quality and sufficient for reporting an Exploration Target tonnage and grade range as defined by JORC (2012).

## MINERAL PROCESSING AND METALLURGICAL TESTING

Rainbow's processing plant was commissioned in Q1 2018 and has been in production mode since then. Up to March 2019 the plant has treated material from the Gasagwe mine and the Murambi mine, respectively 2,068 t and 310 t of ROM vein material to deliver 1,325 t of export concentrate. The plant has consistently managed to generate every month (December 2017 to March 2019) a high grade REE concentrate, grading on average 57.9% TREO.

The plant was constructed at a site near the town of Kabezi, some 15 km south of Bujumbura, situated between Lake Tanganyika to the west and the RN3 road to the east (Figure 13-1). The location near the capital city and the national road offers many, obvious logistics advantages to the operation.

**Figure 13-1**  
**Processing plant at Kabezi**



**Source:** Rainbow, 2018

The plant, which has a capacity to treat 5 t per hour, produces a concentrate by separating "light" material gangue from the "heavy" REE minerals through the use of one jig and two shaking tables. Crushers, conveyor belts, filter press, pumps and tanks complete the basic equipment at the plant. Power is produced via 2 diesel generators.

Rainbow plant has also been used to carry out Performance Tests on REE mineralisation from future new mining sites, namely Murambi South and Kiyenzi. The Kabezi facility is of paramount assistance for the exploration and development of future mine sites.

Rainbow is currently also evaluating the feasibility to re-treat the tailings, which are running at grades between 10 % and 15% TREO. As at Nov 18, a total of 214,8 t of tailings (from the shaking tables) had been retreated and 17 t of concentrate were recovered at a grade of 48,2% TREO.

## 13.1 Metallurgical Testwork on Murambi South Mineralisation

Approximately 73 t of Murambi South vein mineralisation were collected during exploration and mine development trenching and processed at the Kabezi treatment plant. The Performance Tests ("PT") were conducted in 7 batches.

The weights of the various fractions and the grade analysis results for these 7 tests are summarised in Table 13-1. The grades, recoveries and yields are displayed in Figure 13-2. These 7 PT have resulted in an average recovery of 72.45%, and an average yield of 41.89%. The recovered grade ranged between 49.87% (PT 2) and 55.06% TREO (PT 4).

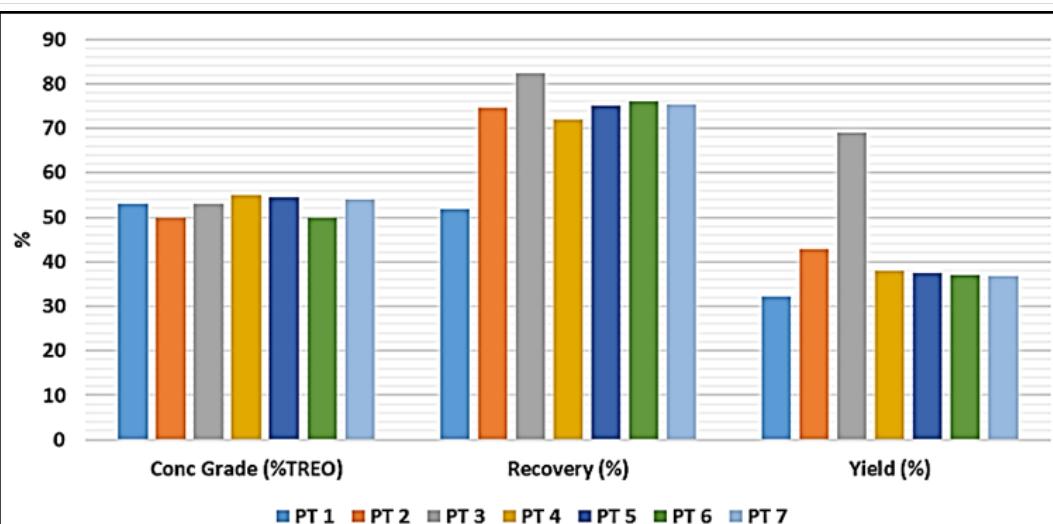
**Table 13-1**  
**Summary of results of the seven bulk sample Performance Tests on Murambi South mineralisation**

| Sample          | Head Grade (%TREO) | Concentrate Grade (%TREO) | Recovery (%) | Yield (%)    | Upgrade Ratio (UR) |
|-----------------|--------------------|---------------------------|--------------|--------------|--------------------|
| <b>PT 1</b>     | 32.99              | 53.03                     | 51.73        | 32.18        | 1.61               |
| <b>PT 2</b>     | 28.67              | 49.87                     | 74.56        | 42.86        | 1.74               |
| <b>PT 3</b>     | 44.47              | 52.94                     | 82.28        | 69.13        | 1.19               |
| <b>PT 4</b>     | 28.94              | 55.06                     | 72.08        | 37.89        | 1.90               |
| <b>PT 5</b>     | 27.15              | 54.50                     | 75.10        | 37.40        | 2.01               |
| <b>PT 6</b>     | 24.37              | 49.96                     | 75.98        | 37.07        | 2.05               |
| <b>PT 7</b>     | 26.23              | 53.91                     | 75.42        | 36.69        | 2.06               |
| <b>Averages</b> | <b>30.40</b>       | <b>52.75</b>              | <b>72.45</b> | <b>41.89</b> | <b>1.79</b>        |

**Note:** the TREO grades for PT1 are from ALS analyses. The rest of the grades were determined by Rainbow using the Niton XRF

**Source:** Rainbow, 2018

**Figure 13-2**  
**Comparative results of the seven Performance Tests completed on Murambi South vein material**



**Source:** Rainbow, 2018



The seven Murambi South tests demonstrate how critical it is to set up the processing parameters of the jig and shaking tables for each mineralisation type, and also to determine the quality of the plant feed in advance. The results demonstrated that the more material is processed, the better the fine tuning of the plant can be carried out for specific mineralisation types such as Murambi.

### 13.2 Metallurgical Testwork on Kiyenzi REE mineralisation

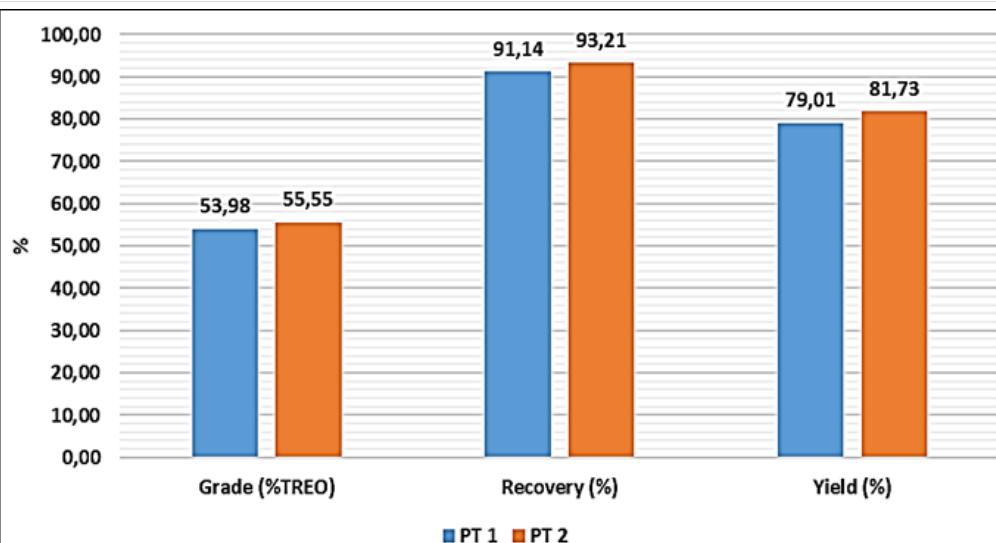
A total of 23,960 kg of Kiyenzi REE mineralisation was processed in two bulk sample Performance Tests. All the weights of the various fractions have been recorded and the results for the respective samples have been summarized in Table 13-2 and Figure 13-3. It must be noted that the TEO grade results of the second test were done with the NITON portable XRF.

**Table 13-2**  
**Summary of results of two bulk sample Performance Tests on Kiyenzi REE material**

| <b>Kiyenzi PT 1: Feed &amp; final products</b> | <b>Mass (kg)</b> | <b>Mass (%)</b> | <b>Grade (%TREO)</b> | <b>Recovery (%)</b> |
|--|------------------|-----------------|----------------------|---------------------|
| ROM ore  | 14600,00         | 100,00          | 46,80                | 100,00              |
| Jig concentrate produced                       | 8380,00          | 57,40           | 53,30                | 65,37               |
| Shaking table concentrate produced             | 3156,00          | 21,62           | 55,78                | 25,76               |
| Shaking table tails produced                   | 826,00           | 5,66            | 19,14                | 2,31                |
| Material in thickener                          | 2238,00          | 15,33           | 20,00                | 6,55                |
|  |                  |                 |                      |                     |
| Total concentrate                              | 11536,00         | 79,01           | 53,98                | 91,14               |
| Total tails                                    | 3064,00          | 20,99           | 19,77                | 8,86                |
|  | <b>14600,00</b>  | <b>100,00</b>   | <b>46,80</b>         | <b>100,00</b>       |
| <b>Kiyenzi PT 2: Feed &amp; final products</b> | <b>Mass (kg)</b> | <b>Mass (%)</b> | <b>Grade (%TREO)</b> | <b>Recovery (%)</b> |
| ROM ore  | 9360,00          | 100,00          | 48,70                | 100,00              |
| Jig concentrate produced                       | 6710,00          | 71,69           | 55,72                | 82,02               |
| Shaking table concentrate produced             | 940,00           | 10,04           | 54,29                | 11,19               |
| Shaking table tails produced                   | 700,00           | 7,48            | 29,77                | 4,57                |
| Material in thickener                          | 1010,00          | 10,79           | 10,00                | 2,22                |
|  |                  |                 |                      |                     |
| Total concentrate                              | 7650,00          | 81,73           | 55,55                | 93,21               |
| Total tails                                    | 1710,00          | 18,27           | 18,09                | 6,79                |
|  | <b>9360,00</b>   | <b>100,00</b>   | <b>48,70</b>         | <b>100,00</b>       |

**Source:** Rainbow, 2018

**Figure 13-3**  
**Comparative results of two Performance Tests done on Kiyenzi REE material**



**Source:** Rainbow, 2018

The overall processing of the two Kiyenzi bulk samples showed quite high abrasion on the tertiary roll crusher. The primary and secondary crushers plus the screening handled the material from both tests well with an average recovery rate of 92.17% and a yield rate of 80.37%. The TREO grades of the final concentrate products also displayed good final values of 54% and 55.5% (Jankowitz, 2018).

The results of the Kiyenzi testwork demonstrate that the plant settings will have to be adjusted for each mineralisation type and have confirmed that the Kiyenzi breccia type mineralisation can be treated successfully. However, it should be stressed that the 24 t Kiyenzi sample represents the most conspicuous facies available within this resource. After grade assays were obtained for all lithologies present at Kiyenzi and after modelling such grades and the geology of the REE mineralisation, it is considered critical that the "lower grade" material be tested through the Kabezi plant. This would be one of the key factors in determining the viability of a mine at this site.

Exploration at Gakara has been through identifying occurrences of REE mineralisation in the field, recording their locations and estimating the vein thickness at each location. The occurrences tend to occur as clusters, with each cluster being identified by a local landmark or village name. The areas are ranked according to their suitability for mining based on factors such as accessibility, population density, expected relative strip ratio, rock hardness, dip relative to topography and vein thickness.

Once suitable areas for mining have been identified, evaluation continues by trenching. Trenches across the strike of the veins are made and the extents of the veins are interpreted based on *in-situ* or float REE occurrences in the trenches.

During and shortly prior to mining, the veins are exposed and channel sampled in detail. The REE grade of the channel samples is semi-quantitatively measured using a Niton XRF. A number of channel samples from Gasagwe, Murambi and Gomvyi have been assayed at ALS Minerals laboratory in Vancouver Canada (ALS). ALS is an independent and internationally accredited (ISO 17025) laboratory. A comparison between the TREO grade of samples determined by ALS and Niton XRF shows that although there is poor correlation between the Niton and the laboratory value, the Niton serves to confirm the presence of high grade REE mineralisation in the veins.

The Kiyenzi target has been interpreted as a breccia pipe. The prospectively of this area was not assessed in the same manner as used for the narrow vein style mineralisation, and diamond drilling was used instead.

#### **14.1 Exploration Target Tonnage and Grade Estimation Process**

Given the two different styles of mineralisation and various stages in the evaluation of each target, three different methods were used by MSA to estimate the range of tonnage and TREO grade that could be expected at each location:

- Vein occurrences identified by pieces of *in-situ* or float vein material.
- Vein occurrences evaluated by trenching and/or mining.
- Block model estimation of the Kiyenzi breccia pipe.

It should be noted that the potential quantity and grade of the Exploration Target is conceptual in nature, there being insufficient exploration to estimate a Mineral Resource and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.

The Exploration Target was estimated as a range as required by the JORC Code (2012). The Exploration Target is based on data of varying quantity and quality, although is based largely on actual Exploration Results as detailed in this report.

##### **14.1.1 Vein occurrences identified by pieces of *in-situ* or float vein material**

Quantification of an Exploration Target for the earlier stage areas, for which no trenching or sampling has been carried out, used the following methodology:

- The number of occurrences at each prospect was noted by Rainbow, ensuring that occurrences close to each other and likely to be from the same vein were not considered twice.

- Rainbow estimated the average vein thickness at each occurrence.
- Volumes were estimated using a strike and dip length of 20 m and 10 m respectively to determine a lower case volume estimate and a strike and dip length of 40 m and 20 m respectively to determine an upper case volume estimate.

*Prospect vein volume (m<sup>3</sup>) = strike length (m) x dip length (m) x vein thickness (m) x number of occurrences.*

- An in-situ density value of 3.5 t/m<sup>3</sup> was used to derive tonnage (rather than the SG of 4 used previously). The density is based on the average density measurements obtained from plant tests.
- The average TREO grade of the ALS assays from the three more advanced targets (Gasagwe, Murambi South and Gomvyi Centre) is 57.7% TREO. An upper limit of 60% TREO and a lower limit of 55% TREO was applied to the vein material.

#### 14.1.2 Vein occurrences evaluated by trenching and/or mining

At the trenching or mine sites, the veins have been exposed, thicknesses were measured and strike lengths were measured or interpreted. This allows for a more accurate assessment of their tonnage potential. Quantification of an Exploration Target for the advanced stage areas used the following methodology for each vein:

- The average thickness of each vein was calculated from measurements in the trenches or from channel samples in exposed mining faces close to the unmined vein area.
- Volumes were estimated using the measured or interpreted strike length and a dip length of 20 m as a lower case and 40 m as an upper case. Where the strike length was less than 20 m, the strike length was used as the dip length for the lower case volume estimate and where the strike length was less than 40 m the strike length was used as the dip length for the upper case volume estimate.
- At Murambi South veins have been partially exposed and extensions to the strike length are likely in some cases. Each vein was examined on plan and the upper limit strike length was increased where the vein has potential to continue.
- Individual vein volume (m<sup>3</sup>) = strike length (m) x dip length (m) x vein thickness (m)
- An in-situ density value of 3.25 t/m<sup>3</sup> was used to derive tonnage for Murambi South and 3.74 t/m<sup>3</sup> was used for Gasagwe, based on density measurements obtained from plant tests. The average density of Gasagwe and Murambi South (3.50 t/m<sup>3</sup>) was applied to Gomvyi Centre.
- The average assays of vein samples by ALS were applied to each area (Table 14-1):

**Table 14-1**  
**TREO grade statistics by area for sampled and assayed veins**

| Area          | Number of Samples | Minimum (%) | Maximum (%) | Percentiles grade (%) |      |      | Mean (%) |
|---------------|-------------------|-------------|-------------|-----------------------|------|------|----------|
|               |                   |             |             | 25%                   | 50%  | 75%  |          |
| Gasagwe       | 94                | 20.3        | 69.9        | 55.7                  | 59.6 | 63.4 | 58.9     |
| Murambi Sth   | 18                | 48.3        | 63.9        | 54.5                  | 56.9 | 59.6 | 57.2     |
| Gomvyi Centre | 11                | 27.3        | 71.5        | 48.6                  | 61.1 | 67.2 | 56.9     |

- The TREO grade of the REE vein mineralisation is of low variability given the high proportion of bastnaesite and monazite in the veins. The grade is affected by minor amounts of accessory minerals, such as quartz and mica, and is not expected to vary significantly from the average for each area given the reasonable numbers of samples used to derive the average grade.

#### **14.1.3 Block model estimation of the Kiyenzi breccia pipe**

Given the complex and irregular shape of the Kiyenzi mineralisation, a high-level three-dimensional block model estimate was made with the diamond drilling data using Datamine Studio RM software, rather than using the vein estimation methods described previously.

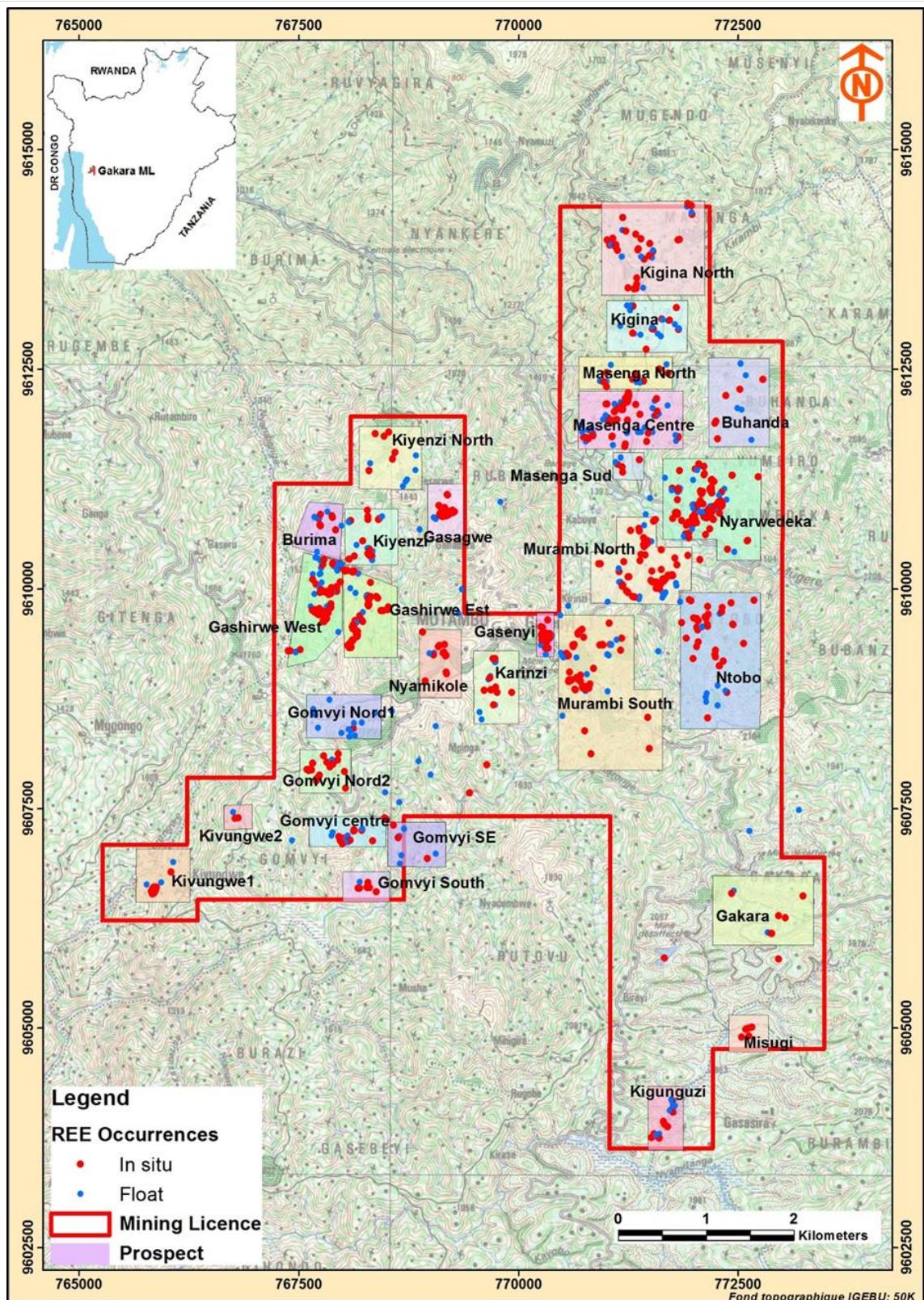
- The drillhole data were validated, de-surveyed and visualised in three dimensions. Unsampled cores were assigned a value of 0.01% for each REO.
- Sample data above a TREO grade of 0.4% were coded an indicator value of 1 and intervals that were below this threshold or not assayed were coded 0 in order to discriminate waste from mineralisation.
- The sample lengths were composited to 2 m intervals.
- A 5 mX by 5 mY by 5m RL block model was created and the indicator values were estimated into the block model using inverse distance squared. A search ellipse of 40 m vertical by 30 m strike (NW) by 20 m perpendicular to strike was used with a minimum of four and a maximum of six sample composites.
- Blocks with an indicator estimate of greater than 0.5 were deemed to be mineralised and blocks with an estimate of less than 0.5 were deemed unmineralised.
- A single structure anisotropic variogram was assigned with a range of 50 m vertical by 40 m strike (NW) by 20 m perpendicular to strike, a nugget effect of 0.2 and a total sill of 1.
- Individual REO grades were estimated using ordinary kriging into the mineralised blocks using the composite data above 0.4% TREO, and into the unmineralised blocks using the composite data below 0.4% TREO. The individual REO grades were summed to create a TREO estimate.
- A surface representing the weathered-fresh interface was created. Density was estimated by applying the average density of the samples above and below this surface.
- The resulting model was examined, and high-level limits were applied to derive a range of tonnages as an Exploration Target.

### **14.2 Exploration Target Tonnage and Grade Estimation Results**

#### **14.2.1 Veins outside trenched or recently mined areas**

A total of 28 separate targets containing concentrations of REE occurrences were identified by the location of 1,332 REE occurrences (Figure 14-1). Four of these (Gasagwe, Murambi South, Gomvyi Centre and Kiyenzi) have been evaluated in more detail by trenching, sampling or drilling. An assessment of the Exploration Target tonnes and grade for the veins outside the trenched or mined areas (including untrenched areas of Murambi South) is shown in Table 14-2.

**Figure 14-1**  
**Location of the 28 Prospects/Targets defined by REE occurrences**



**Table 14-2**  
**Estimation of Exploration Target for vein occurrences identified by pieces of in-situ or float vein material**

| <b>Prospect</b> | <b>Number of Veins</b> | <b>Average Thickness (m)</b> | <b>Strike Length (m)</b> |              | <b>Dip Length (m)</b> |              | <b>Vein Tonnes (t)</b> |               | <b>TREO (%)</b> |              |
|-----------------|------------------------|------------------------------|--------------------------|--------------|-----------------------|--------------|------------------------|---------------|-----------------|--------------|
|                 |                        |                              | <b>Lower</b>             | <b>Upper</b> | <b>Lower</b>          | <b>Upper</b> | <b>Lower</b>           | <b>Upper</b>  | <b>Lower</b>    | <b>Upper</b> |
| Murambi N       | 48                     | 0.058                        | 20                       | 40           | 10                    | 20           | 1 949                  | 7 795         | 55              | 60           |
| Murambi S       | 12                     | 0.034                        | 20                       | 40           | 10                    | 20           | 281                    | 1 126         | 55              | 60           |
| Masenga N       | 16                     | 0.069                        | 20                       | 40           | 10                    | 20           | 773                    | 3 091         | 55              | 60           |
| Kivungwe 1      | 16                     | 0.160                        | 20                       | 40           | 10                    | 20           | 1 792                  | 7 168         | 55              | 60           |
| Gakara          | 8                      | 0.060                        | 20                       | 40           | 10                    | 20           | 336                    | 1 344         | 55              | 60           |
| Misugi          | 5                      | 0.024                        | 20                       | 40           | 10                    | 20           | 84                     | 336           | 55              | 60           |
| Masenga S       | 4                      | 0.048                        | 20                       | 40           | 10                    | 20           | 134                    | 538           | 55              | 60           |
| Gashirwe E      | 66                     | 0.057                        | 20                       | 40           | 10                    | 20           | 2 633                  | 10 534        | 55              | 60           |
| Gasenyi         | 27                     | 0.070                        | 20                       | 40           | 10                    | 20           | 1 323                  | 5 292         | 55              | 60           |
| Ntobo           | 35                     | 0.050                        | 20                       | 40           | 10                    | 20           | 1 225                  | 4 900         | 55              | 60           |
| Masenga C       | 48                     | 0.052                        | 20                       | 40           | 10                    | 20           | 1 747                  | 6 989         | 55              | 60           |
| Karinzi         | 12                     | 0.080                        | 20                       | 40           | 10                    | 20           | 672                    | 2 688         | 55              | 60           |
| Gashirwe W      | 116                    | 0.056                        | 20                       | 40           | 10                    | 20           | 4 547                  | 18 189        | 55              | 60           |
| Kigina          | 13                     | 0.061                        | 20                       | 40           | 10                    | 20           | 555                    | 2 220         | 55              | 60           |
| Kigunguzi       | 11                     | 0.030                        | 20                       | 40           | 10                    | 20           | 231                    | 924           | 55              | 60           |
| Buhanda         | 7                      | 0.035                        | 20                       | 40           | 10                    | 20           | 172                    | 686           | 55              | 60           |
| Gomvyi          | 7                      | 0.060                        | 20                       | 40           | 10                    | 20           | 294                    | 1 176         | 55              | 60           |
| Nyardeweke      | 93                     | 0.036                        | 20                       | 40           | 10                    | 20           | 2 344                  | 9 374         | 55              | 60           |
| Nyamikole       | 15                     | 0.055                        | 20                       | 40           | 10                    | 20           | 578                    | 2 310         | 55              | 60           |
| Gomvyi SE       | 3                      | 0.036                        | 20                       | 40           | 10                    | 20           | 76                     | 302           | 55              | 60           |
| Kivungwe 2      | 2                      | 0.055                        | 20                       | 40           | 10                    | 20           | 77                     | 308           | 55              | 60           |
| Gomvyi N1       | 21                     | 0.038                        | 20                       | 40           | 10                    | 20           | 559                    | 2 234         | 55              | 60           |
| Burima          | 8                      | 0.052                        | 20                       | 40           | 10                    | 20           | 291                    | 1 165         | 55              | 60           |
| Kigina N        | 29                     | 0.031                        | 20                       | 40           | 10                    | 20           | 629                    | 2 517         | 55              | 60           |
| Kiyenzi N       | 6                      | 0.040                        | 20                       | 40           | 10                    | 20           | 168                    | 672           | 55              | 60           |
| <b>Total</b>    |                        |                              |                          |              |                       |              | <b>23 000</b>          | <b>94 000</b> | <b>55</b>       | <b>60</b>    |

**Note:** Individual areas reflect the results of the estimation methodology. Totals are rounded.

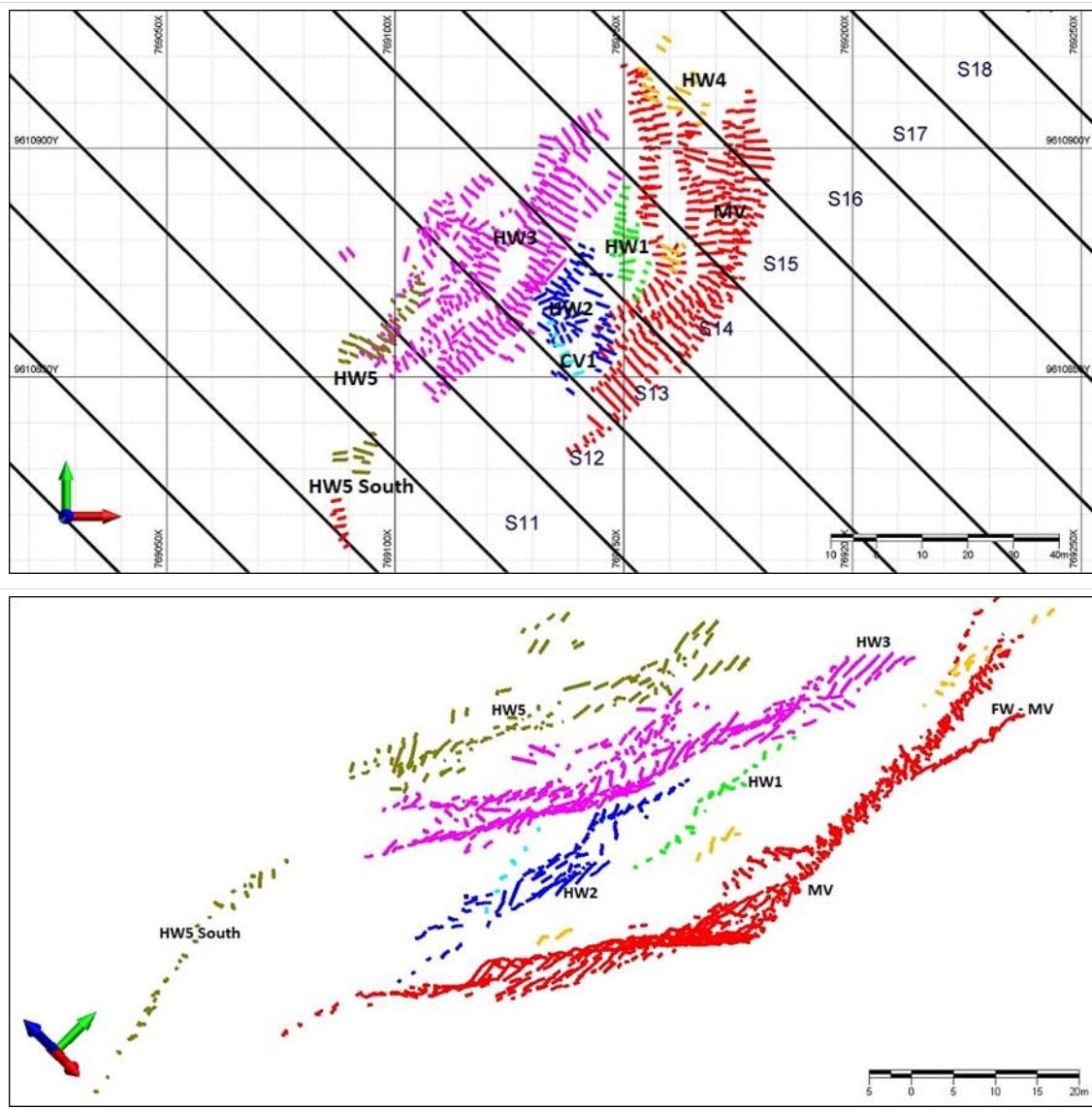
The Exploration Target outside the mined and trenched areas comprises between 13,000 tonnes and 56,000 tonnes of TREO.

#### 14.2.2 Gasagwe

As at the end of February 2019, five veins remained after mining and were exposed in the Gasagwe pit. These are Main Vein (MV), FW Nth (FW-MV), HW5, HW5 Sth and HW3. The locations of these veins, as well as other veins that have been mined, are shown by the detailed sampling (Figure 14-2). The potential remaining mineralisation is shown in Table 14-3.

**Figure 14-2**  
**Plan view (top) and angled view (bottom) showing the detailed configuration of the various Gasagwe REE veins in relation to each other.**

**The coloured segments represent actual channel samples cut on veins (as at 31-10-2018)**



**Source:** Rainbow, 2018

**Table 14-3**  
**Estimation of Exploration Target for Gasagwe Mine**

| Vein ID      | Average Thickness (m) | Strike Length (m) |       | Dip Length (m) |       | Vein Tonnes (t) |              | TREO (%)    |             |
|--------------|-----------------------|-------------------|-------|----------------|-------|-----------------|--------------|-------------|-------------|
|              |                       | Lower             | Upper | Lower          | Upper | Lower           | Upper        | Lower       | Upper       |
| Main (MV)    | 0.06                  | 60                | 60    | 20             | 40    | 269             | 539          | 58.9        | 58.9        |
| HW3          | 0.14                  | 60                | 60    | 20             | 40    | 628             | 1 257        | 58.9        | 58.9        |
| HW5          | 0.08                  | 45                | 45    | 20             | 40    | 269             | 539          | 58.9        | 58.9        |
| FW Nth       | 0.05                  | 25                | 25    | 20             | 25    | 94              | 117          | 58.9        | 58.9        |
| HW5 Sth      | 0.07                  | 25                | 25    | 20             | 25    | 131             | 164          | 58.9        | 58.9        |
| <b>Total</b> |                       |                   |       |                |       | <b>1 400</b>    | <b>2 600</b> | <b>58.9</b> | <b>58.9</b> |

**Note:** Individual areas reflect the results of the estimation methodology. Totals are rounded.

The Exploration Target at Gasagwe comprises between 800 tonnes and 1,500 tonnes of TREO.

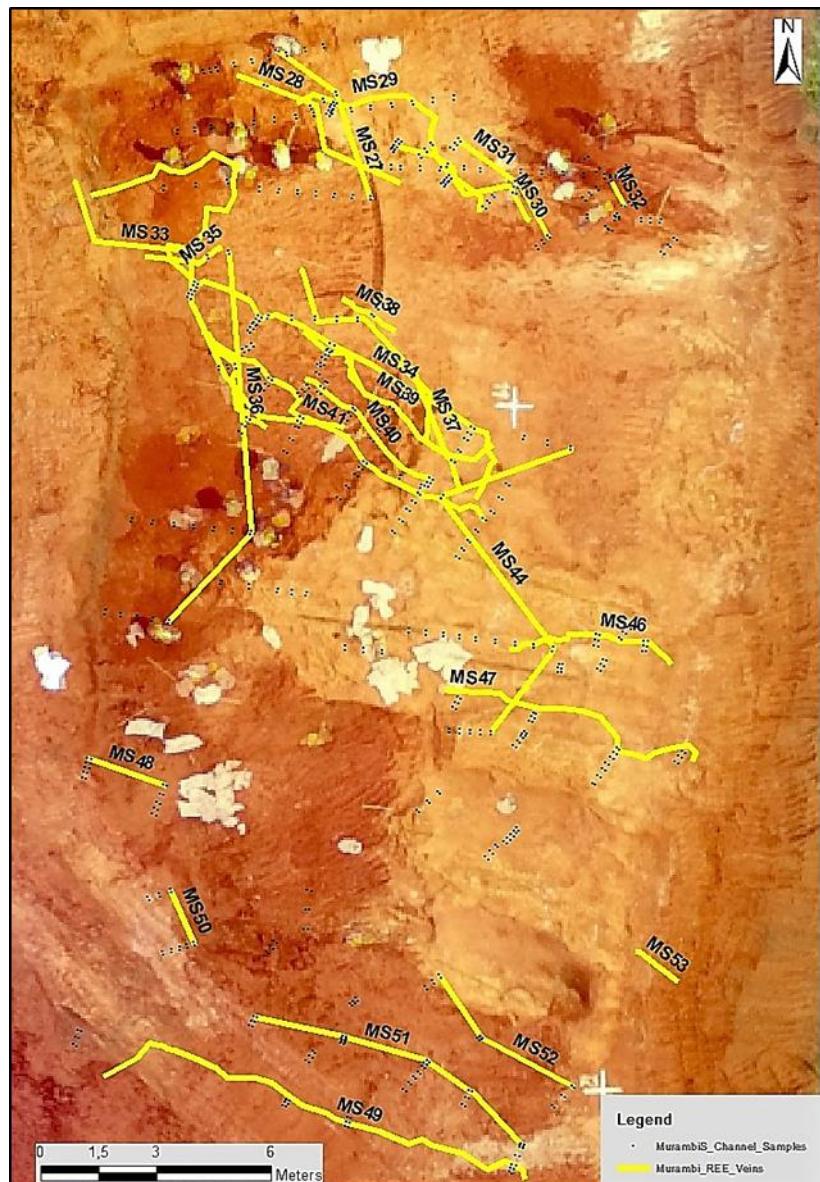
The average proportion of each REEO is shown in Table 14-6. Minor amounts of thorium and uranium occur, which are described in Table 14-7.

#### 14.2.3 Murambi South

As at the end of October 2018, fifty-three veins had been identified at Murambi South varying in strike length from 1 m to 42 m (an example of which is shown in Figure 14-3). The potential remaining mineralisation is shown in Table 14-4.

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**Figure 14-3**  
**Vein stockwork exposed in the northern part of the Murambi South mining block**



**Source:** Rainbow, 2018

The Exploration Target at Murambi South comprises between 900 tonnes and 1,400 tonnes of TREO.

The average proportion of each REEO is shown in Table 14-6. Minor amounts of thorium and uranium occur, which are described in Table 14-7.

**Table 14-4**  
**Estimation of Exploration Target for Murambi South Mine**

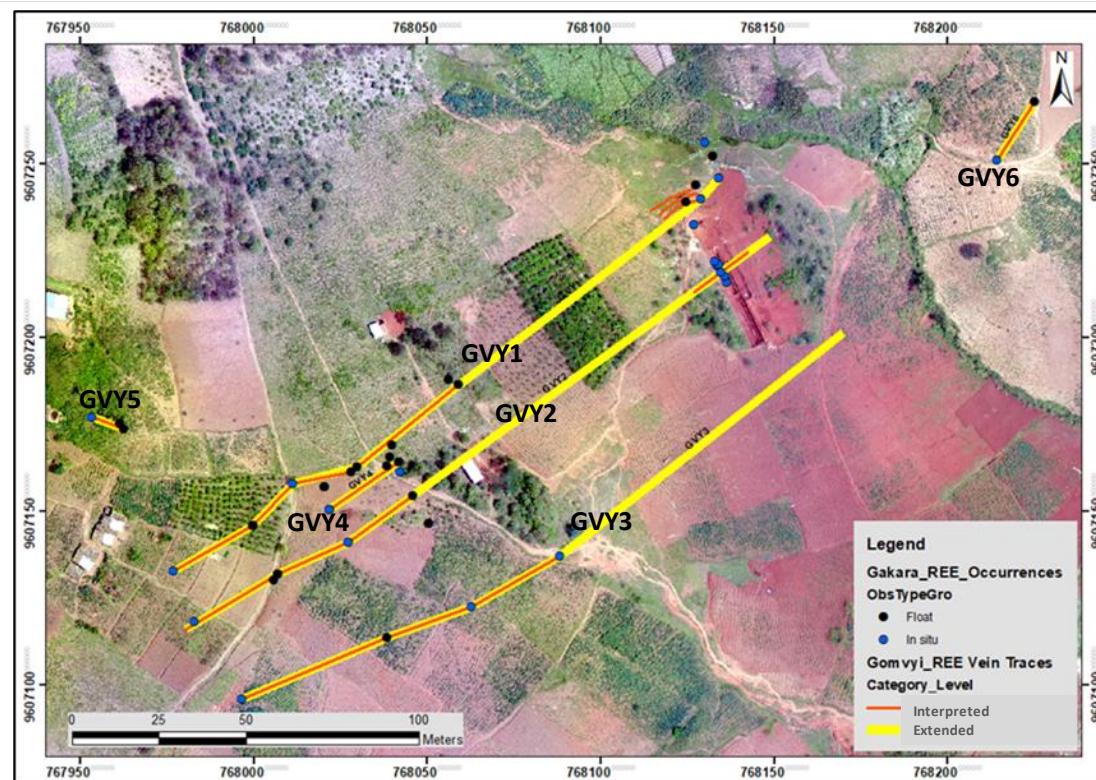
| Vein ID      | Average Thickness (m) | Strike Length (m) |       | Dip Length (m) |       | Vein Tonnes (t) |              | TREO (%)    |             |
|--------------|-----------------------|-------------------|-------|----------------|-------|-----------------|--------------|-------------|-------------|
|              |                       | Lower             | Upper | Lower          | Upper | Lower           | Upper        | Lower       | Upper       |
| MS01         | 0.060                 | 20                | 30    | 20             | 30    | 78              | 176          | 57.2        | 57.2        |
| MS02         | 0.034                 | 20                | 30    | 20             | 30    | 44              | 99           | 57.2        | 57.2        |
| MS03         | 0.036                 | 22                | 32    | 20             | 32    | 51              | 120          | 57.2        | 57.2        |
| MS04         | 0.037                 | 10                | 14    | 10             | 14    | 12              | 24           | 57.2        | 57.2        |
| MS05         | 0.029                 | 7                 | 12    | 7              | 12    | 5               | 14           | 57.2        | 57.2        |
| MS06         | 0.043                 | 1                 | 2     | 1              | 2     | 0               | 1            | 57.2        | 57.2        |
| MS07         | 0.046                 | 8                 | 15    | 8              | 15    | 10              | 34           | 57.2        | 57.2        |
| MS08         | 0.045                 | 5                 | 8     | 5              | 8     | 4               | 9            | 57.2        | 57.2        |
| MS09         | 0.041                 | 3                 | 7     | 3              | 7     | 1               | 7            | 57.2        | 57.2        |
| MS10         | 0.051                 | 1                 | 14    | 1              | 14    | 0               | 32           | 57.2        | 57.2        |
| MS11         | 0.044                 | 8                 | 8     | 8              | 8     | 9               | 9            | 57.2        | 57.2        |
| MS12         | 0.033                 | 13                | 18    | 13             | 18    | 18              | 35           | 57.2        | 57.2        |
| MS13         | 0.063                 | 19                | 19    | 19             | 19    | 74              | 74           | 57.2        | 57.2        |
| MS14         | 0.075                 | 21                | 21    | 20             | 21    | 102             | 107          | 57.2        | 57.2        |
| MS15         | 0.074                 | 42                | 42    | 20             | 40    | 202             | 404          | 57.2        | 57.2        |
| MS16         | 0.070                 | 8                 | 8     | 8              | 8     | 15              | 15           | 57.2        | 57.2        |
| MS17         | 0.070                 | 4                 | 4     | 4              | 4     | 4               | 4            | 57.2        | 57.2        |
| MS18         | 0.070                 | 1.5               | 3     | 2              | 3     | 1               | 2            | 57.2        | 57.2        |
| MS19         | 0.070                 | 7                 | 9     | 7              | 9     | 11              | 18           | 57.2        | 57.2        |
| MS20         | 0.070                 | 2                 | 4     | 2              | 4     | 1               | 4            | 57.2        | 57.2        |
| MS21         | 0.070                 | 2                 | 4     | 2              | 4     | 1               | 4            | 57.2        | 57.2        |
| MS22         | 0.070                 | 2                 | 4     | 2              | 4     | 1               | 4            | 57.2        | 57.2        |
| MS23         | 0.125                 | 23                | 23    | 20             | 23    | 187             | 215          | 57.2        | 57.2        |
| MS24         | 0.243                 | 25                | 25    | 20             | 25    | 395             | 494          | 57.2        | 57.2        |
| MS25         | 0.057                 | 3                 | 6     | 3              | 6     | 2               | 7            | 57.2        | 57.2        |
| MS26         | 0.048                 | 13                | 13    | 13             | 13    | 26              | 26           | 57.2        | 57.2        |
| MS27         | 0.162                 | 5                 | 7     | 5              | 7     | 13              | 26           | 57.2        | 57.2        |
| MS28         | 0.183                 | 5                 | 7     | 5              | 7     | 15              | 29           | 57.2        | 57.2        |
| MS29         | 0.117                 | 6                 | 6     | 6              | 6     | 14              | 14           | 57.2        | 57.2        |
| MS30         | 0.075                 | 4                 | 6     | 4              | 6     | 4               | 9            | 57.2        | 57.2        |
| MS31         | 0.052                 | 4                 | 4     | 4              | 4     | 3               | 3            | 57.2        | 57.2        |
| MS32         | 0.054                 | 1                 | 3     | 1              | 3     | 0               | 2            | 57.2        | 57.2        |
| MS33         | 0.074                 | 10                | 10    | 10             | 10    | 24              | 24           | 57.2        | 57.2        |
| MS34         | 0.098                 | 13                | 14    | 13             | 14    | 54              | 62           | 57.2        | 57.2        |
| MS35         | 0.080                 | 2                 | 4     | 2              | 4     | 1               | 4            | 57.2        | 57.2        |
| MS36         | 0.072                 | 10                | 12    | 10             | 12    | 23              | 34           | 57.2        | 57.2        |
| MS37         | 0.110                 | 7                 | 7     | 7              | 7     | 17              | 17           | 57.2        | 57.2        |
| MS38         | 0.045                 | 2                 | 4     | 2              | 4     | 1               | 2            | 57.2        | 57.2        |
| MS39         | 0.087                 | 6                 | 6     | 6              | 6     | 10              | 10           | 57.2        | 57.2        |
| MS40         | 0.054                 | 4                 | 4     | 4              | 4     | 3               | 3            | 57.2        | 57.2        |
| MS41         | 0.067                 | 9                 | 9     | 9              | 9     | 18              | 18           | 57.2        | 57.2        |
| MS42         | 0.057                 | 3                 | 3     | 3              | 3     | 2               | 2            | 57.2        | 57.2        |
| MS43         | 0.030                 | 3                 | 3     | 3              | 3     | 1               | 1            | 57.2        | 57.2        |
| MS44         | 0.062                 | 8                 | 8     | 8              | 8     | 13              | 13           | 57.2        | 57.2        |
| MS45         | 0.060                 | 1                 | 2     | 1              | 2     | 0               | 1            | 57.2        | 57.2        |
| MS46         | 0.051                 | 4                 | 9     | 4              | 9     | 3               | 13           | 57.2        | 57.2        |
| MS47         | 0.060                 | 7                 | 11    | 7              | 11    | 10              | 24           | 57.2        | 57.2        |
| MS48         | 0.098                 | 2                 | 4     | 2              | 4     | 1               | 5            | 57.2        | 57.2        |
| MS49         | 0.063                 | 11                | 15    | 11             | 15    | 25              | 46           | 57.2        | 57.2        |
| MS50         | 0.088                 | 2                 | 4     | 2              | 4     | 1               | 5            | 57.2        | 57.2        |
| MS51         | 0.082                 | 8                 | 12    | 8              | 12    | 17              | 38           | 57.2        | 57.2        |
| MS52         | 0.075                 | 5                 | 9     | 5              | 9     | 6               | 20           | 57.2        | 57.2        |
| MS53         | 0.063                 | 2                 | 4     | 2              | 4     | 1               | 3            | 57.2        | 57.2        |
| <b>Total</b> |                       |                   |       |                |       | <b>1 500</b>    | <b>2 400</b> | <b>57.2</b> | <b>57.2</b> |

**Note:** Individual areas reflect the results of the estimation methodology. Totals are rounded.

#### 14.2.4 Gomvyi Centre

As at the end of October 2018, six veins had been interpreted at Gomvyi Centre (Figure 14-4). The veins were exposed in trenches and they were interpreted to form continuous veins with strike lengths between 10 m and 100 m. The potential mineralisation at Gomvyi Centre is shown in Table 14-5.

**Figure 14-4**  
**Interpreted vein extents at Gomvyi Centre**



**Source:** Modified from Rainbow, 2018 by MSA

**Table 14-5**  
**Estimation of Exploration Target for Gomvyi Centre Prospect**

| Vein ID      | Average Thickness (m) | Strike Length (m) |       | Dip Length (m) |       | Vein Tonnes (t) |              | TREO (%)    |             |
|--------------|-----------------------|-------------------|-------|----------------|-------|-----------------|--------------|-------------|-------------|
|              |                       | Lower             | Upper | Lower          | Upper | Lower           | Upper        | Lower       | Upper       |
| 1            | 0.055                 | 100               | 200   | 20             | 40    | 385             | 1,540        | 56.9        | 56.9        |
| 2            | 0.041                 | 100               | 200   | 20             | 40    | 287             | 1,148        | 56.9        | 56.9        |
| 3            | 0.045                 | 100               | 200   | 20             | 40    | 315             | 1,260        | 56.9        | 56.9        |
| 4            | 0.034                 | 25                | 50    | 20             | 25    | 60              | 149          | 56.9        | 56.9        |
| 5            | 0.003                 | 10                | 50    | 10             | 10    | 1               | 5            | 56.9        | 56.9        |
| 6            | 0.025                 | 20                | 50    | 20             | 20    | 35              | 88           | 56.9        | 56.9        |
| <b>Total</b> |                       |                   |       |                |       | <b>1,100</b>    | <b>4,200</b> | <b>56.9</b> | <b>56.9</b> |

**Note:** Individual areas reflect the results of the estimation methodology. Totals are rounded

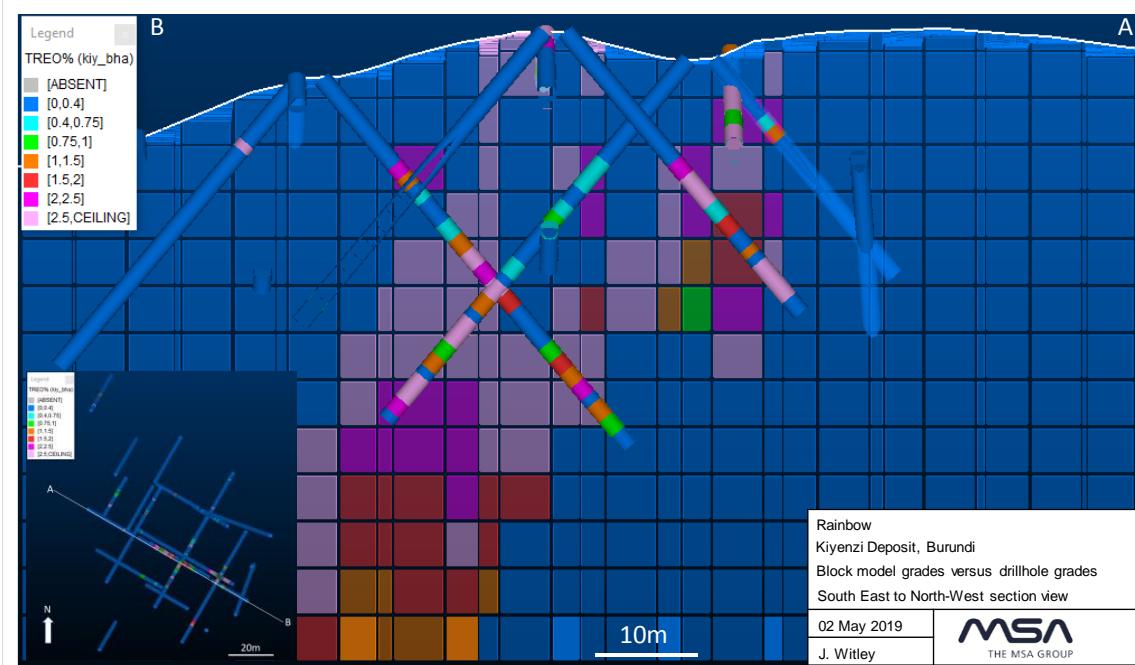
The Exploration Target at Gomvyi Centre comprises between 600 tonnes and 2,400 tonnes of TREO.

The average proportion of each REEO is shown in Table 14-6. Minor amounts of thorium and uranium occur, which are described in Table 14-7.

#### 14.2.5 Kiyenzi

The Kiyenzi block model is shown in section through the well drilled area in Figure 14-5. The model illustrates the irregular and discontinuous nature of the high-grade mineralisation. Despite the close spaced drilling, further work will be required to accurately delineate the high-grade zones.

**Figure 14-5**  
**Section through the Kiyenzi Block Model**



**Source:** MSA



At a cut-off grade of 1% TREO, MSA estimated an Exploration Target of between 50,000 tonnes and 90,000 tonnes at a TREO grade of between 2.5% and 3.0% for between 1,250 tonnes and 2,700 tonnes of *in-situ* TREO. Further exploration may result in additional mineralisation, however this has yet to be defined.

The average proportion of each REEO is shown in Table 14-6.

#### 14.2.6 Proportion of individual REEOs in TREO

Table 14-6 shows the proportion of individual REEOs in TREO.  $\text{Ce}_2\text{O}_3$  contributes approximately half the TREO content and approximately 95% of the TREO content is  $\text{La}_2\text{O}_3$ ,  $\text{Ce}_2\text{O}_3$  and  $\text{Nd}_2\text{O}_3$ , with  $\text{Pr}_2\text{O}_3$  contributing approximately 4.5%.

**Table 14-6**  
**Proportion of Individual REEOs in TREO**

| REEO                    | Gasagwe | Murambi South | Gomvyi Centre | Kiyenzi |
|-------------------------|---------|---------------|---------------|---------|
| $\text{La}_2\text{O}_3$ | 30.1%   | 27.5%         | 27.6%         | 30.6%   |
| $\text{Ce}_2\text{O}_3$ | 48.7%   | 50.3%         | 51.3%         | 45.9%   |
| $\text{Nd}_2\text{O}_3$ | 14.6%   | 15.3%         | 14.5%         | 15.3%   |
| $\text{Pr}_2\text{O}_3$ | 4.4%    | 4.5%          | 4.3%          | 4.4%    |
| $\text{Sm}_2\text{O}_3$ | 1.3%    | 1.4%          | 1.3%          | 1.6%    |
| $\text{Gd}_2\text{O}_3$ | 0.45%   | 0.53%         | 0.46%         | 0.64%   |
| $\text{Dy}_2\text{O}_3$ | 0.05%   | 0.07%         | 0.06%         | 0.21%   |
| $\text{Eu}_2\text{O}_3$ | 0.21%   | 0.26%         | 0.22%         | 0.29%   |
| $\text{Y}_2\text{O}_3$  | 0.14%   | 0.20%         | 0.16%         | 0.76%   |
| $\text{Tb}_2\text{O}_3$ | 0.024%  | 0.027%        | 0.026%        | 0.054%  |
| $\text{Er}_2\text{O}_3$ | 0.007%  | 0.010%        | 0.009%        | 0.058%  |
| $\text{Ho}_2\text{O}_3$ | 0.005%  | 0.008%        | 0.006%        | 0.029%  |
| $\text{Lu}_2\text{O}_3$ | 0.000%  | 0.001%        | 0.000%        | 0.003%  |
| $\text{Yb}_2\text{O}_3$ | 0.002%  | 0.004%        | 0.002%        | 0.023%  |
| $\text{Tm}_2\text{O}_3$ | 0.000%  | 0.001%        | 0.001%        | 0.005%  |

#### 14.2.7 Thorium and Uranium grades of samples

Grades of uranium and thorium in the vein samples tend to be low, however higher grades can occur in individual samples. Summary statistics for thorium and uranium are presented in Table 14-7.

**Table 14-7**  
**Concentration of Th and U in Samples**

| Area           | Number of Samples | Minimum (ppm) | Maximum (ppm) | Percentiles grade (ppm) |     |     | Mean (ppm) |
|----------------|-------------------|---------------|---------------|-------------------------|-----|-----|------------|
|                |                   |               |               | 25%                     | 50% | 75% |            |
| <b>Thorium</b> |                   |               |               |                         |     |     |            |
| Gasagwe        | 93                | 17            | 4,520         | 25                      | 28  | 39  | 211        |
| Murambi Sth    | 18                | 73            | 2,570         | 111                     | 300 | 658 | 560        |
| Gomvyi Centre  | 11                | 31            | 1,420         | 47                      | 111 | 483 | 301        |
| <b>Uranium</b> |                   |               |               |                         |     |     |            |
| Gasagwe        | 93                | 25            | 192           | 39                      | 50  | 67  | 61         |
| Murambi Sth    | 18                | 41            | 808           | 253                     | 334 | 537 | 375        |
| Gomvyi Centre  | 11                | 26            | 487           | 80                      | 189 | 323 | 216        |

#### 14.2.8 Exploration Target Tonnage and Grade Statement

The Exploration Target for the Gakara Project as at end February 2019 is shown in Table 14-8 as a range of potential grades and quantities as required by JORC (2012).

A tonnage range of 16,550 t to 64,000 t of in-situ TREO is estimated for the Property, which MSA considers to represent an Exploration Target. Excluding Kiyenzi, this equates to between 27,000 and 103,200 tonnes of vein material compared with 20,000 t to 80,000 t reported in the 2016 CPR compiled by MSA. This is primarily the result of the discovery of addition REE vein occurrences on the Property.

**Table 14-8**  
**Gakara Exploration Target as at February 28, 2019**

| Area          | Tonnes (t) |        | TREO Grade (%) |       | TREO Tonnes (t) |               |
|---------------|------------|--------|----------------|-------|-----------------|---------------|
|               | Lower      | Upper  | Lower          | Upper | Lower           | Upper         |
| Gasagwe       | 1,400      | 2,600  | 58.9           | 58.9  | 800             | 1,500         |
| Murambi Sth   | 1,500      | 2,400  | 57.2           | 57.2  | 900             | 1,400         |
| Gomvyi Centre | 1,100      | 4,200  | 56.9           | 56.9  | 600             | 2,400         |
| Kiyenzi       | 50,000     | 90,000 | 2.5            | 3.0   | 1,250           | 2,700         |
| Other         | 23,000     | 94,000 | 55.0           | 60.0  | 13,000          | 56,000        |
| <b>Total</b>  |            |        |                |       | <b>16,550</b>   | <b>64,000</b> |

It should be noted that the potential quantity and grade of the Exploration Target is conceptual in nature, there being insufficient exploration to estimate a Mineral Resource, and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.

The Exploration Target was estimated as a range as required by the JORC Code (2012). The Exploration Target is based on data of varying quantity and quality, although is based largely on actual Exploration Results as detailed in earlier sections of this report.



The Exploration Target estimate was completed by Mr Jeremy Witley BSC (Hons), MSc (Eng.), who is a professional geologist with more than 30 years' experience in base and precious metals exploration and mining as well as Mineral Resource evaluation and reporting. Mr Witley is a Principal Resource Consultant with MSA, a Fellow of the Geological Society of South Africa (GSSA) and a Professional Natural Scientist (Pr. Sci. Nat.) registered with the South African Council for Natural Scientific Professions (SACNASP). Mr Witley has the appropriate relevant qualifications, experience, competence and independence to be considered a "Competent Person" for the activity undertaken under the definitions provided in the JORC Code 2012 Edition.

### 14.3 Section 1 Sampling Techniques and Data

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

**Table 14-1**  
**JORC CODE, 2012 Edition – Section 1 Sampling Techniques and Data**

| Criteria                   | JORC Code explanation  | Commentary  |
|----------------------------|--|---|
| <b>Sampling techniques</b> | <ul style="list-style-type: none"> <li>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling' was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul> | <ul style="list-style-type: none"> <li>Grab samples: Individual REE veins were exposed over a strike length of a few metres. Where possible, a structural measurement of dip and strike was recorded. Between 1 kg and 3 kg of fresh material was collected per sample and transported in numbered bags to the Mutambu field office. The material was then broken into smaller chips with a geological pick and approximately 750 g was filled into cloth sacks, a sample ticket inserted and the sample number written on the bag with a permanent marker pen. Excess material was bagged in labelled sacks and transported to Rainbow's Bujumbura office where the bags are stored in a locked and secure room.</li> <li>Soil samples: 591 samples weighing approximately 1 kg were bagged, numbered and transported to Rainbow's field office for temporary storage. Following completion of the sampling programme the bags were transported to the Chemical Analysis Laboratory of the Ministry of Energy and Mines in Bujumbura where they were oven-dried at 110°C, sieved to -80 mesh and 150 g to 200 g of the sieved material was filled into plastic bags together with a sample number ticket by laboratory staff. A Rainbow employee collected the samples and delivered the samples together with a standard ALSC submission sheet with sample details and analytical instructions to a local courier company Brucargo which shipped the consignment to ALSC in Johannesburg ("ALSC-SA") who in turn couriered the samples to ALSC-V in Canada for REE analysis. The excess +80 mesh material of the 591 samples was stored in numbered bags at Rainbow's Bujumbura office while samples from the detailed soil grid sampling, which were analysed with the Niton spectrometer, are stored in the Mutambu base camp.</li> <li>Channel Samples: Once a REE vein is exposed by trenching, the surveyor delineates contour lines on the outcrop. A sample is then taken between two successive contour lines and given a number. The channels, which are 10 cm wide, are cut using a petrol engine rock cutter or a chisel and hammer. Two to four kg of sample are collected and put in a pre-numbered calico bag. The</li> </ul> |

| Criteria  | JORC Code explanation   | Commentary  |
|---|---|---|
| <b>Drilling techniques</b>                            | <ul style="list-style-type: none"> <li>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.).</li> </ul>   | <p>distance between channels is 2 m.</p> <ul style="list-style-type: none"> <li>Diamond drilling</li> <li>Cores were not orientated</li> <li>HQ and NQ core sizes, depending on the hole depth and hardness of the lithologies encountered downhole. HQ size was mainly utilized in approximately the top 50m where the lithologies are highly fractured and with hardness ranging between soft and moderately hard. The NQ core size was utilized on drill holes that exceeded 50m depth and encountered more competent/hard rock. Standard core barrels were used in both core size.</li> </ul>   |
| <b>Drill sample recovery</b>                          | <ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>  | <ul style="list-style-type: none"> <li>Core recovery was measured.</li> <li>No relationship between sample recovery and grade is known.</li> </ul>  |
| <b>Logging</b>  | <ul style="list-style-type: none"> <li>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.</li> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.</li> <li>The total length and percentage of the relevant intersections logged.</li> </ul>   | <ul style="list-style-type: none"> <li>Lithological logging (including radiometric detection using a handheld Polymaster).</li> <li>RQD Measurements made on the cores.</li> <li>All cores were logged.</li> <li>Logging at Kiyenzi is appropriate to support a Mineral Resource estimate once the nature of the mineralisation is better understood.</li> </ul>  |
| <b>Sub-sampling techniques and sample preparation</b> | <ul style="list-style-type: none"> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> <li>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</li> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> <li>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</li> <li>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.</li> <li>Whether sample sizes are appropriate to the grain size of the material being</li> </ul> | <ul style="list-style-type: none"> <li>Grab samples: samples weighing between 1 kg and 3 kg of fresh material were collected and transported in numbered bags to the Mutambu field office. The material was then broken into smaller chips with a geological pick and approximately 750 g was filled into cloth sacks, a sample ticket inserted and the sample number written on the bag with a permanent marker pen. These samples were sent for analysis at ALSC in Johannesburg. On request by Rainbow ALSC insert certified reference material ("CRM") and duplicates into the batch of 150 rock grab samples for REE ICP-MS and ICP-AES analyses. In total three AMIS185, three certified blanks and six duplicates (three inserted by Rainbow and three splits by ALSC) were inserted into the sample stream and were assigned specified sample numbers, using the sample number sequence of the field samples. In addition, ALSC inserted nine AMIS185, one</li> </ul> |

| Criteria  | JORC Code explanation   | Commentary  |
|---|---|---|
|   | sampled.  | <p>SY-4, six certified blank samples and five duplicates as part of their internal quality assurance and quality control ("QAQC") process (see Section 11.4.1). MSA considers the size and spatial distributions of REE vein grab samples representative</p> <ul style="list-style-type: none"> <li>• Soil samples: samples weighing approximately 1 kg were bagged and numbered. These were then sent to the Chemical Analysis Laboratory of the Ministry of Energy and Mines in Bujumbura where they were oven-dried at 110°C, sieved to -80 mesh and 150 g to 200 g of the sieved material was filled into bags together with a sample number ticket by lab staff. The samples were sent to ALSC Vancouver via ALSC Johannesburg (for QC see Section 11.4.2)</li> <li>• Channel Samples: The channel samples selected for laboratory analyses were sub-sampled using a riffle splitter to achieve a weight of approximately 500 g per sample.</li> </ul>   |
| <b>Quality of assay data and laboratory tests</b> | <ul style="list-style-type: none"> <li>• The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> <li>• 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.</li> <li>• Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</li> </ul> | <ul style="list-style-type: none"> <li>• ALSC is an independent and accredited analytical facility in accordance with the recognised international standard ISO 17025:2005 for laboratory analysis, including the management requirements of ISO 9001:2008</li> </ul> <p><u>Grab samples</u></p> <ul style="list-style-type: none"> <li>• Rainbow instructed ALSC to insert certified reference material ("CRM") and duplicates into the batch of 150 rock grab samples for REE ICP-MS and ICP-AES analyses. In total three AMIS185, three certified blanks and six duplicates (three inserted by Rainbow and three splits by ALSC) were inserted into the sample stream and were assigned specified sample numbers, using the sample number sequence of the field samples. In addition, ALSC inserted nine AMIS185, one SY-4, six certified blank samples and five duplicates as part of their internal quality assurance and quality control ("QAQC") process.</li> <li>• For major element analyses by XRF, ALSC inserted five NIST 694, five STSD-4, five certified blank samples and five duplicates as part of their internal QAQC procedure.</li> <li>• African Mineral Standards ("AMIS") in Johannesburg, South Africa, manufactures REE standard AMIS185 which was used as CRM. A total of three AMIS185 were randomly inserted into the batch of 150 samples. The results for all relevant rare earth elements were assessed and found to be within the accuracy limits specified by AMIS. The results for the nine AMIS185 standards inserted and analysed by ALSC, as part of their internal QAQC process, show</li> </ul> |

| Criteria | JORC Code explanation | Commentary   |
|----------|-----------------------|--|
|          |                       | <p>acceptable accuracies for all relevant rare earth elements. ALSC inserted three OKA-2 and two TRLK certified standards as part of their internal QAQC procedure to monitor the accuracy of high Ce, La, Nd, Pr and Sm concentrations which were measured by ICP-AES analyses. The results for relevant rare earth elements show acceptable accuracies</p> <ul style="list-style-type: none"> <li>• The results for the three certified blank samples inserted by ALSC on behalf of Rainbow and the six blanks analysed as part of ALSC's routine QAQC procedure show no signs of contamination and the concentrations values for REE are within acceptable limits</li> <li>• Three field duplicates were randomly inserted by Rainbow and the sample batch. The results for all relevant REE were assessed and found to be within acceptable precision limits. The results for the three duplicate pairs created by ALSC on behalf of Rainbow and the five duplicate pairs inserted and analysed by ALSC, as part of their internal QAQC process, show acceptable precisions for relevant rare earth elements</li> <li>• Based on these results, it is concluded that the sampling and assay data are acceptable and sufficiently accurate.</li> <li>• ALSC is an independent and accredited analytical facility in accordance with the recognised international standard ISO 17025:2005 for laboratory analysis, including the management requirements of ISO 9001:2008</li> </ul> <p><u>Diamond Drilling Samples</u></p> <ul style="list-style-type: none"> <li>• The same laboratory procedures were used for the core samples as for the grab samples.</li> <li>• Rainbow's QAQC procedure consists of the insertion of one Certified Reference Material ("CRM"), one certified blank and one duplicate sample for every 50 samples submitted for analyses.</li> <li>• ALS utilises its own internal QAQC procedures which involve the insertion of CRM and blank samples as well as the analyses of duplicate samples for every batch.</li> <li>• For the Kiyenzi drill core samples, a total of 10 CRMs, 11 duplicates and 9 blank samples were inserted by Rainbow into the batches of samples that were dispatched to ALS for analysis. Control samples accounted for 5.6% of the Kiyenzi drill core samples submitted to ALS.</li> <li>• Based on the results, it is concluded that the sampling and assay data are acceptable and sufficiently accurate.</li> </ul> |

| Criteria                                     | JORC Code explanation  | Commentary  |
|--|--|---|
| <b>Verification of sampling and assaying</b> | <ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>                    | <ul style="list-style-type: none"> <li>Verification activities were conducted by the Competent Persons during the field visit and at the MSA office and included: <ul style="list-style-type: none"> <li>Inspection of selected observation and sampling points during a field visit</li> <li>Cursory review of sample sheets and recorded information</li> <li>Cursory review of the project database for consistency, completeness and accuracy</li> <li>Review of sample submission and QA/QC protocol</li> <li>Review of QA/QC assay results</li> <li>Review project database against original Assay Certificates</li> <li>Inspection of the Kiyenzi cores and sample results.</li> <li>Inspection of trenching and related channel sampling.</li> <li>Inspection of REE vein exposures in the Murambi South and Gasagwe mines and the sampling thereof.</li> </ul> </li> <li>Rainbow followed an auditable chain of custody which ensured security and integrity of the results</li> </ul> |
| <b>Location of data points</b>               | <ul style="list-style-type: none"> <li>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.</li> <li>Specification of the grid system used.</li> <li>Quality and adequacy of topographic control.</li> </ul>  | <ul style="list-style-type: none"> <li>The position of all in-situ REE veins and float occurrences were recorded with a handheld GPS</li> <li>MSA considers the accuracy of a handheld GPS sufficiently accurate for the grab sampling usage.</li> <li>The position of all channel samples were surveyed with a DGPS</li> <li>The position of all drillhole collars were surveyed with a DGPS</li> <li>No downhole surveys were completed and the collar orientation was used down the entire length of the hole.</li> <li>Rainbow used UTM Zone 35S (WGS84 Datum) for all field measurements which were subsequently converted into geographic system (Long and Lat). MSA considers this approach sufficiently adequate</li> </ul>   |
| <b>Data spacing and distribution</b>         | <ul style="list-style-type: none"> <li>Data spacing for reporting of Exploration Results.</li> <li>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.</li> <li>Whether sample compositing has been applied.</li> </ul> | <ul style="list-style-type: none"> <li>Grab samples: Data points were located where fresh REE vein occurrences were present. The spacing therefore does not follow a systematic grid, but is dependent on the location of the veins.</li> <li>Soil samples: were collected at three separate sampling grids at 25 m intervals along 500 m long lines which were spaced at 50 m. A 25 m sample spacing is not adequate to determine the exact location of veins and closer survey line intervals of 20 m and tighter sample spacing of 5 m or 10 m along survey lines is recommended</li> </ul>  |

| Criteria   | JORC Code explanation  | Commentary  |
|--|--|---|
|  |  | <ul style="list-style-type: none"> <li>• Samples were not composited</li> <li>• Diamond Drilling at Kiyenzi: The drill holes are located on a loose grid of between 15 and 33m.</li> <li>• Channel samples at Gasagwe and Murami South were taken at 2 m intervals. However only a sparse number were selected for assaying by ALSC. 93 channel samples were assayed for Giyenzi, 18 at Murambi South and 11 at Gomvyi Centre.</li> <li>• Each channel sample represented the full thickness of the vein.</li> <li>• The number and distribution of channel samples at Gasagwe, Murambi South and Gomvyi Centre are sufficient to estimate an average grade and thickness for each deposit suitable for the purposes of defining an Exploration Target.</li> <li>• The diamond drilling at Kiyenzi Centre is sufficient to estimate an Exploration Target.</li> </ul> |
| <b>Orientation of data in relation to geological structure</b> | <ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• 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.</li> </ul> | <ul style="list-style-type: none"> <li>• Grab samples were taken where REE veins were exposed and the material relatively fresh (as opposed to weathered)</li> <li>• The grab sampling procedure did not consider the orientation of the vein, although strike and dip measurements were recorded where possible.</li> <li>• The channel sampling procedure ensures an unbiased sample of the vein</li> <li>• Diamond drilling at Kiyenzi was at irregular orientations. The understanding of the orientation of mineralisation at Kiyenzi is insufficient to understand the relationship between drilling direction and mineralisation trends.</li> </ul>  |
| <b>Sample security</b>   | <ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>  | <ul style="list-style-type: none"> <li>• Standard operating procedures ("SOP") were used for the handling and transportation of samples to ensure a secure and auditable chain-of-custody from the field to the laboratory. Local sample transport was exclusively handled by Rainbow staff. A local courier company Brucargo were responsible for shipment to ALSC-SA and SGS (sample for metallurgical test work), respectively</li> </ul>  |
| <b>Audits or reviews</b>                                       | <ul style="list-style-type: none"> <li>• The results of any audits or reviews of sampling techniques and data.</li> </ul>  | <ul style="list-style-type: none"> <li>• Sample collection, submission, QA/QC protocol and assay database were reviewed by MSA</li> </ul>   |

## 14.4 Section 2 Reporting of Exploration Results

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

**Table 14-2**  
**JORC CODE, 2012 Edition – Section 2 Reporting of Exploration Results**

| Criteria                                       | JORC Code explanation  | Commentary  |
|--|--|---|
| <b>Mineral tenement and land tenure status</b> | <ul style="list-style-type: none"> <li>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 environmental settings.</li> <li>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.</li> </ul> | <ul style="list-style-type: none"> <li>A 'Permis d'Exploitation' (Mining Licence) was lodged by RIR on 10 November 2014 and granted by the Burundi Ministries of Energy and Mining and Finance and Economic Development on 27 March 2015 and ratified by Presidential Decree No. 100/110 on 18 April 2015. A further Decree No. 100/194 was signed on 16 June 2015 stipulating that the State of Burundi has a 10 % interest in Rainbow Mining Burundi which is held 100 % by its parent company RIR.</li> <li>Rainbow does not own the surface rights covered by the ML and EL but has free and unrestricted access to the Project area, following consultation with the local communities.</li> <li>Rainbow submitted Environmental and Social Impact Studies to the Ministry of Environmental Affairs and obtained compliance certificates (No. 007/2015) on 4 March 2015 for the now expired EL and on 30 March 2015 (No. 010/2015) for the ML.</li> </ul>  |
| <b>Exploration done by other parties</b>       | <ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>  | <u>1936-1957</u> <ul style="list-style-type: none"> <li>In 1936, SOMUKI discovered bastnaesite in alluvial deposits in the Gakara area, which was confirmed by analysis at laboratories in Entebbe (Uganda), Liverpool (England) and Leuven (Belgium). SOMUKI subsequently undertook exploration in the Heha and Gomvyi blocks between 1936 and 1939, after which work was suspended and concentrated on projects elsewhere.</li> <li>From 1941 to 1942, research into the bastnaesite occurrences continued and the first mining tests were undertaken. Approximately 14 tonnes of bastnaesite material was produced from in-situ veins at Gakara.</li> <li>The increase in REE prices from 1947 to 1957 resulted in renewed mining activities at the Gakara and Rusutama deposits from 1948 onwards. In total, 2,137.3 tonnes of bastnaesite was produced from these two deposits.</li> <li>Thoreau et al. (1958) published an article on the Karonge deposit (Gakara) detailing results of a geological survey of the deposit. They noted that the bastnaesite mineralisation is located in a fault zone along a quartzite-schist</li> </ul> |

| Criteria | JORC Code explanation | Commentary  |
|----------|-----------------------|---|
|          |                       | <p>contact, where many veinlets were observed. Initially it was postulated that the mineralisation was only associated with the quartzites, until the excavation of the Rusutama quarry near Gakara, along strike from the Gakara mineralisation. The REE vein mineralisation at Rusutama occurs exclusively in schists.</p> <ul style="list-style-type: none"> <li>• A further two discoveries of bastnaesite mineralisation were made at Gaseniyi and Murambi, in a different geological context to the initial discovery. The bastnaesite mineralisation occurs in a network of veins and stockworks (5 cm to 15 cm thick) associated with pegmatites. The mineral paragenesis is: bastnaesite, quartz, barite and sulphides (pyrite and galena).</li> <li>• In the late 1950s, genetic similarities between the REE mineralisation at Gakara and Mountain Pass, California, were recognised, although the absence of carbonates at Gakara and the generally more complex mineral assemblage at Mountain Pass were noted.</li> <li>• Some of the samples from the alteration zone at the Rusutama deposit were found to be radioactive and concentrations of up to 2.11 % ThO<sub>2</sub> were reported and attributed to the presence of monazite.</li> <li>• Exploration and mining stopped in 1957, with a fall in the global REE prices.</li> </ul> <p><u>1965-1978</u></p> <ul style="list-style-type: none"> <li>• Sobumines returned to the Gakara area in 1965, by which time the general understanding of the geochemistry, mineralogy and metallurgical characteristics of REE had advanced.</li> <li>• From 1966 to 1969, mining of the Gakara and Rusutama deposits intensified. In 1968, exploration work and geological mapping was undertaken at Mugaseniyi and several other known REE occurrences. Various types of mineralisation were noted, identifying the need for detailed studies to facilitate the treatment and purification of the material to produce the required concentrate.</li> <li>• Aderca and Tassel undertook detailed studies of the Gakara deposit in 1971. Their work focussed on various aspects of REE mineralisation, and mineral types and associations, from samples obtained from various operational pits. From 1972 to 1978, research was conducted by several Sobumines geologists and engineers. In excess of 30 REE occurrences were investigated as part of their exploration campaign for bastnaesite.</li> <li>• Exploration and mining operations were extended to the other sites including Gaseniyi, Murambi, Gasagwe and Mugere. Mining operations until 1978 comprised open pits (terraces and galleries) for most deposits except for</li> </ul> |

| Criteria       | JORC Code explanation   | Commentary  |
|----------------|---|---|
|                |   | <p>Mugasenyi and Murambi, where underground mining was conducted due to the paucity of surface veins and the considerable thickness of overburden.</p> <ul style="list-style-type: none"> <li>• In 1978 Sobumines stopped all operations due to a fall in global REE prices which rendered mining in the Gakara area uneconomical.</li> </ul> <p><u>1981-1985</u></p> <ul style="list-style-type: none"> <li>• From 1981-1985 the Bundesanstalt für Geowissenschaften und Rohstoffe ("BGR") in Germany, undertook an exploration and evaluation programme on six selected REE-bearing sites, within a framework of bilateral cooperation with the Burundi Government. An estimated 5,000 tonnes of REE material at a grade of 50 % TREO was postulated for the six sites. The Gasagwe deposit alone was estimated by BGR to contain approximately 2,800 tonnes.</li> <li>• In 1985, the BGR undertook metallurgical test work on the Gakara REE mineralisation as part of their planning to resume small-scale mining at the Gakara deposit and to comply with REE concentrate specifications as required by the international market in the mid 1980's. The BGR study concluded that the tested bastnaesite/monazite mineralisation could be upgraded on site to a marketable product.</li> </ul>  |
| <b>Geology</b> | <ul style="list-style-type: none"> <li>• Deposit type, geological setting and style of mineralisation.</li> </ul> | <ul style="list-style-type: none"> <li>• The Project area is situated within the northeast-trending Kibaran Fold Belt ("KB") which stretches across Burundi from the eastern Democratic Republic of Congo ("DRC") to western Tanzania. The KB in Burundi consists of a highly deformed sequence of Mesoproterozoic granites, granitoids and amphibolite-greenschist facies metasedimentary and metavolcanic rocks, referred to as the Burundi Supergroup.</li> <li>• The geology and tectonic framework of Burundi and neighbouring countries have been strongly influenced by repeated episodes of rifting along existing structural trends. This resulted in the emplacement of numerous carbonatites and alkaline complexes, spanning a broad range in age from Late Proterozoic to Cenozoic.</li> <li>• The Property geology is dominated by the Mugere granitoids which contain numerous inclusions of metasedimentary rocks such as the Karinzi and Makara "fragments" which are commonly fault bounded at the contacts with the granitoids. These granitoids are the dominant host rocks for the bastnaesite/monazite mineralisation in the Project area.</li> <li>• REE mineralisation is hosted within a network of bastnaesite/monazite-bearing veins and veinlets which range in thickness from a few centimetres to a few tens of centimetres. The veins exhibit variable orientations and</li> </ul> |

| Criteria                        | JORC Code explanation   | Commentary  |
|---------------------------------|---|---|
|                                 |   | <p>attitudes, although there appears to be a broad correlation with regional structures and dominant trends.</p> <ul style="list-style-type: none"> <li>The REE mineralisation at Kiyenzi is thought to be within a breccia pipe. The mineralisation is discontinuous, and the understanding of the detailed geology is uncertain.</li> </ul>   |
| <b>Drill hole information</b>   | <ul style="list-style-type: none"> <li>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: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> <li>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.</li> </ul> | <ul style="list-style-type: none"> <li>As per the main body of the report.</li> <li>The collars and EOH depths for the drillholes are included in Appendix 2.</li> </ul>  |
| <b>Data aggregation methods</b> | <ul style="list-style-type: none"> <li>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</li> <li>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.</li> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>   | <p>Exploration Results are reported in the form of an Exploration Target.</p> <p><u>Vein occurrences identified by pieces of in-situ or float vein material</u></p> <ul style="list-style-type: none"> <li>The number of occurrences at each prospect was noted by Rainbow, ensuring that occurrences close to each other and likely to be from the same vein were not considered twice.</li> <li>Rainbow estimated the average vein thickness at each occurrence.</li> <li>Volumes were estimated using a strike and dip length of 20 m and 10 m respectively to determine a lower case volume estimate and a strike and dip length of 40 m and 20 m respectively to determine an upper case volume estimate.</li> <li>Prospect vein volume (m<sup>3</sup>) = strike length (m) x dip length (m) x vein thickness (m) x number of occurrences.</li> <li>An in-situ density value of 3.5 t/m<sup>3</sup> was used to derive tonnage. The density is based on the average density measurements obtained from plant tests.</li> <li>The average TREO grade of the ALS assays from the three more advanced targets (Gasagwe, Murambi South and Gomvyi Centre) is 57.7% TREO. An</li> </ul> |

| Criteria | JORC Code explanation | Commentary   |
|----------|-----------------------|--|
|          |                       | <p>upper limit of 60% TREO and a lower limit of 55% TREO was applied to the vein material.</p> <p><u>Vein occurrences evaluated by trenching and/or mining</u></p> <ul style="list-style-type: none"> <li>At the trenching or mine sites, the veins have been exposed, thicknesses were measured and strike lengths were measured or interpreted. This allows for a more accurate assessment of their tonnage potential.</li> <li>The average thickness of each vein was calculated from measurements in the trenches or from channel samples in exposed mining faces close to the unmined vein area.</li> <li>Volumes were estimated using the measured or interpreted strike length and a dip length of 20 m as a lower case and 40 m as an upper case. Where the strike length was less than 20 m, the strike length was used as the dip length for the lower case volume estimate and where the strike length was less than 40 m the strike length was used as the dip length for the upper case volume estimate.</li> <li>Individual vein volume (m<sup>3</sup>) = strike length (m) x dip length (m) x vein thickness (m)</li> <li>An in-situ density value of 3.25 t/m<sup>3</sup> was used to derive tonnage for Murambi South and 3.74 t/m<sup>3</sup> was used for Gasagwe, based on density measurements obtained from plant tests. The average density of Gasagwe and Murambi South (3.50 t/m<sup>3</sup>) was applied to Gomvyi Centre.</li> <li>The average assays of vein samples by ALS were applied to each area: Gasagwe 58.9% TREO (94 assays); Murambi South 57.2% TREO (18 assays); Gomvyi Centre 56.9% TREO (11 assays).</li> </ul> <p><u>Block model estimation of the Kiyenzi breccia pipe</u></p> <ul style="list-style-type: none"> <li>Given the complex and irregular shape of the Kiyenzi mineralisation, a high-level three-dimensional block model estimate was made with the diamond drilling data using Datamine Studio RM software, rather than using the vein estimation methods described previously.</li> <li>The drillhole data were validated, de-surveyed and visualised in three dimensions. Unsampled cores were assigned a value of 0.01% for each REO.</li> <li>Sample data above a TREO grade of 0.4% were coded an indicator value of 1 and intervals that were below this threshold or not assayed were coded 0 in order to discriminate waste from mineralisation.</li> <li>The sample lengths were composited to 2 m intervals.</li> <li>A 5 mX by 5 mY by 5m RL block model was created and the indicator values were estimated into the block model using inverse distance squared. A search</li> </ul> |

| Criteria  | JORC Code explanation   | Commentary  |
|---|---|---|
|   |   | <p>ellipse of 40 m vertical by 30 m strike (NW) by 20 m perpendicular to strike was used with a minimum of four and a maximum of six sample composites.</p> <ul style="list-style-type: none"> <li>Blocks with an indicator estimate of greater than 0.5 were deemed to be mineralised and blocks with an estimate of less than 0.5 were deemed unmineralised.</li> <li>A single structure anisotropic variogram was assigned with a range of 50 m vertical by 40 m strike (NW) by 20 m perpendicular to strike, a nugget effect of 0.2 and a total sill of 1.</li> <li>Individual REO grades were estimated using ordinary kriging into the mineralised blocks using the composite data above 0.4% TREO, and into the unmineralised blocks using the composite data below 0.4% TREO. The individual REO grades were summed to create a TREO estimate.</li> <li>A surface representing the weathered-fresh interface was created. Density was estimated by applying the average density of the samples above and below this surface.</li> <li>The resulting model was examined, and high-level limits were applied to derive a range of tonnages as an Exploration Target.</li> </ul> |
| <b>Relationship between mineralisation widths and intercept lengths</b> | <ul style="list-style-type: none"> <li>These relationships are particularly important in the reporting of Exploration Results.</li> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> <li>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').</li> </ul> | <ul style="list-style-type: none"> <li>Vein thicknesses were recorded in the field and are measured perpendicular to the plane of the vein. These represent true widths.</li> <li>Grab samples of the mineralisation were taken from exposed fresh material and did not consider the orientation of the host vein.</li> <li>The channel sampling procedure involves accurate measurements of the true thickness of the veins.</li> <li>Diamond drilling at Kiyenzi was at irregular orientations. The understanding of the orientation of mineralisation at Kiyenzi is insufficient to understand the relationship between drilling direction and mineralisation trends.</li> </ul>   |
| <b>Diagrams</b>   | <ul style="list-style-type: none"> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>  | <ul style="list-style-type: none"> <li>Relevant maps and sections are provided in this document.</li> </ul>   |
| <b>Balanced reporting</b>   | <ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practised to avoid misleading reporting of Exploration Results.</li> </ul>   | <ul style="list-style-type: none"> <li>Ratios of individual REEOs are reported.</li> <li>Grades and thickness for the veins are not highly variable.</li> <li>A block model was constructed for Kiyenzi that illustrates the grade variability.</li> </ul>  |

| Criteria                                  | JORC Code explanation   | Commentary   |
|---|---|--|
| <b>Other substantive exploration data</b> | <ul style="list-style-type: none"> <li>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.</li> </ul> | <ul style="list-style-type: none"> <li>Upper and lower assays for U and Th are reported where available.</li> <li>Composite bulk sample of 125 kg was collected and submitted to SGS for mineralogical and metallurgical test work. The composite sample was crushed and screened at 11.2 mm at the Laboratory of the Ministry of Energy and Mines in Bujumbura. The sample comprised bastnaesite/monazite vein material collected from 48 individual occurrences within the Gashirwe West and East target areas; An aliquot of the sample was split by SGS and used for chemical analyses. Major elements were analysed by borate fusion X-Ray Fluorescence ("XRF"), Sulphur content was determined by Leco analysis and the Loss on Ignition ("LOI") by roasting at 700 °C. The 14 individual REE, U and Th concentrations were analysed by sodium peroxide fusion followed by Inductively Coupled Plasma Mass Spectrometry ("ICP-MS") method.</li> <li>An aliquot was split by SGS from the bulk for mineralogical analysis and examined as follows: <ul style="list-style-type: none"> <li>major mineral analysis via X-Ray Diffraction ("XRD")</li> <li>polished section analysis via Qualitative Evaluation of Minerals by Scanning Electron Microscopy ("QEMSCAN") Bulk Modal Analysis ("BMA"); and</li> <li>Electron Microprobe Analysis on the polished sections to determine deportment, liberation, association and exposure of the REE bearing components.</li> </ul> </li> <li>The mineral abundance analysis indicated that the REE bearing components are bastnaesite and monazite while the gangue comprised mainly barite and micas</li> <li>SGS Canada investigated five options for "cracking" and it was found that the strong acid agitated bake option gave the best results, with nearly all of the REE reporting to the water leach liquor</li> <li>Metanza in Johannesburg was supplied with two bulk samples for jig tests, one sample was diluted with typical gangue material while the other was competent hard rock</li> <li>The test on the diluted material revealed that a sinks product of 55 % can be achieved at a density of between 3.05 and 3.4 and an average recovery of 83 % was obtained. Recoveries on the competent vein mineralisation were higher ranging between 85 and 90 %</li> <li>Metanza also performed combined jig and shaking table tests. These results indicated that the total rare earth oxide value of 55 % could be consistently achieved with a recovery of 83 %</li> </ul> |

| Criteria            | JORC Code explanation   | Commentary  |
|---------------------|---|---|
|                     |   | <ul style="list-style-type: none"> <li>Obsideo Consulting and Metanza proposed a processing flowsheet incorporating both jigs and shaking tables based on the Metanza test work. The design is based on treating 10000 t/a run-of-mine (5.2 t/h). The product is specified as containing a minimum of 55 % total rare earth element oxides</li> <li>Mining has been conducted at Gasagwe and Murambi South that confirms continuity of mineralisation along strike and down dip.</li> <li>Rainbow's processing plant was commissioned in Q1 2018 and has been in production mode since then.</li> <li>The plant has consistently managed to generate every month a high-grade REE concentrate, grading in average 58.2% TREO (Dec 17 to Oct 18).</li> </ul> |
| <b>Further work</b> | <ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul> | <ul style="list-style-type: none"> <li>Further evaluation of the REE occurrences through trenching is continuing as part of Rainbow's strategy to open further sites for exploitation of REEs.</li> </ul>   |

## 15 MINING

Rainbow is using an open pit bench mining method to currently mine the deposits at Gasagwe and Murambi South. The mining method combines mobile mining equipment to strip the waste and manual mining to mine the veins thereby offering employment to the local community while providing a safe and a productive mining method. This is the proposed mining method to be used for the remaining deposits in the production plan (2019-2028). An example of the open pit mining taking place at Gasagwe and Murambi South is shown in Figure 15-1 and Figure 15-2 respectively.

**Figure 15-1**  
**Open Pit mining at Gasagwe**



**Source:** MSA (2019)

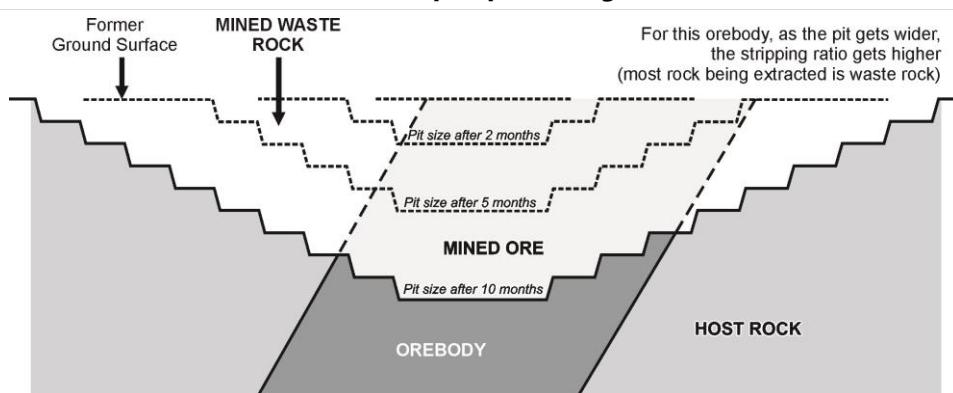
**Figure 15-2**  
**Open Pit mining at Murambi South**



**Source:** MSA (2019)

Open pit bench mining is generally the easiest form of mining for small-scale mining operations as the mineral of interest is either outcropping or is very close to surface requiring less effort and, to a certain extent, reduced risk to the mine worker. Bench mining offers a simple and safe method to exploit a deposit, but this method requires a systematic approach and for waste and mineralised material to be removed in a specific sequence. Figure 15-3 demonstrates the open pit mining method applying a sequenced approach to mining.

**Figure 15-3**  
**Schematic of open pit mining method**



**Source:** Hinton (unknown)



As a rule, the lower the stripping ratio (waste to ore ratio) the greater the profits. Due to the small size of the veins, which range between 1 cm and 10 cm in thickness, the average historical stripping ratio at Gasagwe, which has been mined since August 2017, is 202:1. This is extremely high compared to conventional open pit mining. Normally when an open pit stripping ratio is in excess of 15:1, consideration is given to mining the deposit using an underground mining method. Due to the high-grade of these narrow vein deposits as well as the free-digging nature of the host rocks (at Gasagwe and Murambi South), the economics allows for a higher stripping ratio.

MSA considers that open pit bench mining is a suitable mining method for this type of deposit. Consideration should be given to using underground mining methods should the economics surrounding the high stripping ratio become unsustainable.

## **15.1 Geotechnical**

No geotechnical work has been conducted to date. Based on on-site observations it is apparent that ground conditions are stable. Observations made by MSA at Gasagwe and Murambi South indicate that high wall stability should not be an issue with the slope of the pit based on a 3:1(V:H) slope over a 7.5 m high bench (refer to Figure 15-4).

**Figure 15-4**  
**Pit Slope Conditions at Murambi South**



**Source:** MSA (2019)

## 15.2 Hydrological

No hydrological work has been conducted to date. The water table is generally below the mining depth. The key risk to production is the rainy season, which affects the months from September to May. The vein and waste production have been planned at 30% less from October to April than other months by Rainbow to allow for stoppages and delays due to the rain. It is important that the haul roads in and between the pits are constructed in the dry season months, with good road bed material to prevent damage to the roads affecting production during the rainy season.

### **15.3 Production Rate**

The planned monthly production rate is 175 tonnes of ROM vein material per deposit at a high-level stripping ratio of 250:1. This is reduced to 125 tonnes of ROM vein during the rainy season months using the same stripping ratio. These production rates have been achieved historically at Gasagwe during the dry season but not during the rainy season, which has been hampered by the current mining trucks unable to cope with the wet conditions. The overall planned monthly production is dependent on mining four deposits simultaneously.

### **15.4 Modifying factors**

Due to the narrowness of the veins (in the order of 5 cm to 10cm), the mining loss and dilution factors are difficult to determine and have not been applied. For example, 2 cm of waste is potentially equivalent to 20% dilution. MSA recommends that reconciliations are performed to better understand and manage the mining loss and the dilution factors applied to the vein material received at the processing plant. Rainbow uses Micromine mine planning software to assist with the volume estimations for the vein production. Despite mention of "ore" in the report, these figures do not constitute Ore Reserves. To date, no Ore Reserves have been estimated for the Gakara Project.

### **15.5 Production Plan**

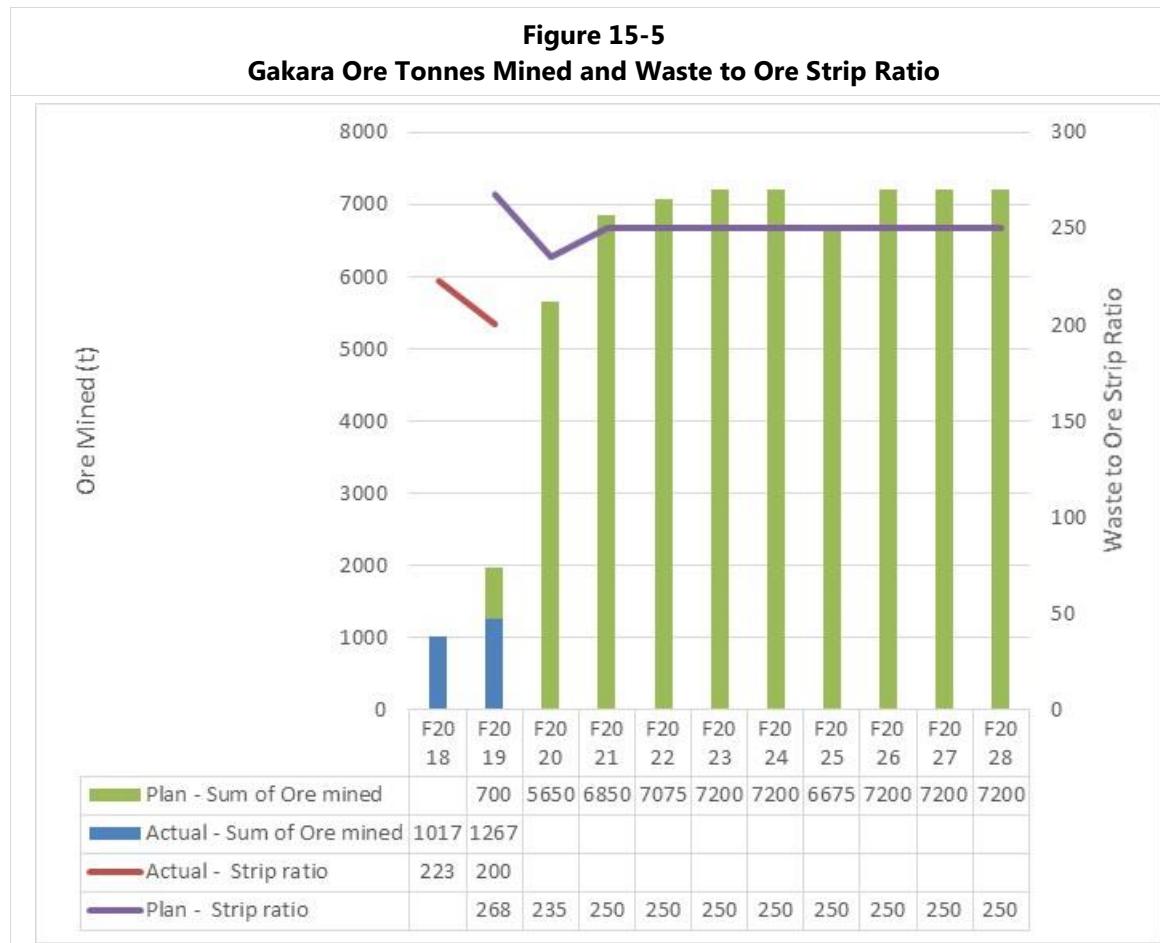
Figure 15-5 and Figure 15-6 illustrate the Rainbow Gakara annual production plan. The waste to ore strip ratio was based on historical waste mining at Gasagwe.

In order for Rainbow to ensure that a steady state annual ROM production target of 7,000 tonnes per annum is achieved sustainably, multiple mine sites will have to be developed and exploited at any one time. Such operation will strongly mitigate the risks that are associated with the complexity of the deposits and of the actual mining of thin veins. The Rainbow production plan allows for four mines sites being mined simultaneously. MSA recommends that additional mine sites are always available due to the unpredictable nature of the veins.

A key component of the future production plan is the "Other" category which constitutes all the remaining exploration targets. The ability to execute the production plan is dependent on multiple exploration sites being available for mining providing production flexibility. In order to bring the "Other" category into the production plan, the Rainbow management team will need to coordinate all the technical and production resources to ensure new sites are continuously available for mining.

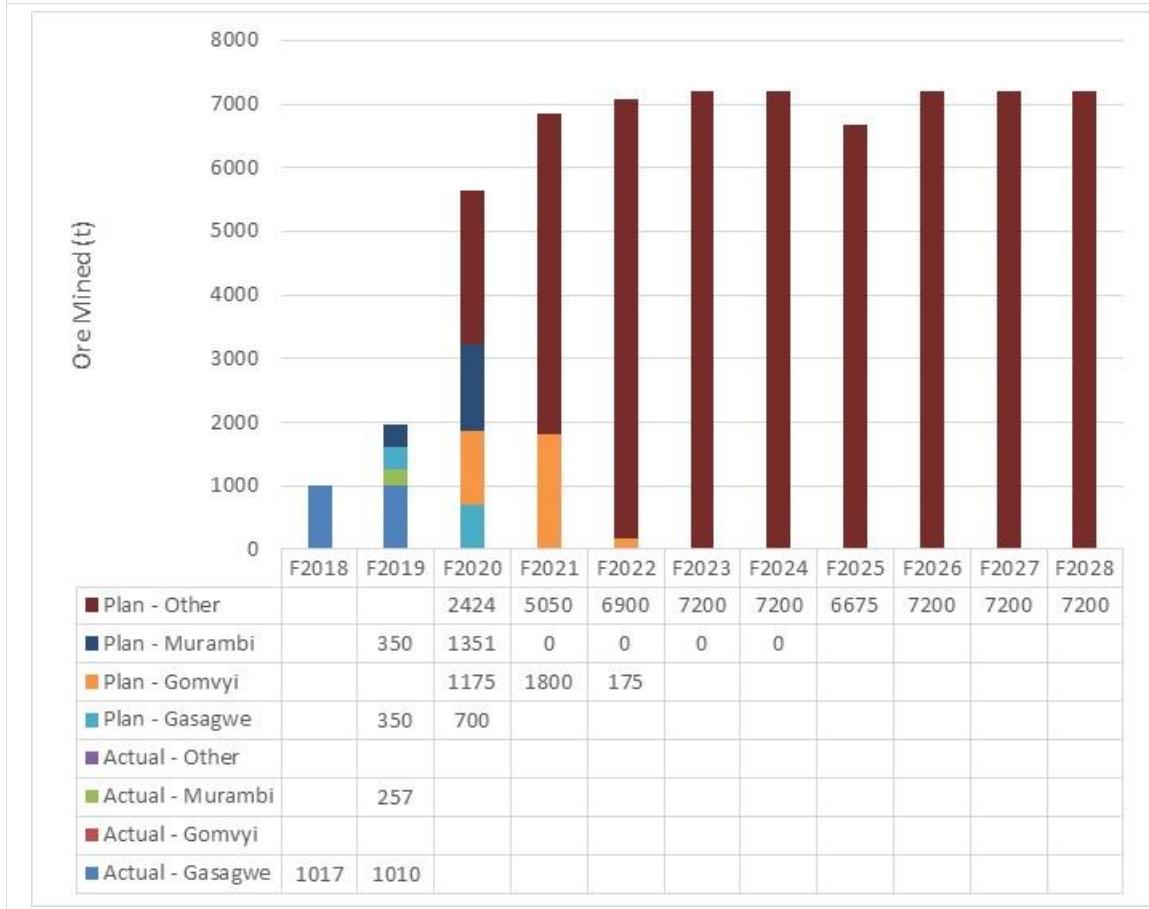
A key constraint to mining is the amount of waste removal required to access the veins. Additional mining equipment is required to be purchased and be well maintained and utilised in order to achieve the waste production target and Rainbow production plan.

The key risk is the rainy season from (October to May) and the monthly production plan has been adjusted accordingly by Rainbow.



It needs to be noted that all the charts are based on the Rainbow Financial year (July – June).

**Figure 15-6**  
**Gakara Ore Tonnes Mined and Planned by Area**



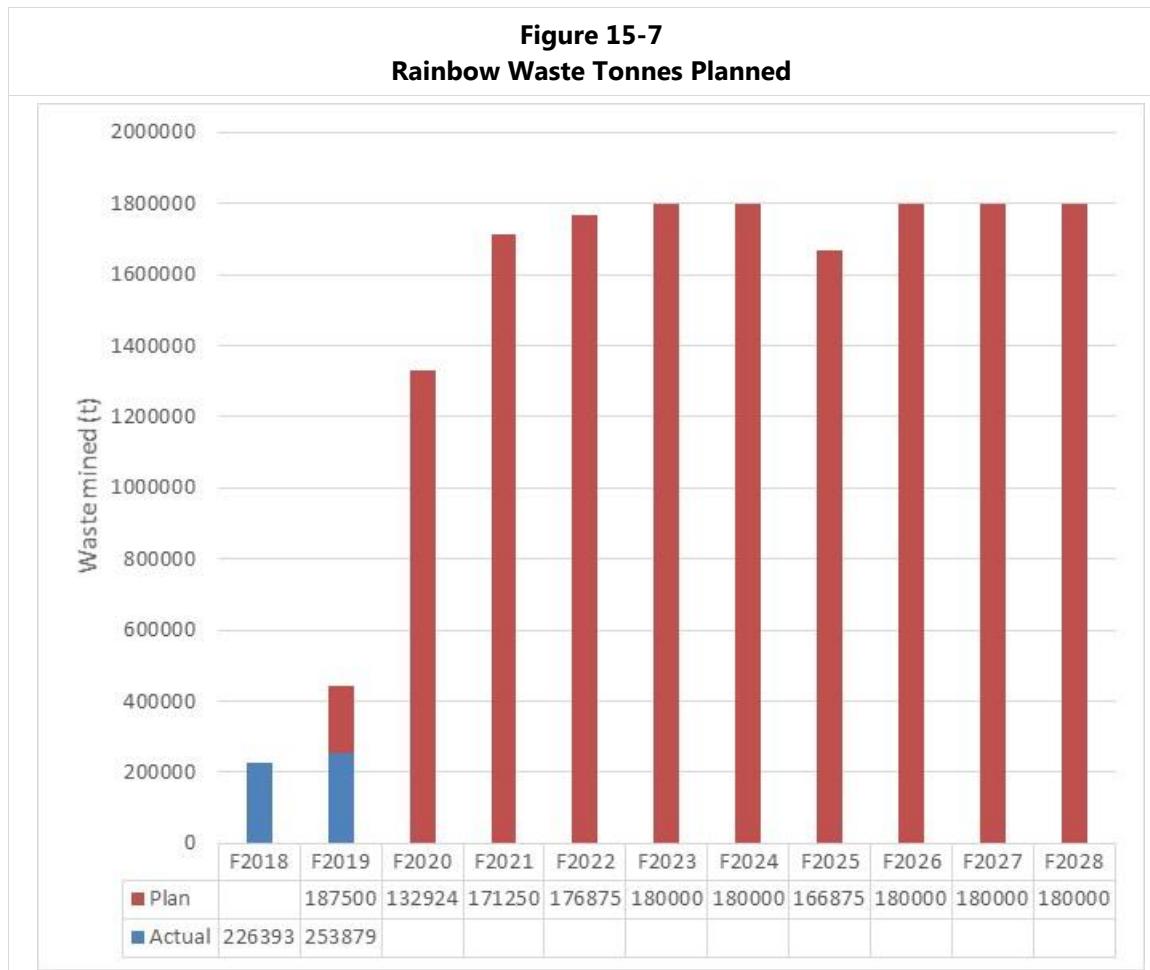
## 15.6 Equipment Selection

The establishment of good roads is critical for the safe transportation of mineralised material and haulage routes for the tipping of waste. The key driver of production for this mining method is dependent on the mechanised equipment to remove the waste. The capital purchase of additional mining equipment has been factored into the production plan to cater for the production from four mine sites. The planned mining fleet to meet the additional production requirements is shown in Table 15-1. Additional ancillary equipment includes a CAT D7 dozer, Grader and 14 Light Duty Vehicles (LDVs).

**Table 15-1**  
**Planned Mining Fleet**

| Equipment Type    | Equipment Specification | Item |
|-------------------|-------------------------|------|
| 20t Excavator     | JCB Excavator JS205     | 4    |
| 8t Backhoe Loader | JCB 3DX TLB             | 4    |
| 20t Tipper Truck  | Bieben BG80 6x4         | 10   |
|                   | <b>TOTAL</b>            | 18   |

**Source:** Rainbow, 2019



### 15.6.1 Drilling and blasting

No drilling and blasting activities have taken place at the Gasagwe and Murambi South operations, as mining takes place from outcrops at surface in weathered saprolitic material to approximately 20 m (40m at Gasagwe, Gakara, Rusutama) below surface. An assumption has been made that all material to be mined can be mechanically or manually broken and excavated. This 'free dig' situation has been assumed for the full Rainbow production plan.

### 15.6.2 Load and Haul

The establishment of good roads is critical for the safe transportation of mineralised material, and haulage routes for the tipping of waste to the waste storage facility located down-dip of the mineralised zones.

The loading of mineralised and waste material is currently conducted by a combination of manual hand shovel loading and mechanised loading. The production plan includes the purchase of additional excavators and tipper trucks to mine four separate locations. Waste material will be broken and loaded using a 20 tonne JCB mechanised tracked excavator (JCB JS205) (Figure 15-8). A more versatile 8 tonne Backhoe loader (JCB 3DX), which combines the benefits of loading shovel and excavator (Figure 15-9), will be used for waste loading and exploration digging. MSA considers Articulated Dump Trucks (ADTs) to be most fit for purpose for open pit mining and removal of the

waste for this type of environment as they will cope best in the rainy season. The disadvantage of the ADTs is a higher capital and operating cost. A decision was made by Rainbow to use the Bieben 6x4 Tipper Trucks which are cheap to run and easy to maintain (Figure 15-10).

Mineralised material will be excavated using hand picks, hoes, and shovels and then loaded either by shovel into the trailer and transported to the beneficiation plant.

**Figure 15-8**  
**Tracked JCB Excavator – JS205**



**Source:** JCB (2019)

**Figure 15-9**  
**JCB Backhoe and Shovel Excavator**



**Source:** JCB (2019)

**Figure 15-10**  
**Bieben BG80 6x4 Tipper Truck**



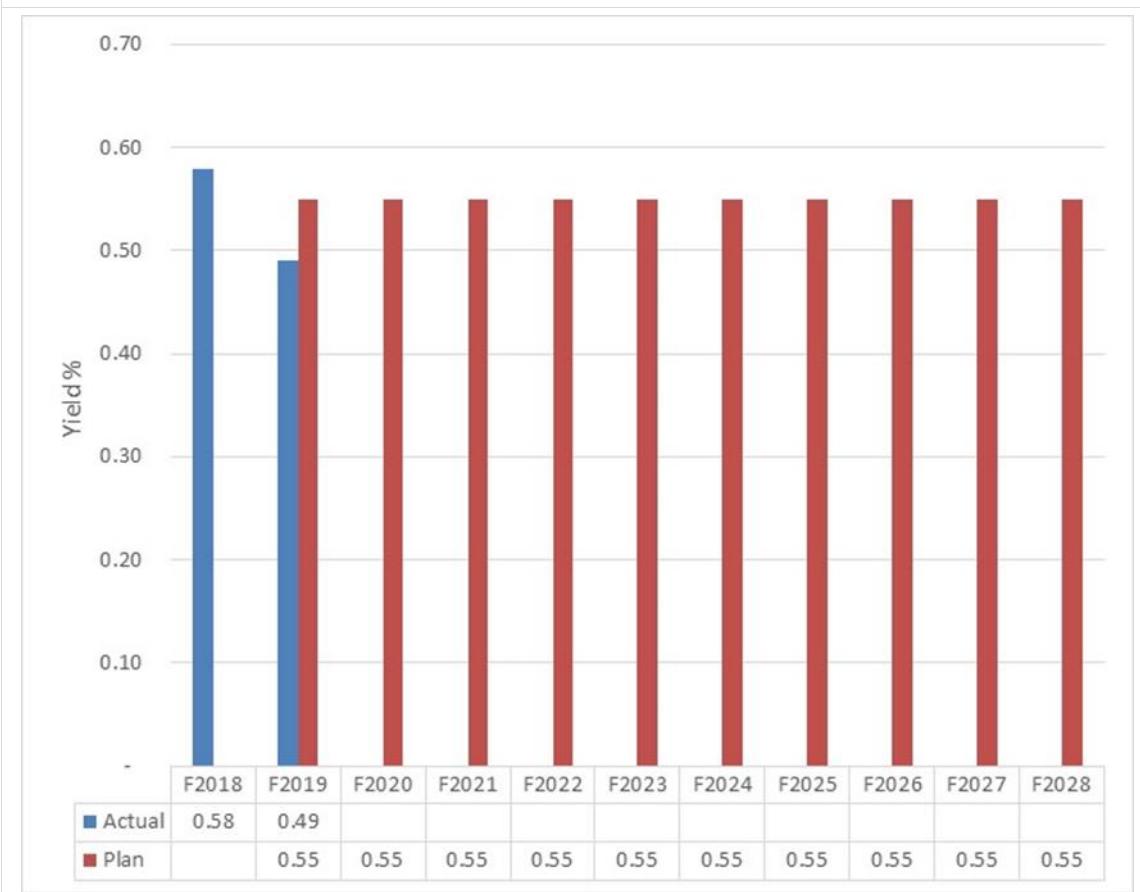
**Source:** Bieben (2019)

## 16 RECOVERY METHODS

The original plant was prefabricated to produce minus 2 mm product size. The product size was then adjusted to minus 1 mm based on revised client offtake specifications. A small crusher has been installed post the plant installation after the dry circuiting combined with a basic dust extraction system. Rainbow has already researched and costed options for dust extraction options. MSA recommends that the process flow sheet and design be reviewed and optimised to capture the dust and improve the overall plant efficiency.

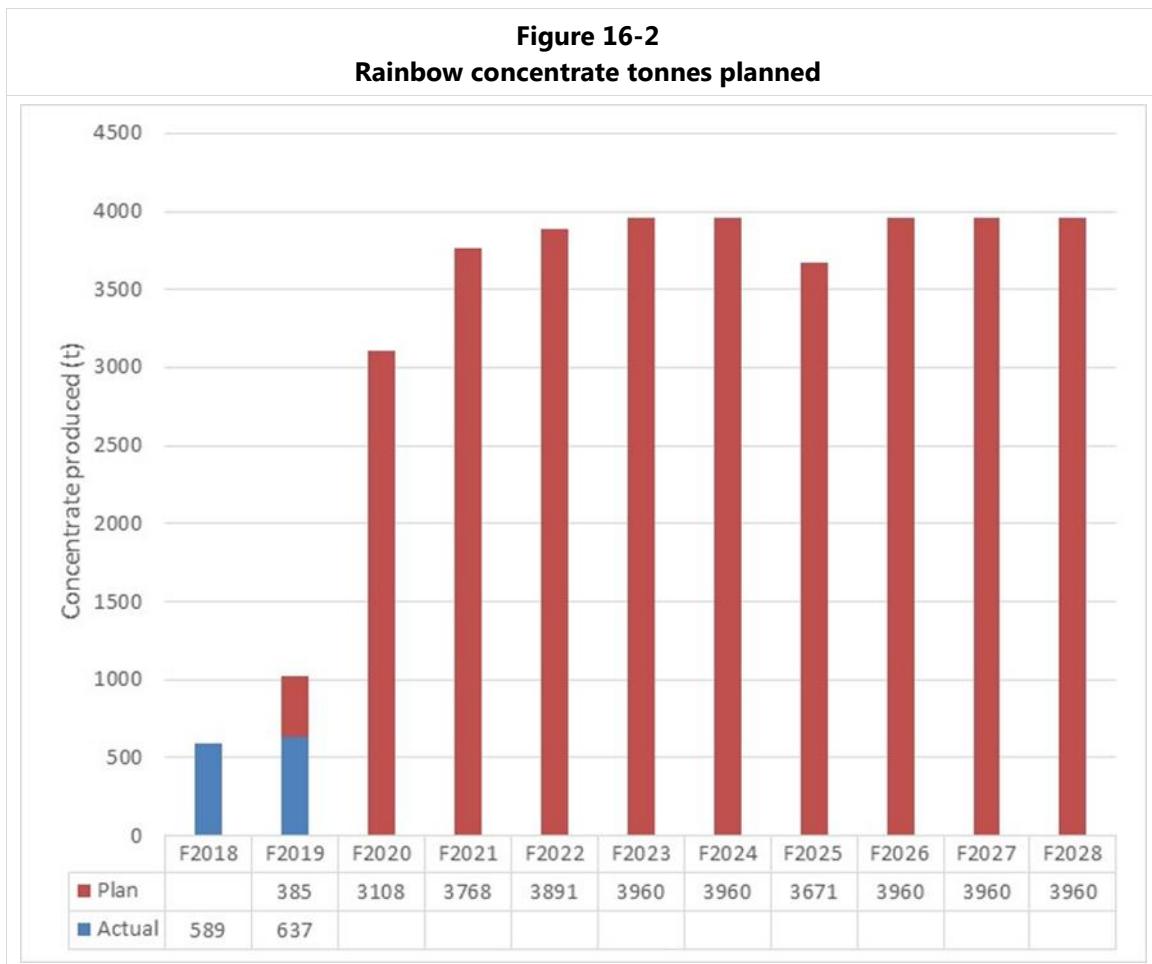
The historical weighted yield to date from the processing plant, which is calculated by dividing the concentrate produced by the run of mine material processed, is 53%. The yield used by Rainbow in the production plan is 55% (Figure 16-1). An assumption has been made that the increased production and continuous running of the plant will improve the plant performance and yield. MSA view this as a risk and recommend that Rainbow do continuous monitoring and data analysis of the plant performance to different mine sites and combine with initiatives to ensure continuous improvement.

**Figure 16-1**  
**Rainbow processing yield planned**



**Source:** Rainbow, 2018

The processing plant is currently underutilised and is not considered a constraint to the production plan. The mining production plan described in Section 15.5 translates to an annual production of around 4,000 tonnes of concentrate sold (Figure 16-2).



**Source:** Rainbow, 2018

## 17 PROJECT INFRASTRUCTURE

Rainbow has been mining the Gakara REE deposit since mid-2017. During this period, it has constructed the actual mine at the Gasagwe site (with the acquisition and renting of all the earthmoving equipment, building of infrastructure support required, construction and management of waste dumps, and compensation of local inhabitants for expropriation).

The main project infrastructure and property is the processing plant and office. Access to the Property from Bujumbura is by tarred road via the N3 in a southerly direction along the eastern coastline of Lake Tanganyika. The tarred road then connects via an all-weather dirt road to the local administrative centre of Mutambu, located in the central part of the Mining Licence, where Rainbow has established an operation base camp within the Gasenyi Catholic Mission premises, with safe accommodation, storage facilities, water, electricity and communication. The total distance by road from Bujumbura to Mutambu is approximately 40 km and takes about 90 minutes in a 4x4 vehicle.

The Project area is served by variably maintained dirt roads, which, due to the rugged terrain, become difficult to negotiate during the rainy season(s). The dirt roads or tracks usually follow local watersheds, with access to valley bottoms and/or primary and secondary drainages via local footpaths that are extensively developed throughout the Project area.

Each mine site requires a waste dump, the construction of access roads, the establishment of mining infrastructure. A workshop is required to service mining equipment and mine vehicles. The production plan is relying on the purchased mining equipment doing between 25,000 to 30,000 operating hours so planned maintenance is important to ensure the future availability of the equipment.



## 18 MARKET STUDIES AND CONTRACTS

Very little has changed regarding the fundamentals of the rare earth market in the past year. World demand continues to increase, particularly due to increased production of electric vehicles which require rare earth magnets. There is minimal new supply entering the market in the short term, with a large number of potential mines around the world still seeking financing (which may require a significant increase in rare earth prices), which must then be followed by construction. As an existing producer of material with rapidly increasing production levels planned in the near term, Rainbow is well positioned to benefit from any short term tightening of global supply.

Rare earth production and processing is still dominated by China, although a number of forecasts are now suggesting that China will be a net importer of rare earths material within five to seven years. Rainbow's location outside of China may also be strategically beneficial to rare earth consumers looking for alternative sources of supply, particularly if the global market in the coming years is affected by some of the trade tariffs and restrictions recently announced by the United States and China. It continues to be a part of Rainbow's core strategy to investigate the options for processing its own concentrate into higher value downstream products and the TechMet co-operation agreement announced in August 2018 will help to accelerate this objective.

## 19 ENVIRONMENTAL STUDIES, PERMITTING AND SOCIAL OR COMMUNITY IMPACT

The Environmental and Social aspects of the Gakara mining Project are ruled by the following Burundian laws and regulations:

- The Environmental Code of Burundi, Law No. 1/010 (dated June 2000).
- The Decree N°100/22 of 7 October 2010 pertaining to the application of the Environmental Code regarding the process to establish environmental impact studies.
- The national strategy on the environment in Burundi (2002).
- The scope of environmental and social impact assessments.
- The Mining Code of Burundi (Law No. 1/21 of October 2003) and its Regulations in respect of matters related to environment.

Rainbow submitted Environmental and Social Impact Studies ("ESIS") to the Ministry of Environmental Affairs for all its operations, namely:

- An ESIS in respect of the exploration activities in the EL and ML.
- An ESIS in respect of the development of the Gasagwe Mine site.
- An ESIS in respect of the construction of the Kabezi processing plant.
- Recently, an ESIS in respect of the development of the Murambi South Mine site.

The ESIS were compiled by BEE ("Bureau pour les Evaluations Environnementales") and/or by EGEE ("Evaluation Environnementale, Géologie, Energie et Eau"), two independent Burundian certified environmental firms. The ESIS always comprise of two statutory documents (in accordance with the Burundi Environment Code and Decree No.100/22 and its application decree):

- An environmental and social impact assessment (ESIA) *sensu strictu*.
- A social impact management plan ("Plan d'Action de Réinstallation" or "PAR").

The PAR's were completed as social and community development plans on issues such as the legal and fair compensation for the loss of goods and assets caused by the mining expropriation, as well as the economic assistance for the displacement and the improvement of social conditions of the affected local parties. The structure of the PAR includes:

- An assessment of the socio-economic condition of the area affected by mining.
- A plan to minimise expropriation, when unavoidable.
- The identification of affected parties and persons.
- An estimate of the potential losses and of the potential compensations.
- The public participation and communication strategy.
- The implementation plan of the PAR.
- The legal procedures for litigations and objections.

Rainbow has obtained the following compliance certificates from the Ministry of Environment:

- Certificate No. 007/2015 (4 March 2015) for Gasagwe Mine site.
- Certificate No. 010/2015 (30 March 2015) for the ML.
- Certificate No. 180/2017 (1 August 2017) for the Kabezi plant.
- Certificate No. 395/2018 (7 December 2018) for the mining of the Murambi South site.



The expropriation and compensation processes follow the statutory laws on these matters. A committee has been created that deals with such issues. The committee is made, besides members of Rainbow management, of the President of the Mutambu Communal Council, the Administrator of Mutambu, the Priest of the Gasenyi Catholic mission, a judge from the region and the Chiefs of the zones concerned by the mining activities. The compensation fees are calculated and paid out in strict accordance with the statutory laws on this matter.

In respect of the ESIS for the Gasagwe Mine, a large part of the mining area had already been expropriated by the Government of Burundi as "an area for public utilisation" being the area covered by the former SOBUMINES mine.

In respect of the ESIS for the Kabezi plant, special attention was given to the potential impact of such facility on the nearby Lake Tanganyika. This assessment, prepared by EGEE, was presented at a public meeting involving the Ministry of Mines and Energy and various interested parties (NGOs).

Finally, Rainbow reports annually their social and environmental impact studies, revised assessments, in their statutory reports to the Ministry of Mines and Energy, as per requirements of articles 205 and 206 of the Burundi Mining Regulations.

MSA is not aware of any additional permit requirements in order for Rainbow to continue the planned exploration and mining activities on the Gakara ML.

## **19.1 Uranium and Thorium**

All historical reports by SOBUMINES and BGR as well as Mariano (2011) state that the Gakara REE vein mineralisation is characterised by relatively low concentrations in the radioactive elements Thorium (Th) and Uranium (U).

The geochemical analyses completed by Rainbow in 2013 on the 150 sample rock grab samples confirm that the levels of Th and U are generally low with some, sporadic exceptions, and show an average of 0.01% for U and 0.07% for Th.

Given the U and Th concentrations observed in the initial testing of the Rainbow veins, it is unlikely that the concentrate produced from the Rainbow veins would exceed this exemption level even under conservative interpretations. A five-fold increase in the U and Th concentrations would be needed to approach the exemption level. As such, there are no special requirements for the shipment of the product with respect to its radioactivity. The concentrate may be simply packaged and manifested in whatever manner is required for the chemical composition of the product.

## 20 CAPITAL AND OPERATING COSTS

### 20.1 Capital Costs

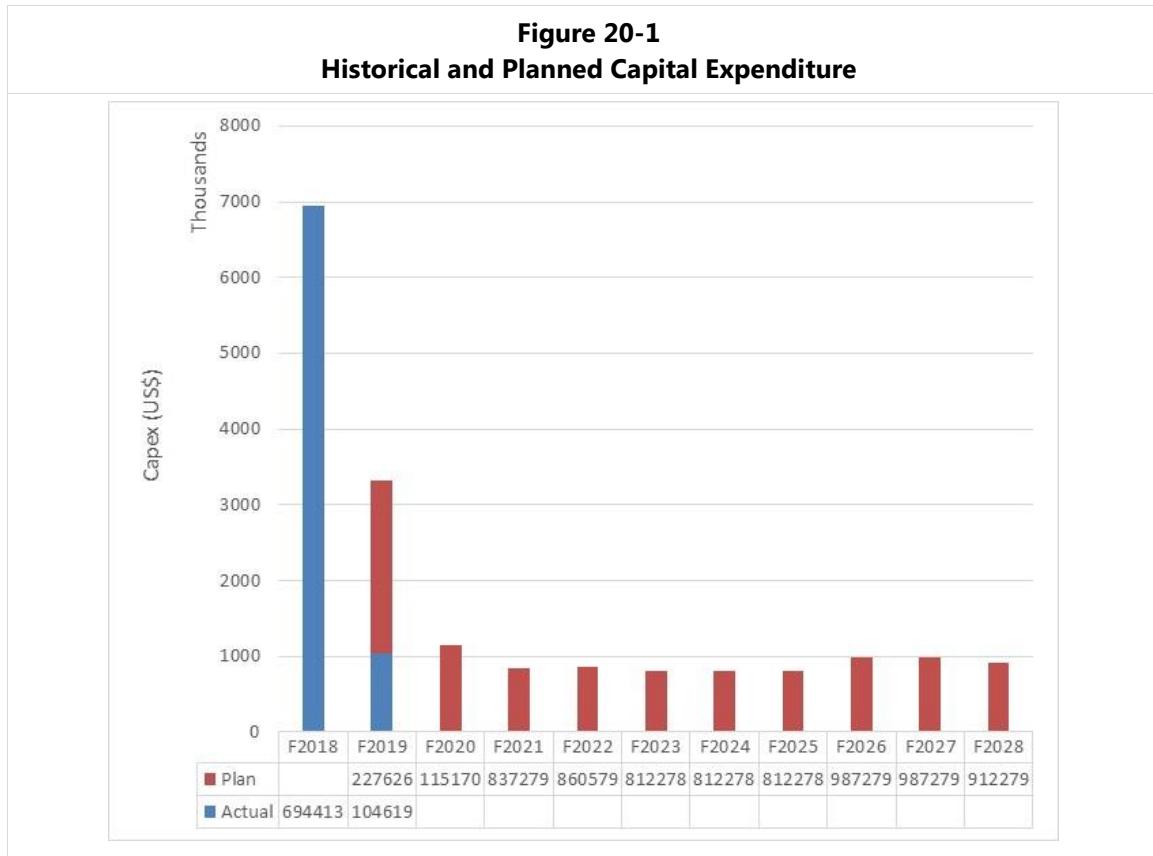
The total capital budget, including Stay in Business capital, for the 10-year production plan is shown in Table 20-1. The main capital items are to purchase and sustain the mining fleet and future exploration costs. These are critical components to the achievability and sustainability of the production plan. The other capital items are the compensation for the local villagers to enable access to mining exploration sites and construction of access roads.

**Table 20-1**  
**Capital Budget Production Plan**

| Item                                  | US\$              |
|---------------------------------------|-------------------|
| Mining Fleet                          | 1,660,000         |
| Mining Fleet Sustaining Capex/ Spares | 1,779,999         |
| Site and infrastructure               | 34,949            |
| Land and compensation                 | 1,791,987         |
| Roads                                 | 883,445           |
| Consultants - Survey                  | 1,323,220         |
| Exploration Costs                     | 2,597,895         |
| <b>TOTAL</b>                          | <b>10,071,494</b> |

**Source:** Rainbow, 2019

The historical capital expenditure in 2017 includes the purchase of the processing plant and initial mining equipment (Figure 20-1). It is noted that all the charts are based on the Rainbow Financial year (July – June) and due to timing the bulk of the capex currently reflected in F2019 for the purchase of the mining fleet is likely to fall into the F2020 budget.



**Source:** Rainbow, 2019

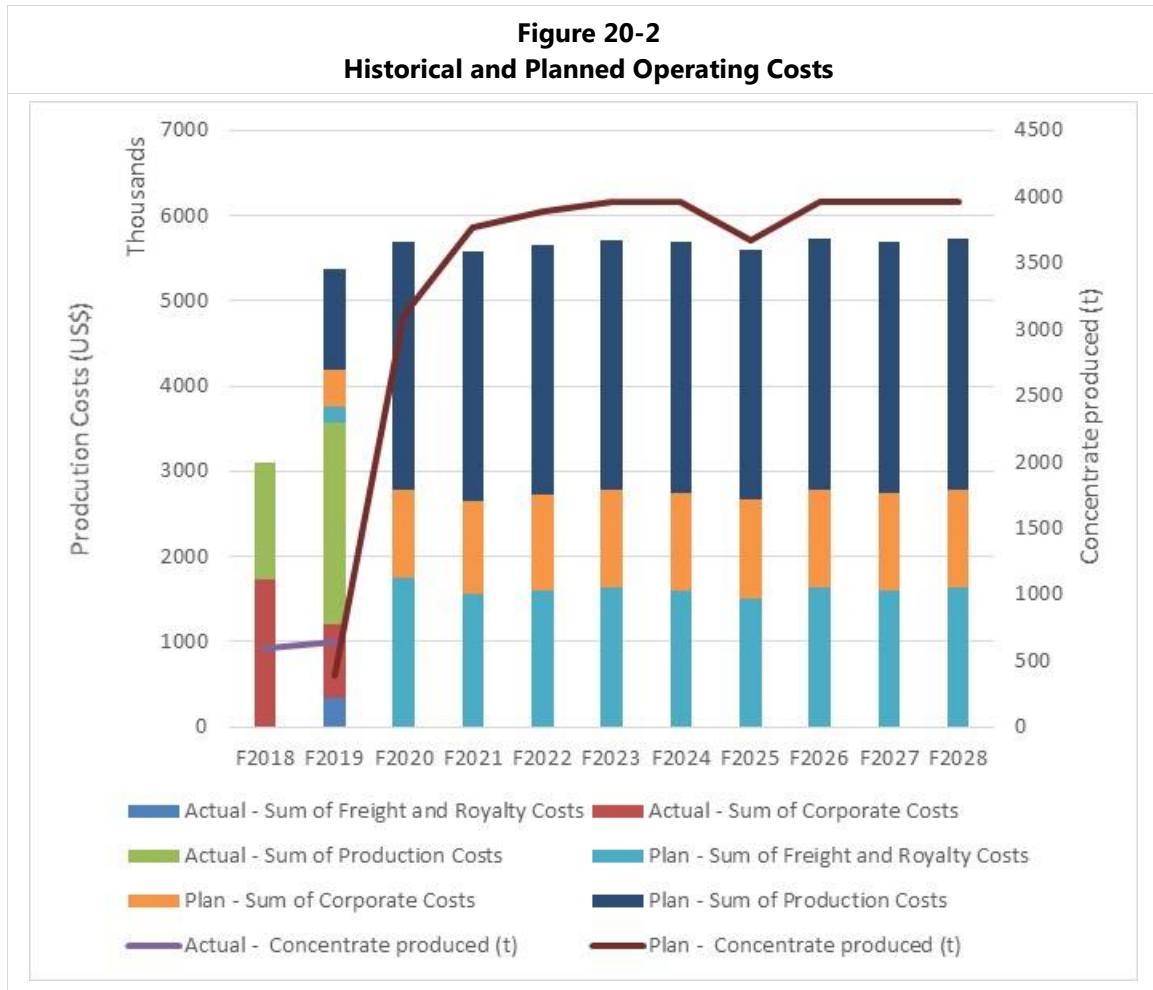
## 20.2 Operating Costs

The operating costs for the Rainbow Production Plan are broken up into Corporate, Production, and Freight and Royalty Costs as shown in Table 20-2. Figure 20-2 highlights the relationship between historical and planned production and costs. It is noted by MSA that the long-term operating costs are predominantly fixed and aligned with the F2019 budget. The inference is that the operating costs are unaffected by the increased production. The historical average unit operating costs is US\$ 5441/ tonne of concentrate compared to US\$ 1527/ tonne in the plan. This translates to a considerable increase in operational efficiency which is primarily driven by the increased production.

**Table 20-2**  
**Operating Cost Breakdown**

| Item                      | US\$              | US\$/ t Concentrate |
|---------------------------|-------------------|---------------------|
| Production Costs          | 27,575,094        | 796                 |
| Freight and Royalty Costs | 14,693,840        | 424                 |
| Corporate Costs           | 10,582,997        | 306                 |
| <b>TOTAL</b>              | <b>52,851,931</b> | <b>1,527</b>        |

**Source:** Rainbow, 2019



Source: Rainbow, 2019

### 20.2.1 Production Costs

The production costs are broken up into the following categories:

- Plant Costs
- Mining Costs
- Local Admin Costs

A breakdown of the production costs is shown in Table 20-3.

**Table 20-3**  
**Production Cost Breakdown**

| Item              | US\$              | US\$/ t ROM Processed |
|-------------------|-------------------|-----------------------|
| Plants Costs,     | 6,226,648         | 99                    |
| Mining Costs      | 10,516,076        | 167                   |
| Local Admin Costs | 10,832,372        | 172                   |
| <b>TOTAL</b>      | <b>27,575,094</b> | <b>438</b>            |

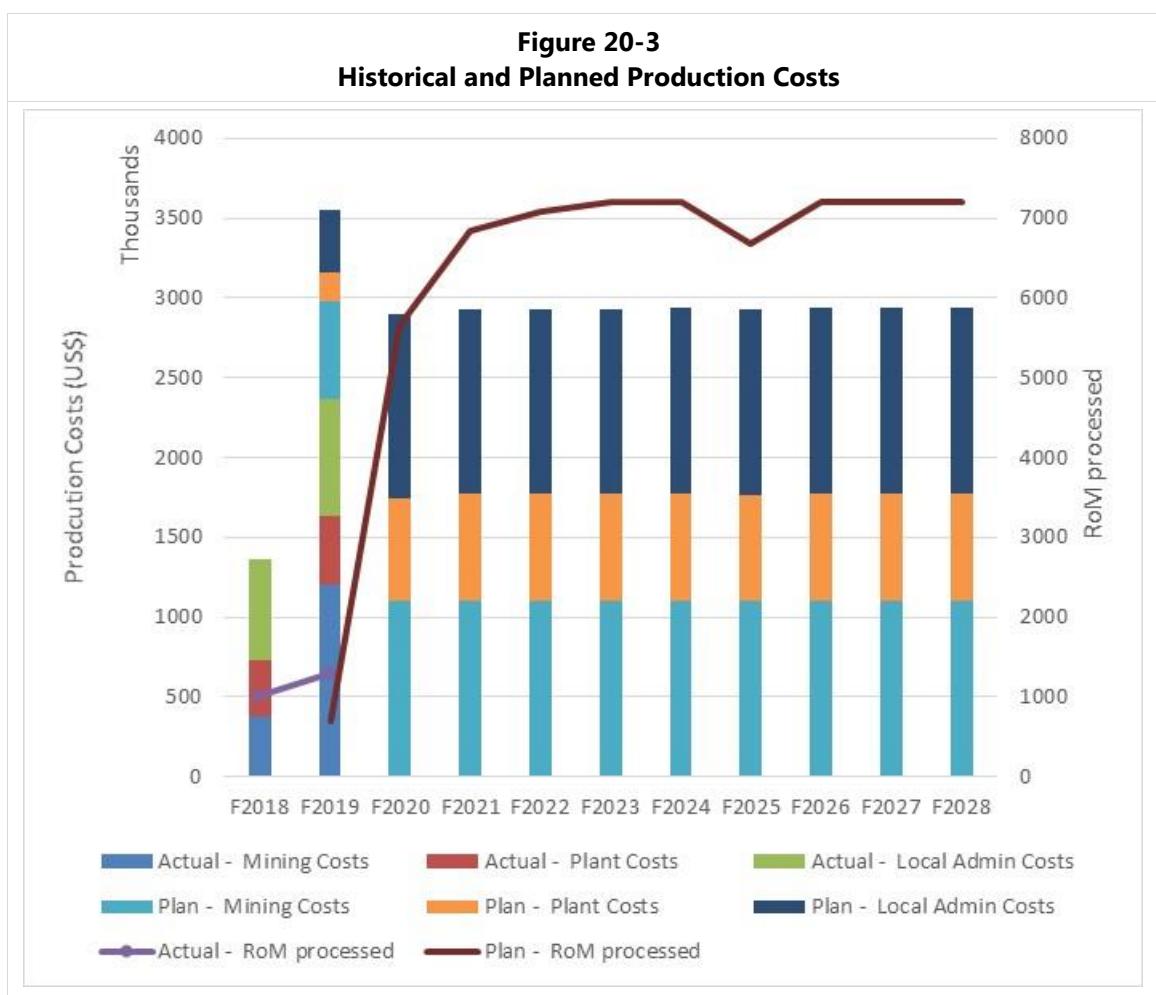
Source: Rainbow, 2019

A breakdown of the Historical and Production Costs for the Rainbow production plan is shown in Figure 20-3. The historical average unit production costs is US\$ 1,613/ tonne of ROM processed compared to US\$ 438/ tonne in the plan.

The long-term plant costs are predominantly fixed. An increase in fuel costs to run the power diesel generator has been factored in to supplement the monthly fluctuations in production. The plant maintenance costs are assumed to be minimal by Rainbow. This would need to be monitored once the plant utilisation has increased based on increased production from mining.

The curtailing of the current mining fleet rental agreement and purchase of the new mining fleet in 2019 will bring about a reduction in mining fleet costs despite an increase in fuel costs. An assumption has been made that the current manual labour is sufficient to manage the increase in production. The operating environment for the mining equipment is harsh and remote requiring continuous road building and maintenance management systems. The MSA view is that establishment of a "fit for purpose" onsite workshop is important to ensure the mechanical availability of mining equipment. If this is not established and proper planned maintenance done the likelihood is that waste tonnes will be affected translating to a loss of production. The life of the equipment would also be affected. The mine operates in daylight hours only, so there is potential to do equipment maintenance after hours between production shifts. It needs to be noted that the mining equipment spares is part of the capital budget.

The long-term local admin costs remain fixed through the production plan.



**Source:** Rainbow, 2018



## 20.2.2 Freight and Royalty Costs

The rare earth concentrate is initially trucked to port on the East African coast by Rainbow. The Freight costs from port go through Thyssenkrupp Materials Trading (TK), under the terms of the company's offtake agreement, and are delivered to two cornerstone customers. Rainbow pay an additional fee to TK for this service.

Royalty payments relate to the government royalty of 4% charged on the value of exports.

## 20.2.3 Corporate Costs

The corporate costs are planned to decrease in the 2019 budget and are basically fixed throughout the production plan as shown in Figure 20-2.

Rainbow has a significant corporate presence in Burundi in order to meet all of its legal and social obligations. Rainbow ensures that the workforce is sourced locally, or, wherever possible, uses Burundian contracting companies for elements of construction and material transportation.

## 21 ECONOMIC ANALYSIS

The Rainbow Economic Analysis is based on the assumptions shown in Table 21-1. Rainbow produces rare earth mineral concentrate which is sold to TK on market price less a deduction and a discount (negotiated by TK with each end customer). Rare earth prices have been volatile in the past and the current price discount used in the economic model is 71.5%. In reality, this may vary depending on the TK negotiations with new customers or as terms are renegotiated with existing customers.

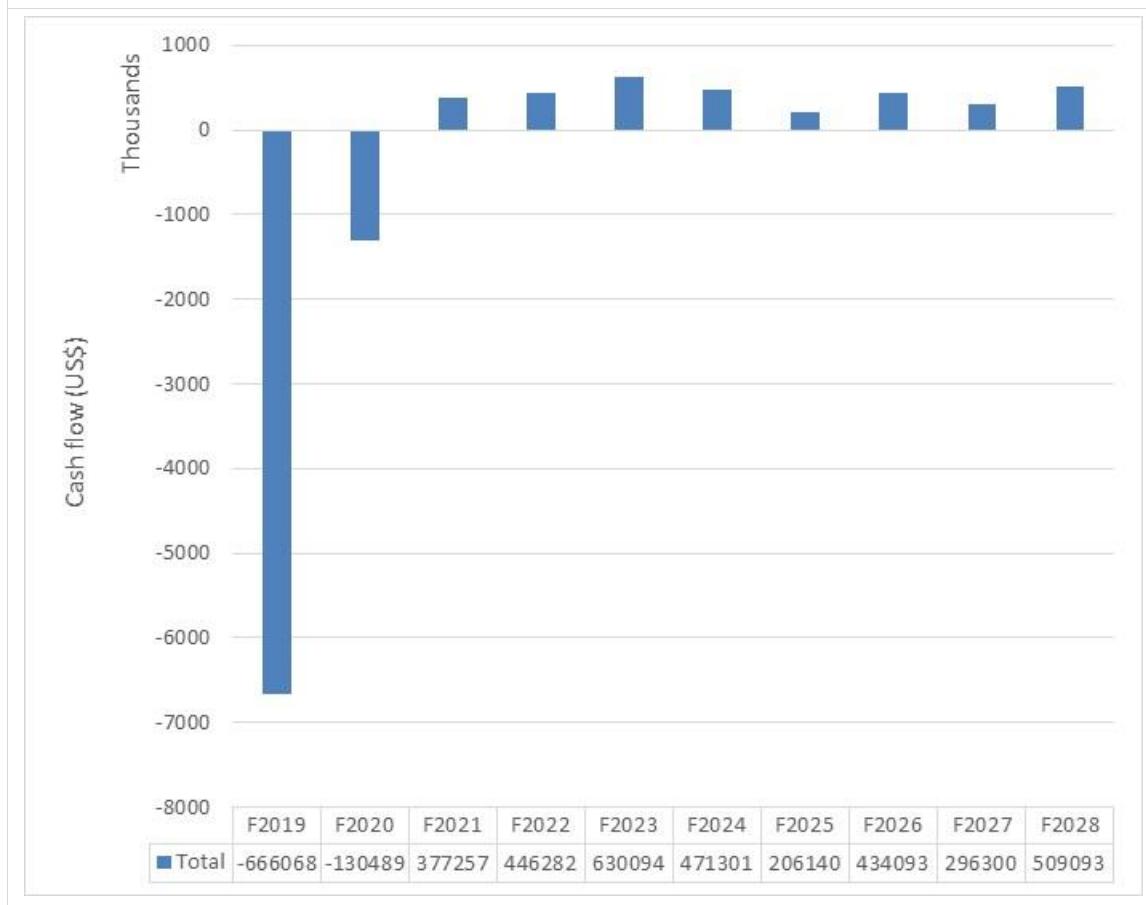
**Table 21-1**  
**Rainbow Economic Assumptions**

| Activity            | Unit              |        |
|---------------------|-------------------|--------|
| Forex Rate: USD/BIF |                   | 1,813  |
| Forex Rate: USD/GBP |                   | 1.4    |
| Basket price        | US\$ per tonne    | 11,000 |
| Price Discount      | % of Basket Price | 71.5%  |
| Concentrate Grade   | %                 | 57.0   |
| Concentrate Price   | US\$ per tonne    | 3,135  |
| Freight Costs (TK)  | US\$ per tonne    | 100    |
| TK Fee              | % of Revenue      | 3.5    |

**Source:** Rainbow, 2019

The resultant pre-tax cashflow is shown in Figure 21-1 which highlights profits from F2021.

**Figure 21-1**  
**Rainbow Planned Cash Flow**



**Source:** Rainbow, 2018

## 22 INTERPRETATION AND CONCLUSIONS

Rainbow has continued to develop its understanding of the Gakara REE deposits through exposing the veins, measuring their thicknesses and carrying out initial mining. As a result, an updated Exploration Target has been estimated using methodologies suitable for the resolution of data available. In addition, an Exploration Target has been defined at Kiyenzi that offers the opportunity for larger scale, lower grade mining than at the narrow vein deposits.

The economic analysis of the Rainbow Project highlights the financial sensitivity of the Project based on current planning and economic assumptions.

It is MSA's opinion that the Rainbow production plan is dependent on the exploration team to ensure the availability of sufficient production sites for mining, as well as the ability of the mining team to remove waste to ensure continuous delivery of feed to the plant.

The equipment selection and availability will need to be monitored to ensure that the waste plan is achieved particularly during the rainy season.

Various processing and mining initiatives are under investigation by Rainbow to improve the economic potential of the Project:

- Investigation of underground mining potential as a trade off to the high waste to ore stripping ratio in the open pit.
- Improved processing recovery yield.
- Mining and processing the lower grade deposits (Kiyenzi).
- Improved product beneficiation and pricing.

## RECOMMENDATIONS

It is recommended that Rainbow collect enough reliable data in order to be able to report Mineral Resources for the mining and near mining areas in accordance with the 2012 Edition of the JORC Code.

MSA notes that Rainbow reported a Mineral Resource for Gakara on 17 December 2018. In the CP's opinion, the sampling quality at Gasagwe and Murambi South is acceptable and there is sufficient data in order to understand vein continuity and thickness variability. However, there is a lack of correctly prepared samples from the channel sampling and subsequent independent laboratory analysis. The Rainbow Mineral Resource estimate included Niton XRF analyses on unprepared samples, which correlate poorly with laboratory analyses. In addition, there is no three-dimensional model for the veins that can be depleted with a recent topographic surface. The Rainbow volumes were estimated based on the geological knowledge and experience of Rainbow's CP derived from actual mining over the past two years, but the models are not presented spatially.

MSA reviewed the Mineral Resource model constructed for Kiyenzi and is of the opinion that it is not reliable enough to report a Mineral Resource from, as it is not based on the current geological understanding of a breccia pipe and has not taken into account the selective sampling conducted by Rainbow.

MSA recommends the following approach in order to prepare reliable geological and grade models from which Mineral Resource estimates can be confidently reported:

- For the narrow vein type deposits:
  - Continue to expose veins, accurately determine their location and measure their thickness at regular intervals. This is an ongoing process used to guide mining, reconciliation and the potential of prospects highlighted for near term mining.
  - Channel sample the exposed veins at regular intervals and send the samples to an accredited independent laboratory for preparation and analysis together with QAQC samples.
  - Model the veins and deplete with a recent topographic surface.
- For the Kiyenzi Breccia Pipe
  - Sample all the Kiyenzi core in a non-selective manner (i.e. as continuous intervals). Currently the sampling is selective and has targeted the visible higher grade zones. The complete data set will allow for better understanding of grade trends that can be used to understand the full economic potential of the Kiyenzi deposit.
  - Continue to explore the Kiyenzi deposit by additional diamond drilling in order to be able to build a more reliable geological and grade model. This may result in better definition of high-grade zones that may allow for selective mining. Stockwork type mineralisation in breccias is highly variable and requires close spaced drilling to understand confidence limits.
  - Carry out processing test-work to ensure that the current processing facilities are suitable for the mineralisation at Kiyenzi.



It is also recommended that continuous channel samples are taken between the exposed veins in order to understand if opportunities for lower grade mineralisation exist between the veins.

MSA endorses Rainbow's high-level production plan on the assumption that the risk areas mentioned in this report are addressed. It is important that mining and processing initiatives that are under investigation by Rainbow are fast tracked to offset the risks in the current production plan.

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## **APPENDIX 1:**

### **Glossary of Technical Terms and Abbreviations/Acronyms**



## Glossary of Technical Terms and Abbreviations/Acronyms

|                       |   |
|-----------------------|---|
| <i>alkaline rocks</i> | Rocks containing an excess of sodium and or potassium.  |
| <i>ALS</i>            | ALS Minerals, an independent laboratory (South Africa – SA; Canada - V)   |
| <i>Archaean</i>       | The oldest rocks of the Precambrian era, older than about 2,500 million years   |
| <i>BGR</i>            | Bundesanstalt für Geowissenschaften und Rohstoffe   |
| <i>basement</i>       | The igneous and metamorphic crust of the earth, underlying sedimentary deposits   |
| <i>brecciated</i>     | Condition applied to an intensely fractured body of rock  |
| <i>Cambrian</i>       | The oldest of the systems into which the Palaeozoic stratified rocks are divided, 545 to 490 million years ago  |
| <i>Capex</i>          | Capital Expenditure   |
| <i>carbonate</i>      | A rock, usually of sedimentary origin, composed primarily of calcium, magnesium or iron and CO <sub>3</sub> . Essential component of limestones and marbles |
| <i>carbonatite</i>    | An alkaline, carbonate-rich magmatic rock   |
| <i>cm</i>             | centimetres   |
| <i>Company</i>        | Rainbow Rare Earths Limited   |
| <i>CP</i>             | Competent Person  |
| <i>CPR</i>            | Competent Persons Technical Report  |
| <i>CRM</i>            | Certified Reference Material  |
| <i>DD</i>             | Diamond Drilling (also referred to as core drilling)  |
| <i>DEM</i>            | Digital Elevation Model   |
| <i>DGPS</i>           | Differential Global Position System   |
| <i>diatreme</i>       | A volcanic vent or pipe created by gaseous magma sourced from the mantle  |
| <i>dyke</i>           | A tabular body of intrusive igneous rock, crosscutting the host strata at an oblique angle  |
| <i>ECSA</i>           | Engineering Council of South Africa   |
| <i>ED</i>             | Eastern Domain  |
| <i>ESIA</i>           | Environmental and Social Impact Assessment  |
| <i>ESIS</i>           | Environmental and Social Impact Study   |
| <i>EL</i>             | Exploration Licence   |
| <i>g</i>              | grammes   |
| <i>GGS</i>            | Ground Gravity Survey(s)  |
| <i>gneiss</i>         | A coarse-grained, banded, high grade metamorphic rock   |
| <i>GPS</i>            | Global Position System  |
| <i>granitoid</i>      | A generic term for coarse grained felsic igneous rocks, including granite   |
| <i>gravity survey</i> | Recording the specific gravity of rock masses in order to determine their distribution  |
| <i>ICP-AES</i>        | Inductively coupled plasma atomic emission spectroscopy   |
| <i>ICP-MS</i>         | Inductively coupled plasma mass spectrometry  |



|                        |   |
|------------------------|---|
| <i>JORC Code</i>       | The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (2012)   |
| <i>KAB</i>             | Karagwe-Ankole Belt   |
| <i>KB</i>              | Kibaran Belt  |
| <i>kg</i>              | kilogrammes   |
| <i>km</i>              | kilometres  |
| <i>m</i>               | metres  |
| <i>Ma</i>              | Million years   |
| <i>mafic</i>           | Descriptive of rocks composed dominantly of magnesium and iron rock-forming silicates   |
| <i>mamsl</i>           | metres above mean sea level   |
| <i>mantle</i>          | The layer of the earth between the crust and the core. The upper mantle, which lies between depths of 50 km and 650 km beneath continents, is the principal region where diamonds are created and stored in the earth |
| <i>Mesoproterozoic</i> | Middle Proterozoic era of geological time, 1,600 to 1,000 million years ago   |
| <i>metamorphism</i>    | Alteration of rock and changes in mineral composition, most generally due to increase in pressure and/or temperature.   |
| <i>ML</i>              | Mining Licence  |
| <i>mm</i>              | millimetre  |
| <i>MPa</i>             | Megapascal  |
| <i>MSA</i>             | The MSA Group (Pty) Ltd   |
| <i>MW</i>              | Megawatt  |
| <i>Neoproterozoic</i>  | Late Proterozoic era of geological time, 1,000 to 545 million years ago   |
| <i>NRG</i>             | New Resolution Airborne Geophysics (Pty) Ltd  |
| <i>Opex</i>            | Operating Expenditure   |
| <i>P-T</i>             | Pressure-Temperature  |
| <i>Palaeozoic</i>      | An era of geological time between the Late Precambrian and the Mesozoic era, 545 to 251 million years ago   |
| <i>Precambrian</i>     | Pertaining to all rocks formed before Cambrian time (older than 545 million years)  |
| <i>Project</i>         | Gakara REE Project  |
| <i>Property</i>        | Mining Licence  |
| <i>Proterozoic</i>     | An era of geological time spanning the period from 2,500 to 545 million years before present  |
| <i>QAQC</i>            | Quality Assurance Quality Control   |
| <i>Rainbow</i>         | Rainbow Rare Earths Limited   |
| <i>REE</i>             | Rare Earth Elements   |
| <i>Report</i>          | Competent Persons Technical Report  |
| <i>RIR</i>             | Rainbow International Resources Limited   |
| <i>RMB</i>             | Rainbow Mining Burundi Société Mixte  |
| <i>ROM</i>             | Run of Mine   |



|                   |   |
|-------------------|---|
| <i>RQD</i>        | Rock-quality designation  |
| <i>SACNASP</i>    | South African Council for Natural Scientific Professions  |
| <i>SAIMM</i>      | South African Institute of Mining and Metallurgy  |
| <i>SG</i>         | Specific Gravity (or density)   |
| <i>SOMUKI</i>     | Société Minière de Muhinga et de Kigali   |
| <i>SOP</i>        | Standard Operating Procedure  |
| <i>Std. Dev.</i>  | Standard Deviation  |
| <i>t</i>          | tonnes  |
| <i>tectonic</i>   | Pertaining to the forces involved in, or the resulting structures of, movement in the earth's crust |
| <i>TREE</i>       | Total Rare Earth Elements   |
| <i>TREO</i>       | Total Rare Earth Oxides   |
| <i>ultramafic</i> | Igneous rocks consisting essentially of ferromagnesian minerals with trace quartz and feldspar      |
| <i>UNDP</i>       | United Nations Development Programme  |
| <i>US\$</i>       | United States of America Dollar   |
| <i>UTM</i>        | Universal Transverse Mercator (datum/projection)  |
| <i>WD</i>         | Western Domain  |
| <i>XRD</i>        | X-Ray Diffraction   |
| <i>XRF</i>        | X-Ray Fluorescence  |



**APPENDIX 2:**  
**Drillhole collars and depths of holes**

### Drillhole collars and depths

| BHID              | EASTING | NORTHING | RL (m) | EOH (m) | AZIMUTH | DIP |
|-------------------|---------|----------|--------|---------|---------|-----|
| <b>GAK_DD_004</b> | 768289  | 9610419  | 1683   | 92.8    | 0       | -90 |
| <b>GAK_DD_005</b> | 768288  | 9610420  | 1683   | 52      | 160     | -60 |
| <b>GAK_DD_006</b> | 768280  | 9610434  | 1686   | 149.8   | 0       | -90 |
| <b>GAK_DD_007</b> | 768280  | 9610434  | 1686   | 70      | 70      | -60 |
| <b>GAK_DD_008</b> | 768238  | 9610442  | 1683   | 50      | 0       | -90 |
| <b>GAK_DD_009</b> | 768311  | 9610388  | 1667   | 50      | 0       | -90 |
| <b>GAK_DD_010</b> | 768308  | 9610408  | 1675   | 50      | 330     | -50 |
| <b>GAK_DD_011</b> | 768308  | 9610408  | 1675   | 46      | 150     | -50 |
| <b>GAK_DD_012</b> | 768311  | 9610442  | 1680   | 40      | 330     | -50 |
| <b>GAK_DD_013</b> | 768311  | 9610442  | 1680   | 37      | 150     | -50 |
| <b>GAK_DD_019</b> | 768324  | 9610420  | 1677   | 40      | 330     | -50 |
| <b>GAK_DD_020</b> | 768324  | 9610420  | 1677   | 37      | 150     | -50 |
| <b>GAK_DD_021</b> | 768355  | 9610392  | 1652   | 31.1    | 150     | -60 |
| <b>GAK_DD_022</b> | 768347  | 9610433  | 1672   | 38.5    | 150     | -50 |
| <b>GAK_DD_023</b> | 768346  | 9610435  | 1672   | 40      | 330     | -50 |
| <b>GAK_DD_024</b> | 768361  | 9610443  | 1666   | 34      | 330     | -50 |
| <b>GAK_DD_025</b> | 768337  | 9610458  | 1678   | 37      | 150     | -50 |
| <b>GAK_DD_026</b> | 768336  | 9610460  | 1678   | 39      | 330     | -50 |
| <b>GAK_DD_027</b> | 768357  | 9610512  | 1683   | 39.5    | 150     | -60 |
| <b>GAK_DD_028</b> | 768345  | 9610481  | 1678   | 40      | 150     | -60 |
| <b>GAK_DD_029</b> | 768320  | 9610423  | 1677   | 39      | 240     | -50 |
| <b>GAK_DD_030</b> | 768308  | 9610412  | 1674   | 30      | 240     | -50 |
| <b>GAK_DD_031</b> | 768310  | 9610414  | 1674   | 50      | 60      | -50 |
| <b>GAK_DD_032</b> | 768322  | 9610424  | 1677   | 40.5    | 60      | -50 |
| <b>GAK_DD_033</b> | 768344  | 9610433  | 1672   | 51      | 240     | -50 |
| <b>GAK_DD_034</b> | 768346  | 9610434  | 1672   | 40      | 60      | -50 |
| <b>GAK_DD_035</b> | 768335  | 9610459  | 1678   | 35.5    | 240     | -50 |
| <b>GAK_DD_036</b> | 768317  | 9610448  | 1686   | 37.3    | 240     | -60 |
| <b>GAK_DD_037</b> | 768340  | 9610410  | 1669   | 35.5    | 240     | -50 |
| <b>GAK_DD_038</b> | 768364  | 9610427  | 1664   | 56      | 240     | -50 |

**Source:** Rainbow 2018: RL = relative level (m above main sea level)