# NI 43-101 TECHNICAL REPORT ON THE KORELLA NORTH PHOSPHATE PROPERTY, NORTHWEST QUEENSLAND, AUSTRALIA

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| Prepared For: | Chatham Rock Phosphate Limited and Avenir Makatea Pty Ltd |
| Project number: | P2324-03 |
| Document status: | Final Report |
| Document Date: | 13 September 2023 |
| Effective Date: | 11 August 2023 |
| Qualified Persons: | Mark Berry (MAIG)<br>Garry Edser (MAIG)<br>John Horton (FAusIMM CP(Geo)) |

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# DOCUMENT CONTROL AND INFORMATION

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|---|---|
| Project number: | P2324-03 |
| Document title: | NI 43-101 Technical Report on the Korella North Phosphate Property, Northwest Queensland, Australia |
| Client: | Chatham Rock Phosphate Limited and Avenir Makatea Pty Ltd |
| Client contact: | Mr Colin Randall, Executive Director |
| Document file name: | P2324-03 Avenir Makatea Korella North TR FINAL.pdf |
| Document status: | Final Report |
| Document date: | 13 September 2023 |
| Effective date: | 11 August 2023 |
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| Derisk representative: | Mark Berry<br>MAIG[1], MGSA[2], AAICD[3] |



[1] Member, Australian Institute of Geoscientists
[2] Member, Geological Society of Australia
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# 1 SUMMARY

## 1.1 Introduction

**De**risk Geomining Consultants Pty Ltd (Derisk) was engaged by Avenir Makatea Pty Ltd (AM or the Company) in August 2023 to prepare this Technical Report complying with National Instrument 43-101 Standards of Disclosure for Mineral Projects within Canada (NI 43-101) for the Korella North Phosphate Property (the Property) located in northwest Queensland (Qld) in Australia.

AM is a wholly-owned subsidiary of Chatham Rock Phosphate Limited (CRP), which is incorporated under the Business Corporations Act (British Columbia) and listed on the TSX Venture Exchange (TSXV) in Canada.

## 1.2 Report Details

This Technical Report presents results of exploration completed at the Property to August 2023 together with a new Mineral Resource estimate. It is a public report to be filed under CRP's profile on the System for Electronic Document Analysis and Retrieval (SEDAR) at www.sedar.com. It provides descriptions of the phosphate mineralisation at the Property and Derisk has adopted the CIM Definition Standards[4] as the reporting standard.

This Technical Report has been prepared by Mark Berry, Garry Edser, and John Horton, who are all Qualified Persons in accordance with NI 43-101.

The effective date of the Exploration Results and Mineral Resource estimate presented in this Technical Report is 11 August 2023. All values in this Report are in nominal Australian dollars (AUD or $) unless otherwise stated.

## 1.3 Location and Ownership

The Property is located at approximately 21°47' S latitude, 139°59' E longitude in the northwest corner of the state of Qld, Australia. It is an Exploration Permit for Minerals application (EPMA 28589) that covers an area of approximately 6.6 km$^2$. AM is the tenement applicant and it is located 20 km north of another granted Exploration Permit for Minerals (EPM 28187) held by AM that is also prospective for phosphate.

EPMA 28589 is approximately 125 km south-southeast of the major regional centre of Mount Isa and approximately 1,500 km northwest of the Qld state capital of Brisbane.

As at the effective date of this report, the application is pending. The Company has been advised that the technical assessment and review of the application has been completed by Qld Department of Resources (QDoR) except for the Native Title portion of the application, which cannot be completed before 9 December 2023. Based on this advice the relevant Qualified Persons conclude that there is no reason to believe that EPMA 28589 will not be granted to AM in due course.

However, the relevant Qualified Persons note that as at the effective date of this Technical Report, the Property has not been granted. Consequently, the Company's interest is restricted to the application, there is no assurance the application will be accepted, and the Company's rights are conditional on the grant of the concession.

## 1.4 Geology and Mineralisation

The Property is located within the lower-middle Cambrian rocks of the Duchess Embayment, which is part of the Burke River Outlier, which in turn is part of the Georgina Basin. The Georgina Basin is a large intracratonic sedimentary basin located in central and northern Australia. The basin comprises marine and non-marine sedimentary rocks deposited from the Neoproterozoic to the late-Palaeozoic (850 – 350 Ma). Locally, basin sediments can reach a thickness of 4 km.

Phosphate deposits are found within the Georgina Basin along the eastern margin in Qld, and in association with the Wonarah High in the Northern Territory. The largest deposit within the Duchess Embayment is at Phosphate Hill, owned and operated by Incitec Pivot Ltd (IPL), which is located adjacently to the west of the Property. The Monastery Creek Phosphorite Member (MCPM) hosts the phosphate deposits in and around Phosphate Hill, and is bound by the Inca Shale on the hangingwall and the Lower Siltstone Member on the footwall. The phosphorite beds consist of weathered, siliceous, peloidal and collophane carbonate-

[4] CIM Definition Standards for Mineral Resources and Mineral Reserves, 2014

fluorapatite with gangue minerals of mostly iron hydroxides, clays, and silica. The beds can be either friable or indurated.

Whilst AM is focused on the potential to develop a phosphate operation on the Property, rare earth element (REE) mineralisation, particularly yttrium, is also associated with phosphate occurrences within the Georgina Basin. As a secondary goal, AM intends to assess the potential to recover REEs from the Property.

## 1.5 Exploration

Exploration in the local district has been undertaken by numerous tenement holders from the mid-1960s focused on a range of commodities including phosphate, uranium, copper/gold, lead/zinc, and REE mineralisation within Cambrian, Mesozoic, and Proterozoic aged rocks. Exploration activities have included:

- Desktop studies and review of public domain geoscience data and mineral occurrence maps.
- Surface geological mapping.
- Soil, stream sediment, and rock chip geochemistry.
- Shallow trenching.
- Surface-based geophysics.
- Petrography.
- Drilling.
- Metallurgical testwork and open pit mining studies.

The main exploration work relevant to the Property was undertaken by Krucible Metals Ltd (Krucible) in the late 2000s comprising:

- Compilation of historical geological and geochemical data.
- Geological mapping.
- Soil geochemistry and radiometrics.
- Surface trenching.
- Drilling of 23 reverse circulation (RC) percussion drillholes.

AM applied for EPMA 28589 in August 2022 and has completed several site visits to the property, an airborne light detection and ranging (LiDAR) survey to generate high-resolution surface topography, resurvey of drillhole collars, preliminary beneficiation assessment and mining study, and preparation of a new Mineral Resource estimate based on the results of the work completed by Krucible.

## 1.6 Mineral Resource

The process used by Derisk to prepare the 2023 Korella North Mineral Resource estimate comprised the following steps:

1. Digital and hardcopy drillhole data and surface trenching data were extracted from a master database then imported into Microsoft Access software for checking and validation.
2. Digital topographic survey data collected by LiDAR technology was reviewed and imported into the Vulcan software package.
3. Data validation checks were completed, focused on drillhole collar coordinates, trenching interval coordinates, and sampling/analysis data. Once source data was checked, modifications were applied to the master data sets accordingly.
4. Three-dimensional interpretations of lithology were created in Vulcan, based on the drillhole logs, trench mapping, and assays.
5. Statistical analysis of drillhole assay data and trenching assay data was completed and used to establish the optimum composite sample length and the creation of mineralisation domains for estimation based on lithology.
6. Drillhole and trench composites were generated for phosphate ($P_2O_5$), followed by composite statistics and a variographic analysis of the data.
7. A three-dimensional block model was created in Vulcan, with some sub-celling of parent blocks used for volume accuracy, particularly near surface.
8. Estimation search parameters were developed and estimates were generated using the inverse distance squared (IDS) method.
9. Block model validation comprised visual checking of block grades against composite values and other statistical checks.

10. Assignment of the Mineral Resource classification was completed, considering the confidence in the geological interpretation of the mineralisation, drillhole and trench spacing, sample density, and assessments of the integrity and robustness of the sample database.
11. A grade-tonnes distribution was produced to illustrate the sensitivity of the estimate to different cut-off criteria.
12. Criteria to support the reasonable prospects for eventual economic extraction were assessed and an appropriate cut-off criterion was selected for reporting Mineral Resources.

The relevant Qualified Person has reviewed and assessed the data inputs, estimation parameters, and reporting criterion for Korella North and reported the Mineral Resource using the 2014 CIM Definition Standards at an effective date of 11 August 2023 (Table 1-1).

Table 1-1. Korella North Mineral Resource as at 11 August 2023 reported using a cut-off criterion of 10% $P_2O_5$.

| Classification | Tonnes (M) | $P_2O_5$ grade (%) | Contained $P_2O_5$ (t) |
|---|---|---|---|
| Measured | - | - | - |
| Indicated | 0.6 | 13.1 | 80,000 |
| Measured plus Indicated | 0.6 | 13.1 | 80,000 |
| Inferred | 2.1 | 13.0 | 275,000 |

*Notes: 1. In situ resources reported at a cut-off criterion of 10% $P_2O_5$.*
*2. Figures have been rounded to reflect the relative uncertainty in the estimate.*

## 1.7 Mineral Reserve

AM plans to investigate the potential to develop on open pit mining operation at the Property with simple on-site beneficiation to generate a product containing 20% $P_2O_5$ for sale internationally. The Company has completed preliminary studies to assess mining options and an ore sorting technology for on-site beneficiation.

A portion of the Korella North Mineral Resource estimate has been classified as Indicated. However, inadequate work has been completed to assess the Modifying Factors as defined by the CIM Definition Standards i.e., mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors, to enable the conversion of any of the Indicated Mineral Resource to a Mineral Reserve.

## 1.8 Interpretation and Conclusions

Exploration to date at the Property has demonstrated the presence of sediment-hosted phosphate mineralisation at the Property, first identified in the 1960s. Most exploration was undertaken in the late 2000s and little work was completed from 2010 to 2022 due to the perception that the phosphate mineralisation was lower grade and therefore less attractive than other local deposits.

The phosphate mineralisation has been modelled over a strike length of 1.3 km. The sedimentary sequence hosting the phosphate dips on average at approximately 30° to the east and drill testing to date has tested a depth extent of some 50 m below surface. At the northern end of the deposit, mineralisation extends outside of the EPMA, however in the central and southern part of the deposit the relevant Qualified Persons consider that there is potential to extend the Mineral Resource down dip.

Based on the historical drilling, the Korella North deposit has an Indicated Mineral Resource of 0.6 Mt @ 13.1% $P_2O_5$ and an Inferred Mineral Resource of 2.1 Mt @ 13.0% $P_2O_5$, reported in accordance with the CIM Definition Standards. A portion of the Mineral Resource has been classified as Indicated, however there is no Mineral Reserve.

Access from Mount Isa to the Project is via public sealed and unsealed roads, then by a network of unsealed private tracks. The Property is adjacent to the Phosphate Hill mine and processing facility, which was established in 1999. Consequently, there is significant local infrastructure, which includes a gas pipeline, a railway, and sealed and unsealed roads suitable for heavy vehicle transport that are all located within 2 km of the Property.

The relevant Qualified Persons have identified the key risks associated with the Property as follows:

- There is technical risk associated with inadequate documentation describing some of the data collection methods used by previous tenement holders. This results in a low level of confidence over the veracity of some inputs into the Mineral Resource estimate. This uncertainty has been considered when determining the classification of the Mineral Resource estimate.
- There is governmental risk associated with the granting of an EPM over the Property, and then the granting of a Mining Lease over that part of the Property hosting the Korella North deposit.
- There is financial risk if technical studies evaluating the economic viability of establishing a mining and on-site beneficiation operation at the Property are not positive.

The relevant Qualified Persons have identified opportunities at the Property as follows:

- There is potential to extend the phosphate Mineral Resource down dip of the currently defined resource limits.
- It is possible that AM may identify potentially economic concentrations of REE, particularly yttrium that are associated with the phosphate mineralisation.
- Ore sorting technology being investigated by AM may allow very low grade phosphate mineralisation to be upgraded to a saleable product, thereby increasing the Mineral Resource by lowering the economic cut-off criterion.

AM has evaluated the previous exploration completed over the Property and considers that a modest open pit mining and on-site beneficiation operation may be technically and economically viable. The relevant Qualified Person supports this preliminary assessment but notes that significant work is yet to be completed at the Property to determine if a Mineral Reserve can be estimated.

## 1.9 Recommendations

AM has commenced planning for the application of a Mining Lease over the eastern side of the Property where it considers there is potential to host an open pit phosphate mining and beneficiation operation. Whilst this application is not dependent on the grant of EPMA 28589, once the EPMA is granted the company proposes to complete exploration and technical studies in the area earmarked for initial mining based on the results of work completed to date.

AM has advised Derisk that the first objective of the exploration program to be completed immediately upon the grant of EPMA 28589 will be to infill drill an initial five hectare area containing approximately 0.4 Mt of the existing Mineral Resource. The goal is to convert this material to Measured and Indicated Mineral Resource status in Year 1 and complete the technical work required to convert this material to a Mineral Reserve.

Subsequently, the Company intends to progressively infill drill the remainder of the Mineral Resource to a vertical depth of 40 m to also convert this material to Measured and Indicated Mineral Resource status. Once all of the Mineral Resource to a vertical depth of 40 m has been drilled to Measured and Indicated status, the Company plans to extend the Mineral Resource to a maximum vertical depth of 80 m where the phosphate grades are highest. This program will commence in Year 2 and continue into the following years.

The relevant Qualified Person supports the exploration objectives proposed by AM and notes that exploration completed to date has demonstrated the presence of adequate phosphate mineralisation to support the Company's initial development objectives. However, the relevant Qualified Person recommends a methodical and systematic assessment of the other key geochemical constituents of the phosphate mineralisation – specifically silica, iron, alumina, and calcium as there may be limits on the content of these impurities in a direct shipping product specification.

Table 1-2 sets out the budgets proposed by AM for a two-year exploration program at the Property, commencing in the first quarter of 2024, totalling AUD 0.90 M. The relevant Qualified Person has reviewed the exploration program and budget proposed by AM for the Property and considers them to be technically appropriate and feasible.

Table 1-2. Proposed two-year program and indicative budget.

| Year | Activity | Schedule | Indicative Budget (AUD) |
|---|---|---|---|
| 2024 | Diamond and RC drilling and related activities | First quarter | 200,000 |
| | Multielement geochemistry and mineralogical studies, followed by preparation of a new Mineral Resource estimate | Second quarter | 75,000 |
| | Technical studies and preparation of a new Mineral Reserve estimate for a five hectare area over the Property | Third and fourth quarter | 200,000 |
| **Total – Year 1 (Phase 1)** | | | **475,000** |
| 2025 | Diamond and RC drilling and related activities | First quarter | 250,000 |
| | Multielement geochemistry and mineralogical studies, followed by preparation of an updated Mineral Resource estimate | Second quarter | 75,000 |
| | Technical studies and preparation of an updated Mineral Reserve estimate | Third and fourth quarter | 150,000 |
| **Total – Year 2 (Phase 2)** | | | **475,000** |

# 2 INTRODUCTION

## 2.1 Scope and Use of Report

Derisk was engaged by AM in August 2023 to prepare this Technical Report complying with NI 43-101 for the Korella North Phosphate Property located in northwest Qld in Australia.

AM is a wholly-owned subsidiary of CRP, which is incorporated under the Business Corporations Act (British Columbia) and listed on the TSXV in Canada.

This Technical Report presents results of exploration completed at the Property to August 2023 together with a new Mineral Resource estimate. It is a public report to be filed under CRP's profile on SEDAR at www.sedar.com. It provides descriptions of the phosphate mineralisation at the Property and the effective date of the Exploration Results and Mineral Resource estimate presented in this Technical Report is 11 August 2023.

## 2.2 Reporting Standard and Currency

For this Technical Report, Derisk has adopted the CIM Definition Standards as the reporting standard. All values in this Report are in nominal AUD or $ unless otherwise stated.

## 2.3 Report Authors and Contributors

This Technical Report has been prepared by Mark Berry, Garry Edser, and John Horton, and has been peer reviewed by Cameron Graves. Table 2-1 presents details of the role and qualifications of each of the contributors.

Table 2-1. Technical Report contributors.

| Name | Title | Years of Experience | Professional Membership | Role and Responsibility |
|---|---|---|---|---|
| Mark Berry | Director and Principal Geologist | 43 | MAIG | Project manager and Qualified Person responsible for the overall report compilation, and Sections 1 – 11, 13 – 29. |
| Garry Edser | Associate Principal Geologist | 32 | MAIG | Qualified Person responsibility for the site visit and contributing to Sections 9 – 12. |
| John Horton | Associate Principal Geologist | 35 | FAusIMM CP(Geo) | Qualified Person responsibility for contributing to Section 14. |
| Cameron Graves | Principal Geologist | 38 | MAIG | Internal peer review |

*Notes: Professional membership details are provided in Section 28 (Definitions and Glossary).*

NI 43-101 and the CIM Definition Standards require that a public report describing a company's Exploration Results, Mineral Resources and Mineral Reserves must be based on, and fairly reflect, the information and supporting documentation prepared by a Qualified Person. Qualified Person certificates for Mark Berry, Garry Edser, and John Horton are provided in Section 29 of this Technical Report.

## 2.4 Site Visits

Derisk Associate Principal Geologist, Garry Edser has visited the Property on several occasions – on 24, 25, and 27 February 2023, as well as 6 July 2023. He inspected the general site conditions and local infrastructure, historical drilling sites, and surface exposures of phosphate mineralisation and host rocks.

## 2.5 Statement of Independence

Derisk confirms that its Directors, staff, and all contributors to this Report are independent of CRP and its subsidiaries, and have no interest in the outcome of the work to be completed in this engagement. Fees paid to Derisk are on a fee-for-service basis plus reimbursement of project-related expenses. Our agreement with AM excludes the provision for a success fee or related incentive.

## 2.6 Methodology and Limitations

Derisk was engaged in August 2023 by AM to prepare this Technical Report for CPR. Derisk has reviewed documentation describing work undertaken at the Property prior to AM and work completed by AM, including all data and information supplied by the Company. We have exercised due care in reviewing the supplied information and believe that the inputs into and estimates of the Mineral Resource are reasonable. Derisk Principal Geologist Mark Berry accepts Qualified Person responsibility for the Mineral Resource estimate.

Whilst Derisk has independently analysed the data provided by AM, the accuracy of the conclusions of this Technical Report relies on the accuracy of the supplied data. The relevant Qualified Persons have made enquiries and exercised judgement on the reasonable use of such data and information and have no reason to doubt the accuracy or reliability of the information provided, but we do not accept responsibility for any errors or omissions in the information supplied, and do not accept any consequential liability arising from investment or other financial decisions or actions by others.

## 2.7 Reliance

All advice, reports and deliverables prepared by Derisk are for the benefit of AM. Derisk understands that this Technical Report is a public report to be filed under CPR's profile on SEDAR at www.sedar.com and made publicly available.

Derisk requires that all public reports containing references to Derisk and/or Derisk advice, and all information provided by Derisk for the public report will be reviewed and approved by Derisk prior to publication – in the form and context that it will appear in the public report.

## 2.8 Records and Indemnities

AM has been provided with all digital data files produced by Derisk during this engagement. Derisk is entitled to retain a copy of all material information upon which our report is based.

AM has agreed to indemnify, defend, and hold Derisk harmless against any and all losses, claims, damages, costs, expenses, actions, demands, liabilities, or proceedings (including but not limited to third-party claims) howsoever arising, whether directly or indirectly out of this Agreement or the provision or non-provision of the services, other than losses, claims, damages, costs, expenses, actions, demands, liabilities, or proceedings that are determined by a final judgement of a court of competent jurisdiction to have resulted from actions taken or omitted to be taken by Derisk illegally or in bad faith or as a result of Derisk's gross negligence.

# 3 RELIANCE ON OTHER EXPERTS

## 3.1 Property Ownership and Tenure

The relevant Qualified Persons have not reviewed the Property ownership in detail, nor independently verified the legal status of the mineral tenure, underlying property agreements or permits. The relevant Qualified Persons have fully relied upon information provided by AM and information provided by AM expert Ardent Group Pty Ltd (Ardent) on 11 August 2023 (Ardent, 2023).

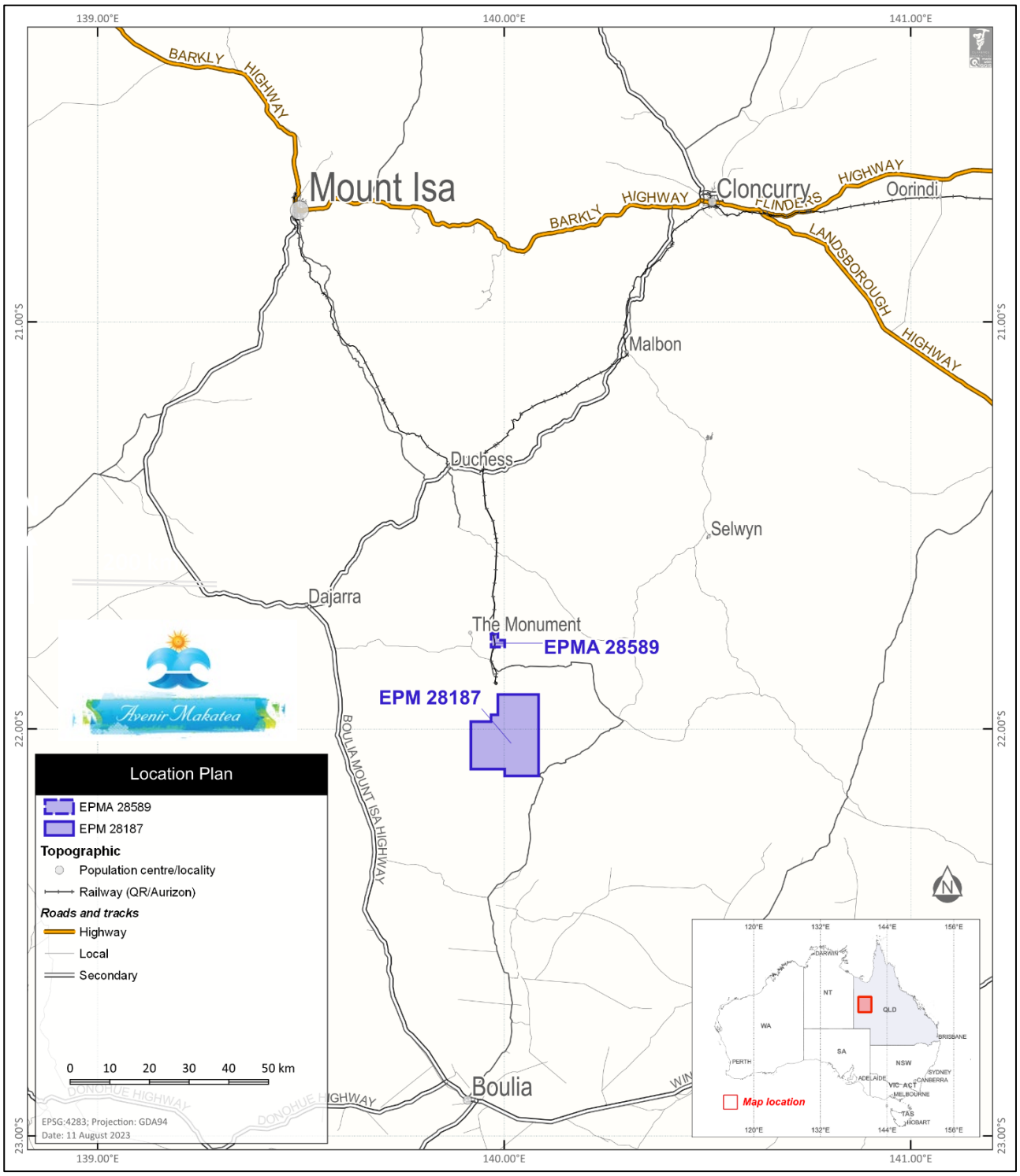
This information is used in Section 4 of the Report. It is also used in support of the Mineral Resource statement in Section 14.

# 4 PROPERTY DESCRIPTION AND LOCATION

## 4.1 Location

The Property is located at approximately 21°47' S latitude, 139°59' E longitude in the northwest corner of the state of Qld, Australia. It is an EPMA (EPMA 28589) that covers an area of approximately 6.6 km$^2$. AM is the tenement applicant and it is located 20 km north of a granted EPM (EPM 28187) held by AM that is also prospective for phosphate. EPMA 28589 is approximately 125 km south-southeast of the major regional centre of Mount Isa (Figure 4-1) and approximately 1,500 km northwest of the Qld state capital of Brisbane.

Figure 4-1. Property location.

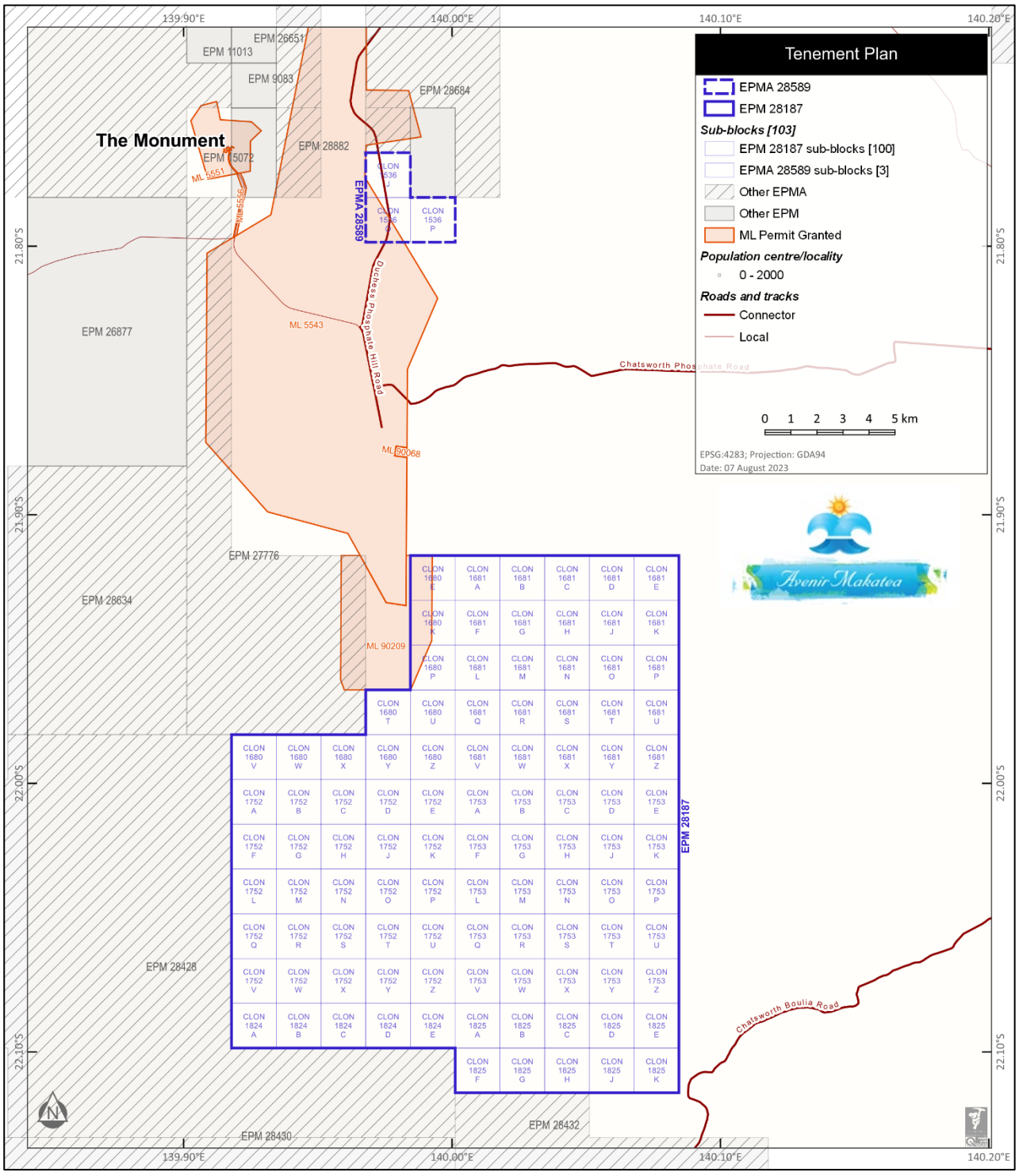



*Source: Derisk, 2023*

## 4.2 Ownership and Tenure

At the effective date of this report, the Property is an application consisting of three sub-blocks totalling 6.6 km$^2$. Figure 4-2 shows the location of the tenement application and surrounding tenements. Table 4-1 documents the status of the Property. The registered tenement application holder is AM, a wholly-owned subsidiary of CRP.

Figure 4-2. Property tenure map.




*Source: Derisk, 2023*

Table 4-1. Property tenure application status.

| Exploration Permit | Location | Registered Holder | Application Date | Status | Size (sub blocks and km$^2$) |
|---|---|---|---|---|---|
| 28589 | 120 km north of Boulia | Avenir Makatea Pty Ltd | 02-08-2022 | Application is pending. The notice of proposed grant was issued on 9 August 2023 | 3 sub blocks, 6.6 km$^2$ |

*Source: Ardent, 2023*

As at the effective date of this report, the application is pending. The Company has been advised that all technical assessment and review of the application has been completed by the QDoR except for the Native Title portion of the application, which cannot be completed before 9 December 2023. Based on this advice the relevant Qualified Persons conclude that there is no reason to believe that EPMA 28589 will not be granted to AM in due course.

## 4.3 Qld Mineral Resources Act Requirements

The Mineral Resources Act 1989 (Qld) (MR Act) provides for the assessment, development, and utilisation of mineral resources in Qld, to the maximum extent practicable consistent with sound economic and land use management. It sets out the rules, requirements and conditions associated with all types of mineral tenure issued in Qld. Some of the salient requirements are as follows:

- The MR Act stipulates that an eligible person may apply to the Minister for an exploration permit. The applicant must provide a proposed work program and details of the applicant's financial and technical resources. The Minister may grant an exploration permit, with or without conditions, or refuse the application. In doing so, the Minister must consider the prescribed criteria in the MR Act, which includes whether the Minister has approved the proposed work program.
- An EPM is a permit to explore for all minerals other than coal.
- An EPM may be granted for a term not exceeding five years, with the possibility of renewal for a term not exceeding five years.
- The applicant for an EPM must address native title prior to the grant of the tenure in accordance with the provisions of the Native Title Act 1993 (Cth) (NT Act).
- Land access and compensation must be addressed after the grant has been made. Subject to the land access process and other legal requirements, the holder of an EPM has the right to enter any part of the EPM for the purposes of facilitating the exploration of minerals to which the EPM applies. Whilst on the land, the holder of an EPM may carry out any activity authorised by the EPM for the purpose of exploring for minerals other than coal.

## 4.4 EPM Tenure Conditions

### 4.4.1 Expenditure Commitments

As part of its application, AM proposed an activities based work program for the concession. In years 1 to 3, AM proposed spending AUD 366 K comprised of drilling and associated activities. In Years 4 to 5, AM proposed spending a further AUD 383 K, comprised of follow up drilling and a feasibility assessment for developing a phosphate mining and on-site beneficiation operation.

### 4.4.2 Overlapping Tenure

The southwest corner of the Property overlaps with a granted Mining Lease (ML 5543) held by Southern Cross Fertilisers Pty Ltd, a wholly owned subsidiary of IPL (refer to Figure 4-2). ML 5543 covers the Phosphate Hill open pit phosphate mine and associated processing facility located immediately north, west, and south of the Property. AM will have no rights to explore the area covered by ML 5543 that sits within EPMA 28589.

### 4.4.3 Native Title

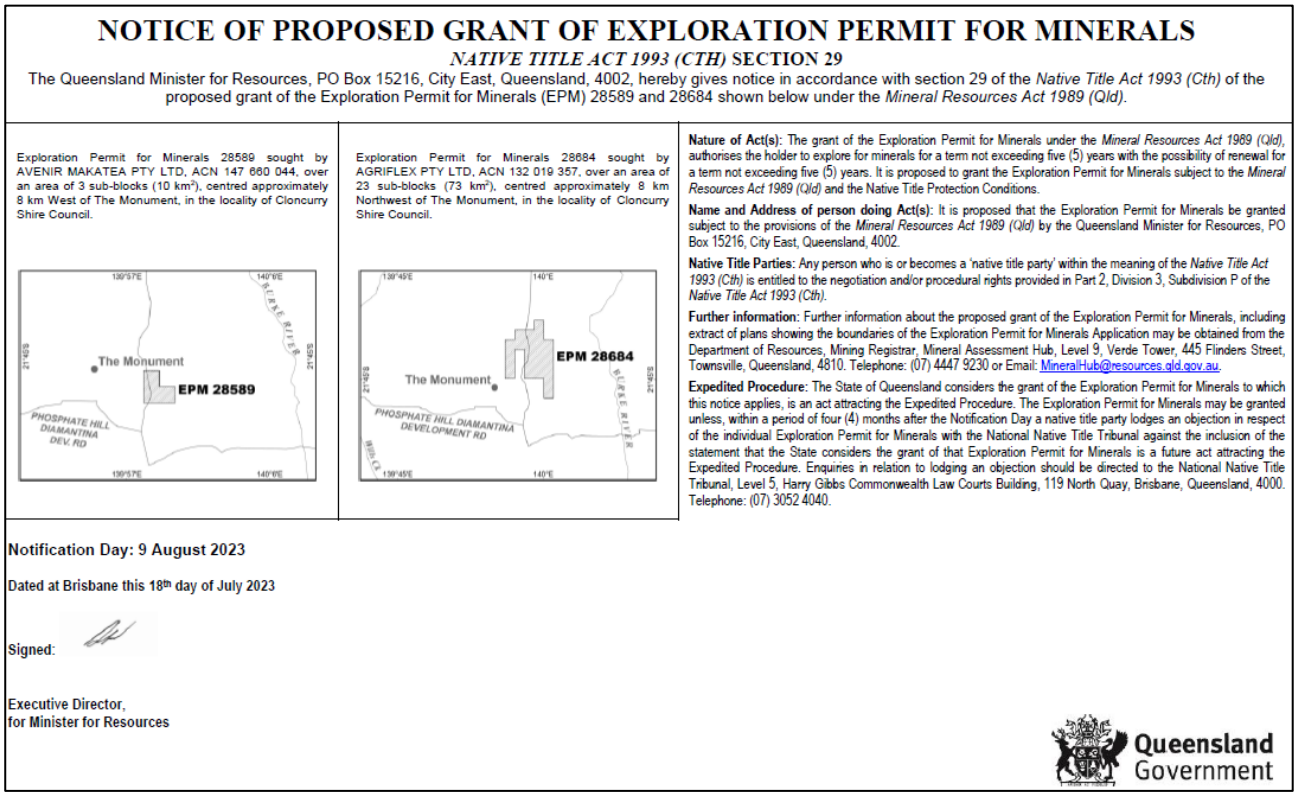
Australian law recognises that Indigenous people have rights and interests in the land under their traditional laws and customs. The NT Act sets out specified processes that must be followed for any 'future act' on land or waters that would affect native title rights and interests. Applications for most mineral resource concessions are considered future acts and are subject to these native title processes.

There are two processes for resolving native title rights and interests with respect to mineral resource concessions i.e., the right to negotiate process and the expedited process, which is faster than the right to

negotiate option. The expedited process occurs when the State asserts that the activities to be performed under the resource authority will have minimal effect on native title rights and interests, and where the State issues native title protection conditions as part of the approval process. This process applies only to exploration authorities and mineral development licences that don't cause major ground disturbance.

For EPMA 28589, Qld Government has determined that the expedited process is applicable. This process requires the Qld Government to provide written notice to any registered native title body corporate or claimant that it intends to grant the application under the expedited process. A native title party has four months in which to lodge an objection. Figure 4-3 shows the formal notice issued by Qld Government with a notification date of 9 August 2023.

Figure 4-3. Notice of proposed grant of EPMs.



**NOTICE OF PROPOSED GRANT OF EXPLORATION PERMIT FOR MINERALS**

***NATIVE TITLE ACT 1993 (CTH)* SECTION 29**

The Queensland Minister for Resources, PO Box 15216, City East, Queensland, 4002, hereby gives notice in accordance with section 29 of the *Native Title Act 1993 (Cth)* of the proposed grant of the Exploration Permit for Minerals (EPM) 28589 and 28684 shown below under the *Mineral Resources Act 1989 (Qld)*.

Exploration Permit for Minerals 28589 sought by AVENIR MAKATEA PTY LTD, ACN 147 660 044, over an area of 3 sub-blocks (10 km²), centred approximately 8 km West of The Monument, in the locality of Cloncurry Shire Council.



Exploration Permit for Minerals 28684 sought by AGRIFLEX PTY LTD, ACN 132 019 357, over an area of 23 sub-blocks (73 km²), centred approximately 8 km Northwest of The Monument, in the locality of Cloncurry Shire Council.



**Nature of Act(s)**: The grant of the Exploration Permit for Minerals under the *Mineral Resources Act 1989 (Qld)*, authorises the holder to explore for minerals for a term not exceeding five (5) years with the possibility of renewal for a term not exceeding five (5) years. It is proposed to grant the Exploration Permit for Minerals subject to the *Mineral Resources Act 1989 (Qld)* and the Native Title Protection Conditions.

**Name and Address of person doing Act(s)**: It is proposed that the Exploration Permit for Minerals be granted subject to the provisions of the *Mineral Resources Act 1989 (Qld)* by the Queensland Minister for Resources, PO Box 15216, City East, Queensland, 4002.

**Native Title Parties**: Any person who is or becomes a 'native title party' within the meaning of the *Native Title Act 1993 (Cth)* is entitled to the negotiation and/or procedural rights provided in Part 2, Division 3, Subdivision P of the *Native Title Act 1993 (Cth)*.

**Further information**: Further information about the proposed grant of the Exploration Permit for Minerals, including extract of plans showing the boundaries of the Exploration Permit for Minerals Application may be obtained from the Department of Resources, Mining Registrar, Mineral Assessment Hub, Level 9, Verde Tower, 445 Flinders Street, Townsville, Queensland, 4810. Telephone: (07) 4447 9230 or Email: MineralHub@resources.qld.gov.au.

**Expedited Procedure**: The State of Queensland considers the grant of the Exploration Permit for Minerals to which this notice applies, is an act attracting the Expedited Procedure. The Exploration Permit for Minerals may be granted unless, within a period of four (4) months after the Notification Day a native title party lodges an objection in respect of the individual Exploration Permit for Minerals with the National Native Title Tribunal against the inclusion of the statement that the State considers the grant of that Exploration Permit for Minerals is a future act attracting the Expedited Procedure. Enquiries in relation to lodging an objection should be directed to the National Native Title Tribunal, Level 5, Harry Gibbs Commonwealth Law Courts Building, 119 North Quay, Brisbane, Queensland, 4000. Telephone: (07) 3052 4040.

**Notification Day: 9 August 2023**

**Dated at Brisbane this 18th day of July 2023**

**Signed:**

**Executive Director,**
**for Minister for Resources**

Queensland Government

*Source: Queensland Government, 2023*

The native title party with interests over EPMA 28589 is the Yulluna People (QUD189/2010 QCD2014/008). Ardent has advised Derisk that AM has reached an in-principle agreement with the Yulluna People and therefore it is expected that no objection will be lodged, which will facilitate the grant of the EPMA shortly after 9 December 2023.

### 4.4.4 Environmental Authority

When applying for any mineral resource concession, a company needs to apply for an environmental authority (EA) to be covered for the particular activities that will be carried out. Depending on the resource project's level of environmental risk, this authority may be a standard application for an EA, a variation application, or a site specific application.

The Qld Department of Environment and Science grants EAs for mining and exploration under the Environmental Protection Act 1994.

### 4.4.5 Agreements, Royalties and Encumbrances

AM has no other agreements, royalty arrangements or encumbrances in place over the Property.

## 4.5 Proposed Mining Lease Application

AM has commenced planning for the application of a Mining Lease over the eastern side of the Property where it considers there is potential to host an open pit phosphate mining and beneficiation operation. This application is not dependent on the grant of EPMA 28589.

## 4.6 Tenure Summary

With respect to EPMA 28589, Ardent (Ardent, 2023) has reported that "As all technical assessment of the application is complete, the application will move to grant shortly after the close of the objection period on 09 December 2023 once first year rent and security is paid. We have received formal advice from the Department of Resources that the grant will be prior to the close of 2023".

To the extent known and notwithstanding the requirements noted elsewhere in Section 4.4, the relevant Qualified Persons are not aware of any significant factors and risks that may affect access, title, or the right or ability of the Company to perform work at the Property.

However, the relevant Qualified Persons note that as at the effective date of this Technical Report, EPMA 28589 has not been granted. Consequently, the Company's interest is restricted to the application, there is no assurance the application will be accepted, and the Company's rights are conditional on the grant of the concession.

# 5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

## 5.1 Access

Access to the Property is via vehicle on public roads from the regionally significant towns of Mount Isa or Cloncurry to the north, or from the town of Boulia in the south (refer to Figure 4-1). The nearest settlements to the Property are Dajarra with a population of approximately 200, and Duchess with a population of approximately 50.

Access from Mount Isa, Cloncurry and Boulia to the Property is via a combination of sealed public roads, then unsealed public roads, and finally a network of unsealed private tracks on the Property itself. From Mount Isa, road access via Dajarra (approximately 220 km) or via Duchess (approximately 180 km) will generally involve a trip of 2.5 hours. From Boulia, road access via Dajarra (approximately 185 km) will generally involve a trip of 2.1 hours.

## 5.2 Climate

The climate in the vicinity of the Property is tropical continental and consists of three main seasons:

- Mild temperatures with low humidity (April/May to August).
- Hot temperatures with low humidity (September to December).
- Hot temperatures with high humidity (December to April).

Table 5-1 presents average monthly temperature and rainfall statistics for Dajarra, which is 50 km west of the Property. Mean daily temperatures range from 24°C to nearly 39°C and mean monthly rainfall varies from less than 10 mm to over 60 mm in January and February.

Table 5-1. Long term climate records for Dajarra, Qld.

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | ANN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mean Max ($^0$C) | 37.9 | 36.9 | 35.6 | 32.6 | 27.6 | 24.1 | 24.2 | 26.8 | 31.6 | 35.3 | 37.3 | 38.6 | **32.4** |
| Mean Min ($^0$C) | 24.8 | 23.4 | 21.8 | 17.4 | 11.8 | 8.4 | 7.2 | 8.9 | 14.1 | 18.3 | 21.5 | 24.0 | **16.8** |
| Mean Rain (mm) | 62.0 | 72.4 | 46.7 | 12.9 | 10.3 | 9.8 | 8.4 | 3.5 | 11.5 | 12.9 | 33.1 | 44.5 | **317.6** |
| Mean Rain Days | 7.7 | 6.1 | 4.9 | 1.7 | 1.6 | 2.0 | 1.2 | 1.0 | 2.3 | 3.1 | 5.0 | 6.3 | **41.8** |

*Source: https://www.eldersweather.com.au/climate-history/qld/dajarra*

Exploration and mining activities can be conducted year-round but may be temporarily restricted during periods of heavy rainfall if access roads and tracks become untrafficable.

## 5.3 Physiography

The Property area comprises mostly flat-lying gently undulating topography with clay soils and light vegetation. Some low-lying hills are also present Figure 5-1.

Figure 5-1. General view of the Property physiography.

*Source: Site visit to Property by Garry Edser, February 2023*

## 5.4 Local Resources and Infrastructure

The Property is located approximately 125 km south-southeast of Mount Isa in northwest Qld. Mount Isa is the main administrative, commercial, and industrial centre for the state's northwest region. It is serviced by a domestic airport, a rail link to Townsville on the Qld coast, and sealed highways that connect the town to Townsville, Brisbane, Darwin, and Adelaide. Access from Mount Isa to the Project is via public sealed and unsealed roads, then by a network of unsealed private tracks.

The Property is adjacent to the Phosphate Hill mine and processing facility, which was established in 1999. Consequently, there is significant local infrastructure, which includes a gas pipeline, a railway, and sealed and unsealed roads suitable for heavy vehicle transport that are all located within 2 km of the Property.

Resources and infrastructure to support exploration activity at the Property can be sourced locally i.e. water, fuel-powered generators, and non-technical personnel. Other exploration-related support will need to be sourced from Mount Isa, including drill rigs and drilling consumables, equipment required for construction of access tracks and drill pads, and other project infrastructure such as a temporary office, core shed, and stores.

The relevant Qualified Persons consider that the tenement is sufficient for the contemplated exploration activities and potential development including sources of power, water, mining personnel, and potential waste disposal areas.

# 6 HISTORY

Exploration in the local district has been undertaken by numerous tenement holders from the mid-1960s focused on a range of commodities including phosphate, uranium, copper/gold, lead/zinc, and REE mineralisation within Cambrian, Mesozoic, and Proterozoic aged rocks. Exploration activities have included:

- Desktop studies and review of public domain geoscience data and mineral occurrence maps.
- Surface geological mapping.
- Soil, stream sediment, and rock chip geochemistry.
- Shallow trenching.
- Surface-based geophysics.
- Petrography.
- Drilling.
- Metallurgical testwork and open pit mining studies.

The main exploration work relevant to the Property is summarised below.

## 6.1 Previous Ownership and Activities

### 6.1.1 Mines Exploration Pty Ltd

Mines Exploration Pty Ltd (MEPL) was the exploration subsidiary of Broken Hill South Limited and held a large concession (Authority to Prospect 331M) in the Duchess district in the 1960s that included the Property.

MEPL completed detailed geological mapping, stratigraphic section compilation, scintillometer measurements, and diamond drilling throughout the district during 1966. This work delineated outcropping phosphorite at intervals along a strike length of some 32 km and up to 6.5 km in width. The thickness of exposed Beetle Creek Formation that hosts the phosphorite beds varied between 30 m and 107 m. Within that formation, beds of high-grade phosphate up to 12 m thick were defined.

MEPL completed one traverse referred to as the D10 prospect (now named Korella North) across the Property. This work established that significant phosphate mineralisation was present at D10. However, MEPL did not complete any further work at the D10 prospect. Descriptions of this work are presented in Section 9.

### 6.1.2 Krucible Metals Ltd

Krucible held EPM 15572 from September 2007 until January 2014, when it was transferred to Australia New Agribusiness & Chemical Group Limited. The original granted tenement is shown in Figure 6-1, which also shows the location of the Property. Derisk understands that the portion of EPM 15572 covering the Property was relinquished in 2018.

Krucible completed the following work at the D10 prospect:

- Compilation of historical geological and geochemical data.
- Geological mapping.
- Soil geochemistry and radiometrics.
- Surface trenching.
- Drilling of 23 RC drillholes.

Descriptions of this work are presented in Section 9, Section 10, and Section 11.

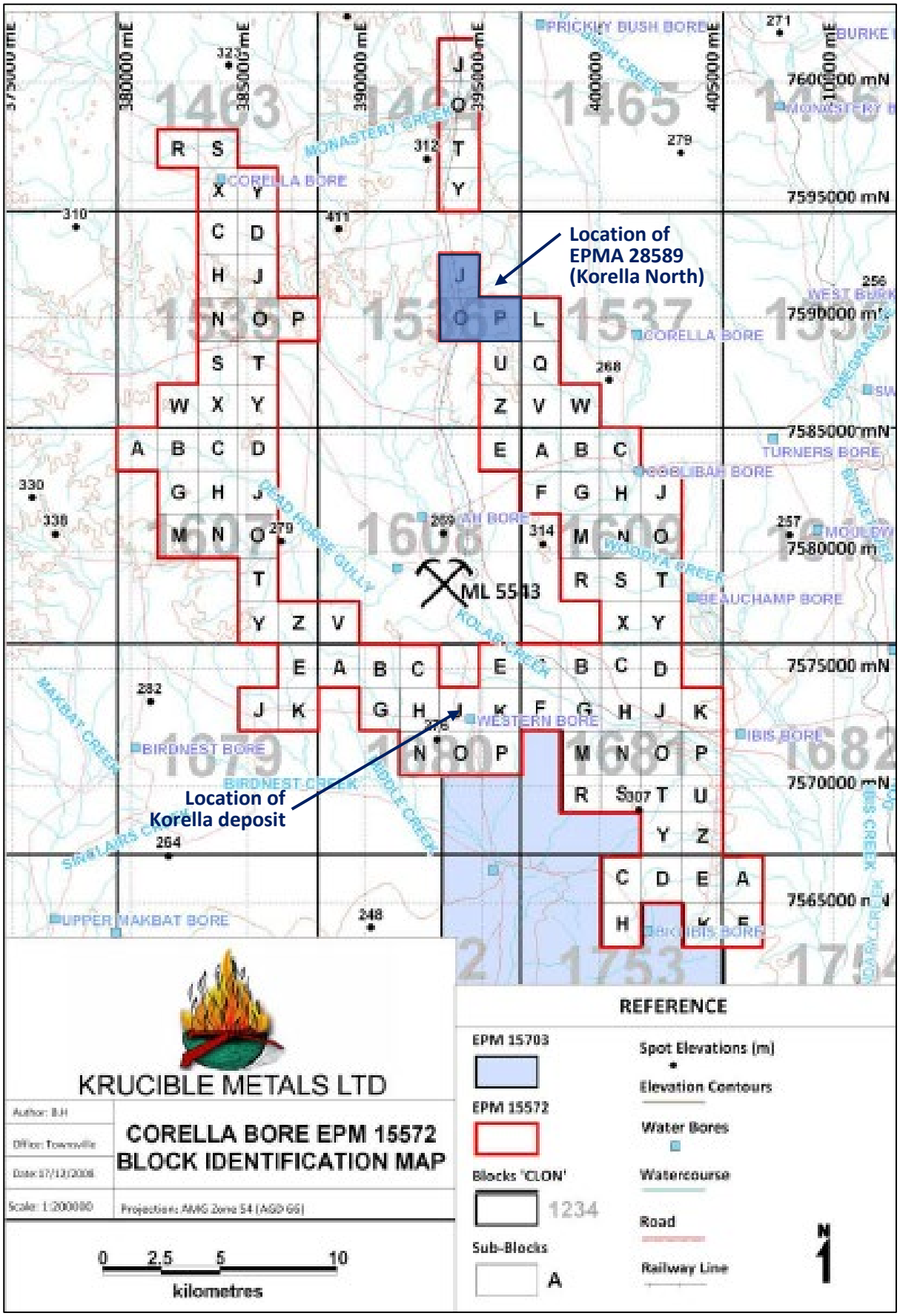
## 6.2 Historical Estimates of Mineral Resources

The Qualified Persons have not located any previous Mineral Resource estimates for the Property.

## 6.3 Production

There has been no development or mining/processing operations to date over the Property.

Figure 6-1. EPM 15572 tenure as originally granted to Krucible in 2007.




*Source: Krucible Metals Ltd, 2009*

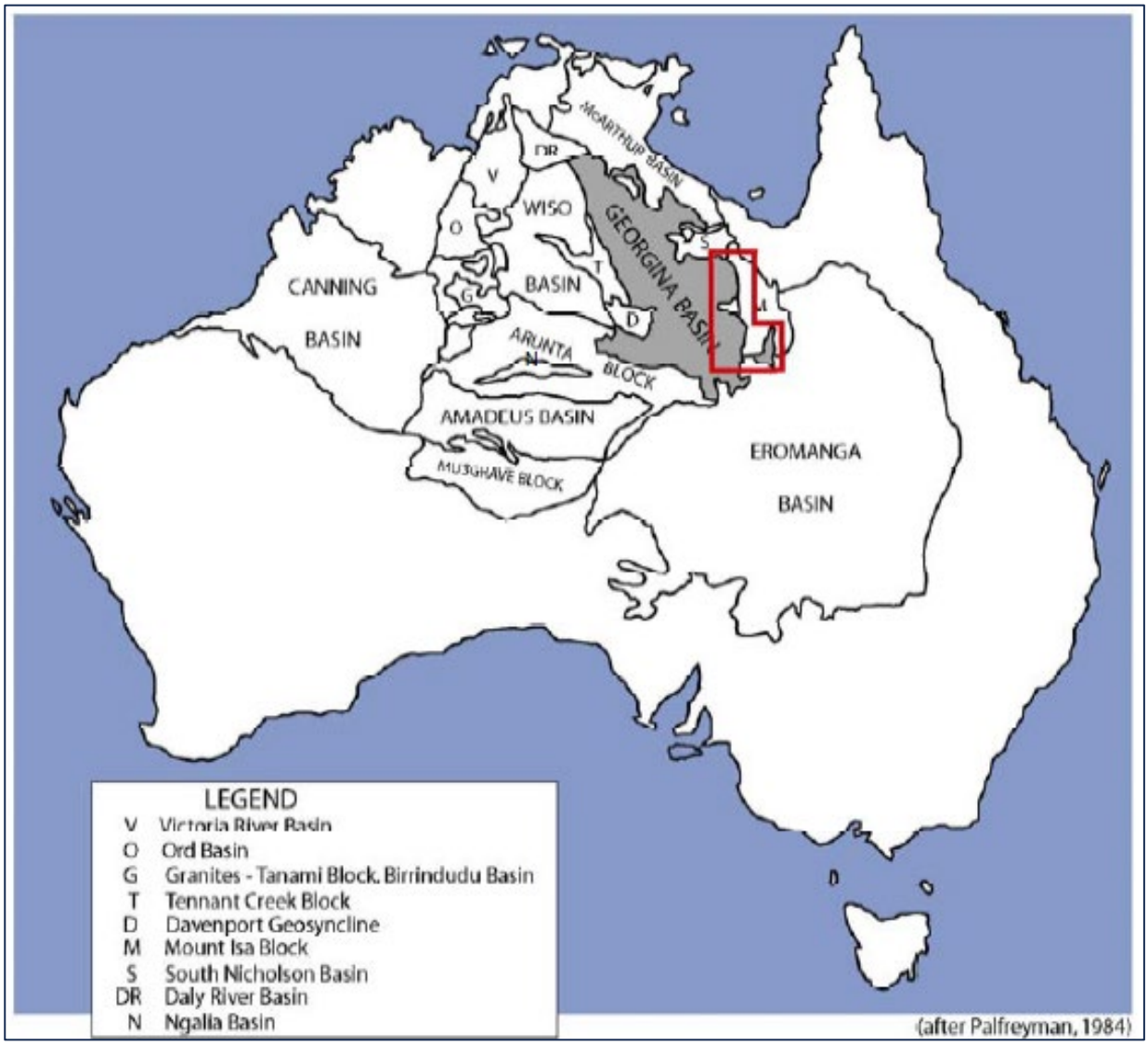
# 7 GEOLOGICAL SETTING AND MINERALISATION

## 7.1 Geological Setting

### 7.1.1 Regional Geology

The Property is located within the lower-middle Cambrian rocks of the Duchess Embayment, which is part of the Burke River Outlier, which in turn is part of the Georgina Basin. The Georgina Basin is a large intracratonic sedimentary basin located in central and northern Australia (Figure 7-1). The basin comprises marine and non-marine sedimentary rocks deposited from the Neoproterozoic to the late-Palaeozoic (850 – 350 Ma). Locally, basin sediments can reach a thickness of 4 km. The Georgina Basin is bounded on almost all sides by Precambrian rocks.

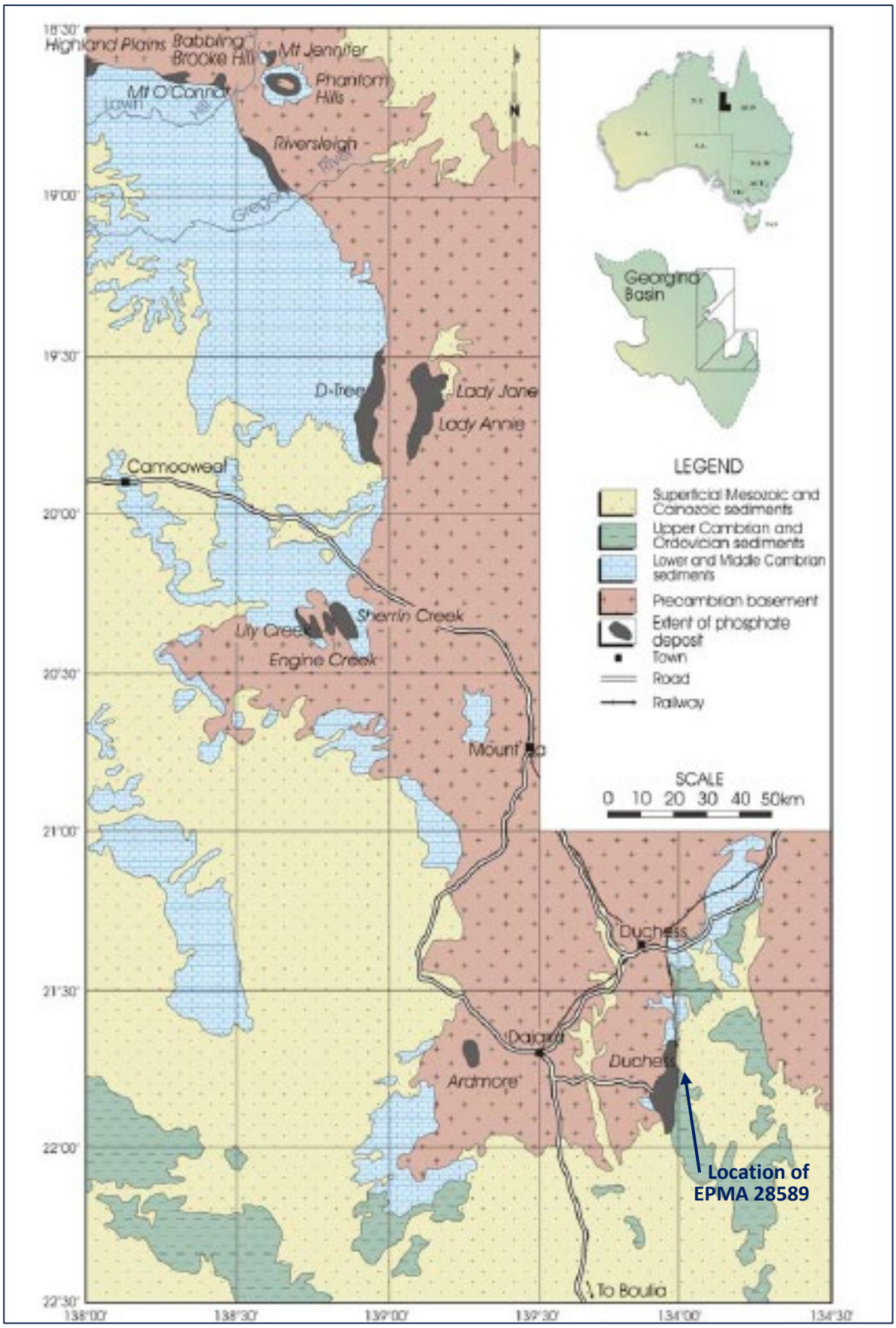
Figure 7-1. Location of the Georgina Basin.




*Source: Dippel, 2004. Note: The red outline refers to the area shown in Figure 7-2.*

Figure 7-2 presents the regional geological setting of the eastern portion of the Georgina Basin. The Burke River Outlier is appended to the southeast margin of the Georgina Basin and is approximately 100 km long and up to 30 km wide. It consists mostly of lower Palaeozoic sediments that reach a thickness of 1,500 m. It represents a shallow depositional basin and is fault bound on all sides except the south, where it merges with the Georgina Basin sediments. The detailed physical relationships between the mostly marine sediments of the Burke River Outlier and the marine and non-marine sediments of the Georgina Basin is obscured by overlying Cretaceous aged sediments of the Great Artesian Basin. The sedimentary sequences comprising the Georgina Basin have been subjected to several deformation events generating locally intense structures, but there is no evidence of metamorphism.

Figure 7-2. Regional geology and phosphate occurrences.

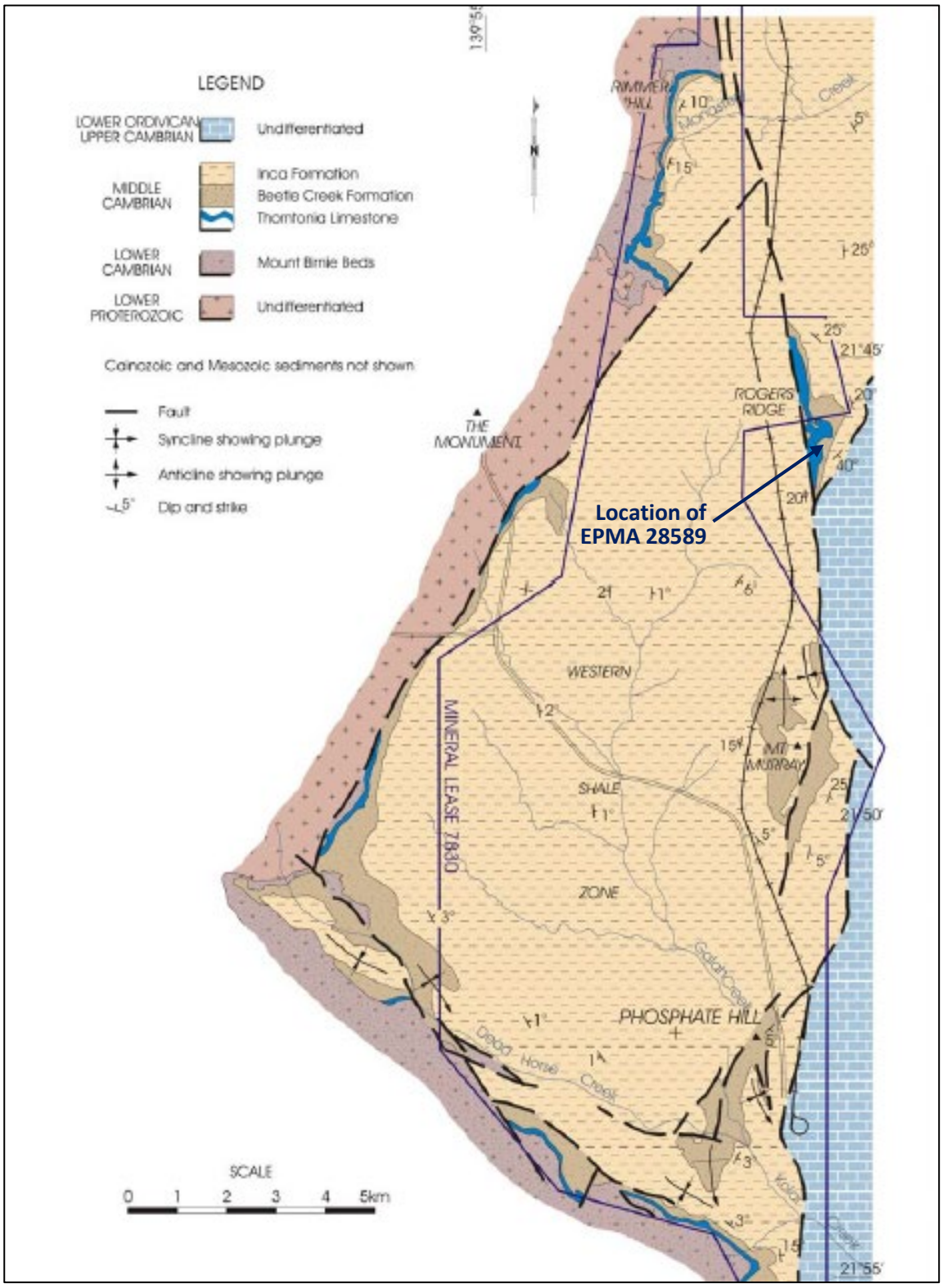



*Source: Dippel, 2004*

### 7.1.2 Local Geology

The Property sits along the margin of the Duchess Embayment, which is a small shallow triangular basin located on the faulted western side of the Burke River Outlier (Figure 7-3). The embayment is fault bound on all sides and has been subject to regional folding resulting in broad anticlines and synclines with a dominantly north to northwesterly trend.

Figure 7-3. Geology of the Duchess Embayment.




*Source: Dippel, 2004*

The main lithologies relevant to phosphate mineralisation within the embayment include the middle Cambrian Inca Formation, the lower-middle Cambrian Beetle Creek Formation, and the lower-middle Cambrian Thorntonia Limestone. Table 7-1 provides a description of these formations. The best phosphate mineralisation is found within the Monastery Creek Phosphorite Member of the Beetle Creek Formation.

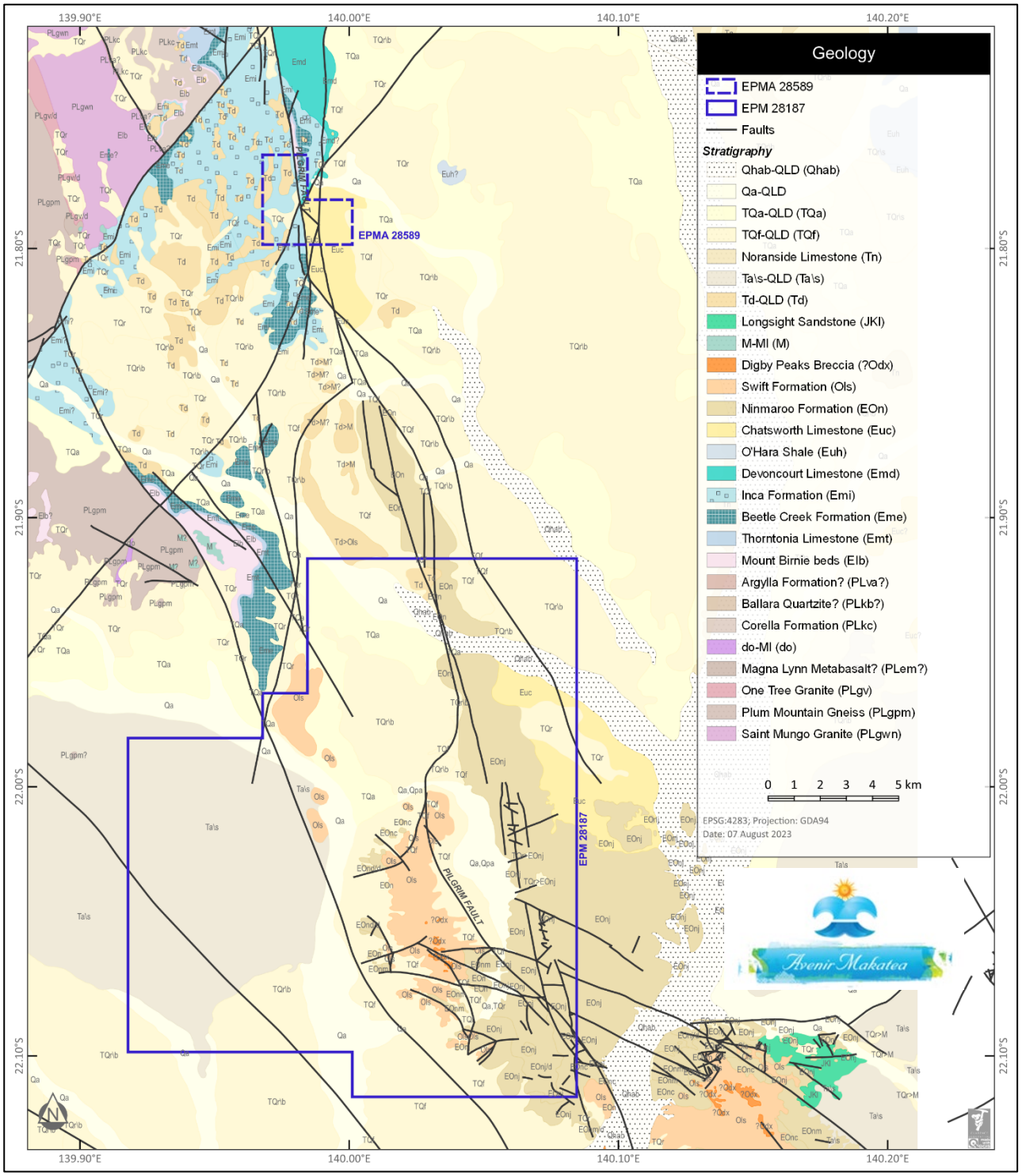
Table 7-1. Duchess Embayment phosphate horizon stratigraphy.

| Age | Formation | Unit | Description |
|---|---|---|---|
| Middle Cambrian | Inca Formation | Inca Limestone (ILST) | Fetid, cherty dolomitic limestone, minor calcareous shale. Maximum thickness >150 m. |
| | | Inca Shale (IS) | Shale, cherty shale, siltstone, minor chert. Maximum thickness approximately 107 m. Gradational weathering relationship. Base is parallel and angular unconformity. |
| Lower-Middle Cambrian | Beetle Creek Formation (BCF) | Monastery Creek Phosphorite Member (MCPM) | Phosphorite, phosphatic cherty siltstone, chert, fetid phosphatic limestone. Fresh calcareous and weathered silicic facies. Maximum thickness of 37 m. Base is a gradational contact with LSM. |
| | | Lower Siltstone Member (LSM) | Calcareous/cherty phosphatic siltstone, chert, bituminous dolomitic phosphatic limestone, and minor phosphorite. Maximum thickness >50 m. Base is a parallel unconformity. |
| Lower-Middle Cambrian | Thorntonia Limestone (TLST) | Chert Member | Silicified carbonate and coquina. Maximum thickness of 12 m. |
| | | Carbonate member | Dolomitic limestone, dolomite, and minor chert. Maximum thickness of 18 m. Base is an angular unconformity. |

*Source: Dippel, 2004*

Figure 7-4 illustrates the tenement-scale geology of EPMA 28589 and EPM 28187. Within the northeast corner of EPMA 28589, there is a structurally-bound block of outcropping Inca Formation, Beetle Creek Formation and Thorntonia Limestone immediately east of the Pilgrim Fault that hosts the phosphate mineralisation on the Property.

Figure 7-4. Tenement-scale geology.




*Source: Derisk, 2023*

## 7.2 Phosphate Mineralisation

Phosphate deposits are found within the Georgina Basin, along the eastern margin in Qld (refer to Figure 7-2), and in association with the Wonarah High in the Northern Territory. The largest deposit within the Duchess Embayment is at Phosphate Hill, owned and operated by IPL, which is located immediately west of the Property.

The MCPM hosts the phosphate deposits in and around Phosphate Hill, and is bound by the Inca Shale on the hangingwall and the Lower Siltstone Member on the footwall (refer to Table 7-1). The phosphorite beds

consist of weathered, siliceous, peloidal and collophane carbonate-fluorapatite with gangue minerals of mostly iron hydroxides, clays, and silica. The beds can be either friable or indurated.

The peloidal phosphate consists mostly of ovalitic cryptocrystalline carbonate-fluorapatite pellets that are irregularly shaped (spherical to sub-spherical) and contain contaminants such as iron hydroxides and organic material.

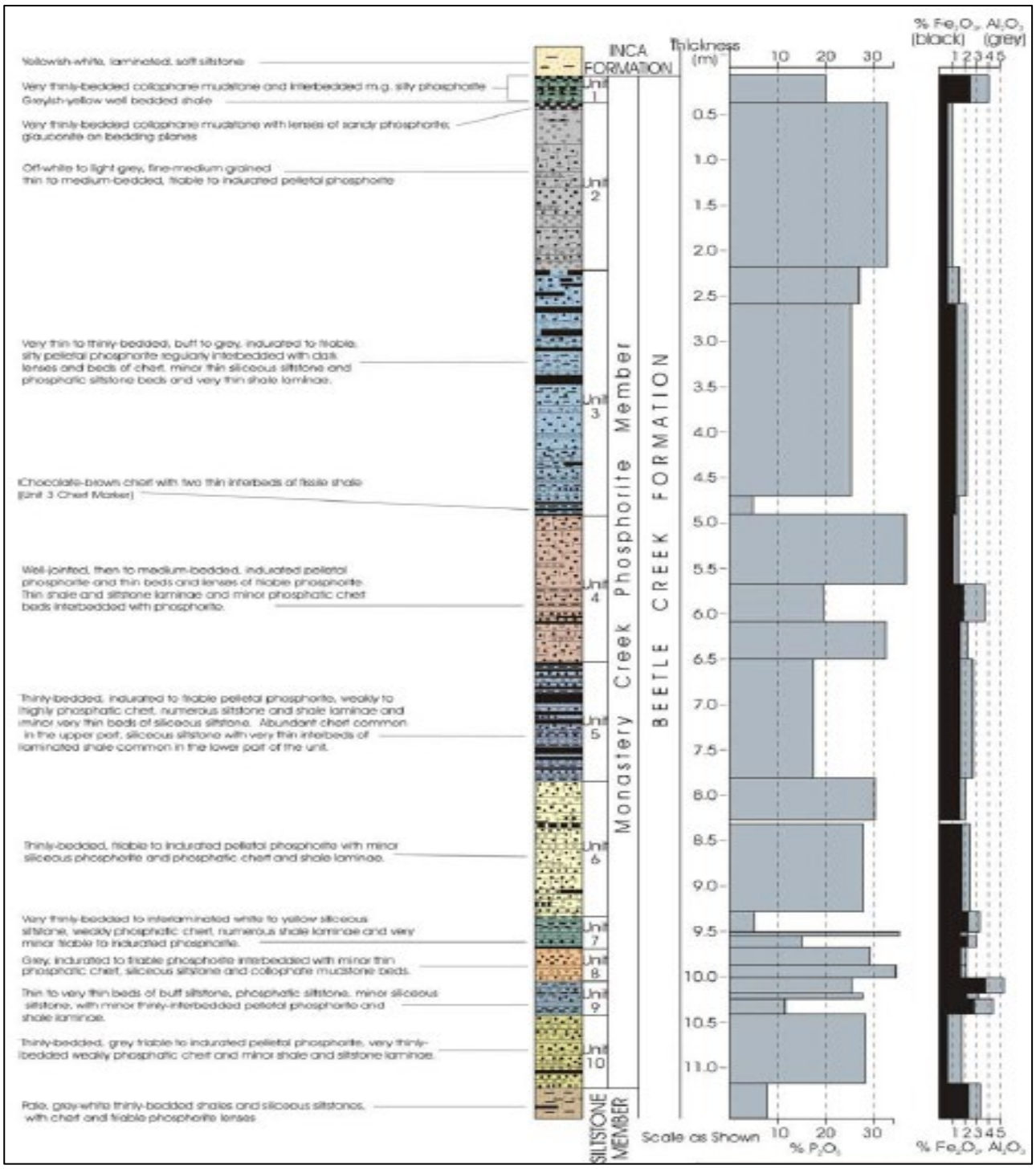
At the Phosphate Hill deposit, the MCPM can be subdivided into 10 units, alternating in phosphate grade, with some units containing greater than 30% $P_2O_5$ (Figure 7-5). At Korella North, MEPL defined 12 units within the MCPM.

## 7.3 REE Mineralisation

Enrichment of REE associated with phosphate occurrences in the Georgina Basin has been reported by Valetich et al (2021). This study sampled numerous phosphorites from three districts in the southeastern Georgina Basin (Figure 7-6), including a number of sites near the Property. REE analyses were reported up to 0.5% REE, ranking them amongst the most REE-enriched phosphorites globally.

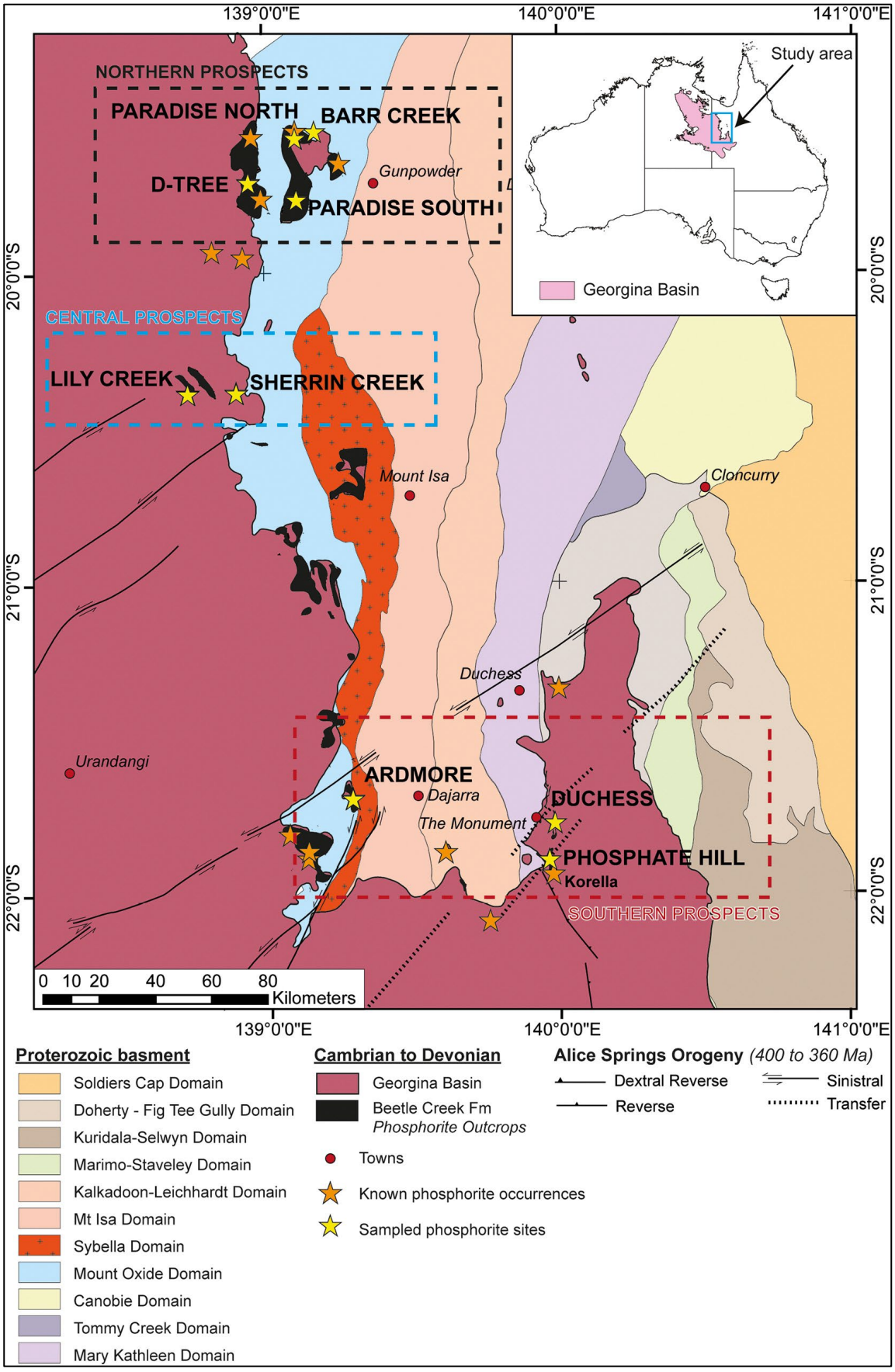
Within the Duchess Embayment, previous exploration by Krucible in 2009 – 2011 defined a north-south trending yttrium enrichment corridor (4 km long by 1 km wide) that occurs as a consistent shallow dipping blanket over the top of the phosphate zone as well as adjacent to the west at shallower levels. The yttrium enrichment zone as defined by wide space pattern drilling is interpreted to extend into the northern portion of the Property.

Figure 7-5. Stratigraphic column of the MCPM at Phosphate Hill with phosphate grades.




*Source: Dippel, 2004*

Figure 7-6. REE sampling locations within the southeast Georgina Basin.




*Source: Valetich et al, 2021*

# 8 DEPOSIT TYPES

## 8.1 Primary Mineralisation Targets

The two main ore deposit types identified to date across the Property are:

- Phosphate-rich chemical and biochemical sediments including phosphorite, chert, and carbonate-rich rocks. In northwest Qld and the Northern Territory, all known phosphate deposits are restricted to middle Cambrian age sediments of the Georgina Basin. The most prospective unit is the Beetle Creek Formation that hosts the Phosphate Hill deposit, currently in production and located immediately adjacent to the Property. The Beetle Creek Formation outcrops on the Property.
- REE-rich sediments associated with the phosphorite sedimentary units and other sedimentary units immediately overlying the phosphorites. The main REE enriched in these sediments is yttrium.

Exploration to date within the Property has demonstrated the presence of potentially economic phosphate mineralisation and elevated REE concentrations.

## 8.2 Secondary Mineralisation Targets

Other prospective ore deposit types that have been identified in the district and may be prospective on the Property include:

- Mississippi Valley style lead +/- zinc mineralisation hosted within Cambrian to Ordovician carbonate sequences. The Noranside deposit, located 25 km south of the Property is a local example. This style of mineralisation is potentially a result of the metamorphism/dolomitisation process in which mineralised fluids precipitate in spaces such as fault fractures or fold hinges.
- Structurally controlled gold +/- copper mineralisation hosted within the Proterozoic Corella Formation. The Trekelano deposit, located 40 km north of the Property is a local example that comprises vein-hosted copper/gold mineralisation hosted in shear zones within the Pilgrim Fault zone. The northern section of the Property sits within the Pilgrim Fault Zone.
- Uranium contents are elevated throughout the Georgina Basin and it is thought enrichment zones may occur in catchment areas in paleochannels. Uranium mineralisation may also form within the Pilgrim Fault zone as enrichments caused by the deformation of granites within close proximity to this area.
- Hydrothermal manganese +/- gold mineralisation associated with the Pilgrim Fault, which is a large regional fault that has caused major deformation within the southern Mount Isa Inlier. This activity may have resulted in the development of hydrothermal auriferous fluids that may have precipitated manganese minerals in vein style deposits.

Exploration to date within the Property has not been focused on any of the secondary mineralisation targets.

# 9 EXPLORATION

## 9.1 Mines Exploration Pty Ltd

As documented in Section 6-1, MEPL held a large concession in the Duchess district in the 1960s that included the Property. MEPL completed one detailed traverse at the D10 prospect, which is now the Korella deposit on the Property. A detailed hand-written geological log was produced and 217 surface rock chip samples were collected from intervals ranging from a minimum of 2.5 cm thick to in excess of 4.0 m, honouring geological contacts. Some individual samples analysed more than 30% $P_2O_5$.

The geology and geochemistry was collated by MEPL and is summarised in Table 9-1, establishing that significant phosphate mineralisation was present at D10. Sampling revealed the MCPM was 23.6 m true thickness and there were 12 alternating sedimentary horizons within the MCPM comprising higher-grade phosphorite layers within lower-grade phosphatic limestone and chert layers.

Table 9-1. D10 stratigraphic section and phosphate geochemistry.

| Formation | True Thickness (m) | $P_2O_5$ (%) | | Lithology and Unit |
|---|---|---|---|---|
| Inca Formation | > 7.25 | 0.5 | - | Shale, siltstone, limestone |
| Beetle Creek Formation, Monastery Creek Phosphorite Member | 3.35 | 12.3 | 1 | Phosphatic limestone |
| | 0.30 | 20.0 | 2 | Phosphorite |
| | 1.30 | 8.6 | 3 | Phosphatic limestone |
| | 0.30 | 18.3 | 4 | Phosphorite |
| | 0.30 | 7.2 | 5 | Phosphatic limestone and chert |
| | 1.07 | 20.0 | 6 | Phosphorite |
| | 3.73 | 8.1 | 7 | Phosphatic limestone and chert |
| | 1.60 | 23.5 | 8 | Phosphorite |
| | 2.36 | 5.9 | 9 | Chert and phosphatic limestone |
| | 0.30 | 18.9 | 10 | Phosphorite |
| | 1.52 | 27.5 | | Phosphorite |
| | 6.78 | 9.7 | 11 | Phosphatic limestone and chert |
| | 0.69 | 19.3 | 12 | Phosphorite |
| Beetle Creek Formation, Lower Siltstone Member | 1.91 | 2.7 | - | Chert and siltstone |
| | 0.46 | 12.9 | - | Phosphatic limestone and siltstone |
| | 2.51 | 1.2 | - | Chert and limestone |
| | 0.46 | 10.0 | - | Phosphatic limestone |
| | 13.41 | 1.4 | - | Chert and siltstone |
| | 1.37 | 11.1 | - | Chert and limestone |
| | 9.60 | 3.4 | - | Chert and siltstone |
| Thorntonia Limestone | > 8.76 | 3.3 | - | Limestone |

*Source: Mines Exploration Pty Ltd, 1967*

## 9.2 Krucible Metals Ltd

As documented in Section 6-1, Krucible held a large concession in the Duchess district in the 2000s and 2010s that included both the Korella deposit and the Korella North deposit. Krucible completed the following work at D10/Korella North, using the prevailing Australian Map Grid (AMG) Zone 54 Australia Geodetic Datum (AGD) 66 coordinates:

- Compilation of historical geological and geochemical data, including the previous exploration undertaken by MEPL.
- Reconnaissance rock chip sampling.
- Geological mapping.
- Soil geochemistry and radiometrics.
- Surface trenching.
- Drilling of 23 RC drillholes.

### 9.2.1 Reconnaissance Geology and Geochemistry

In 2008, Krucible staff field-visited the general area corresponding to the D10 prospect location and collected outcropping rock chip samples that confirmed the presence of elevated phosphate grades above 30% $P_2O_5$ (Krucible, 2009). This work was the impetus to complete further exploration.

### 9.2.2 Geological Mapping

In 2008, Krucible completed surface geological mapping that defined the prospective Beetle Creek Formation over a strike length of approximately 1,200 m (Figure 9-1).

### 9.2.3 Soil Geochemistry and Surface Trenching

In 2008, Krucible completed an initial soil geochemistry program over a strike length of 1,200 m on a grid of 100 m by 50 m spacing to try and define a phosphate enrichment corridor at Korella North. Samples were collected as a -2 mm size fraction and sent to ALS Laboratory (ALS) for analyses by method ME-MS41 for all elements available and method Au-AA22 for gold. This initial program yielded numerous analyses >5% $P_2O_5$ and indicated a continuous corridor of phosphate enrichment.

A follow up soil sampling program was designed on a grid 100 m by 25 m spacing covering the same area to better define the anomalous zone. This program followed the same sampling procedures as the previous program. Results confirmed the trend of the phosphatic unit (Figure 9-2) but the phosphate analyses were lower than the rock chip samples previously collected by both MEPL and Krucible.

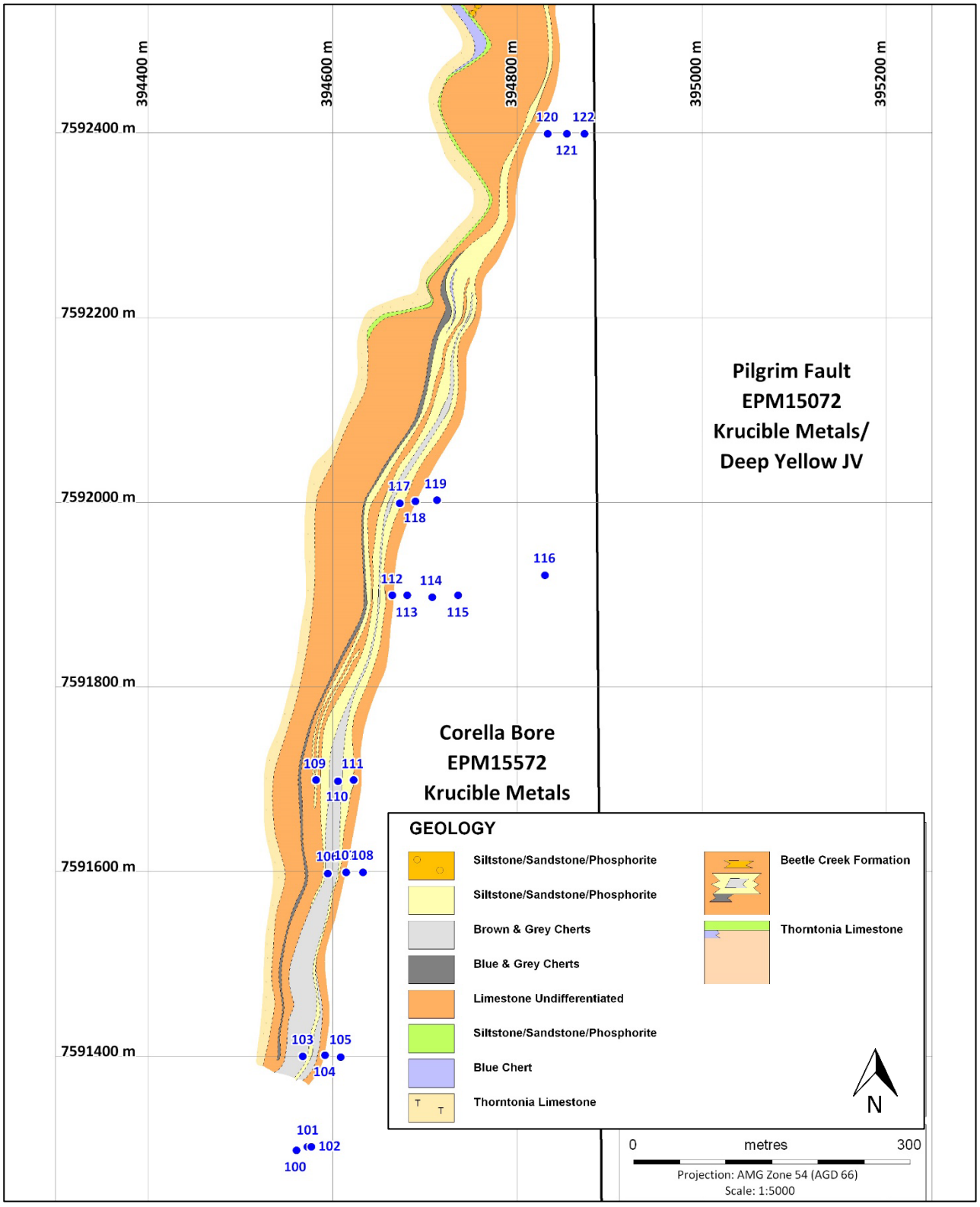
In late 2008 Krucible followed up the soil geochemistry program with a surface trenching program comprised of 10 east-west oriented trenches spaced along strike with a spacing that varied from 100 – 300 m. Most of the thin soil profile was removed prior to collection of 1 m samples that were nominally 2 – 3 kg. Figure 9-3 illustrates examples of the trenches and shows the systematic and methodical approach to this program. A total of 250 samples were sent to ALS and analysed by method OG62 for Al, Ca, Cu, Fe, Mg, Mn, P, Pb, and Zn. Table 9-2 summarises the composited phosphate intervals containing elevated $P_2O_5$ and these are shown in Figure 9-4. All intervals are sampled thickness rather than true thickness.

Table 9-2. Elevated $P_2O_5$ trench intervals.

| Trench | Northing (m) * | Easting From (m) * | Easting To (m) * | Interval and $P_2O_5$ grade |
|---|---|---|---|---|
| Trench 1 | 7592600 | 394706 | 394702 | 4 m @ 12.17% |
| Trench 2 | 7592300 | 394788 | 394779 | 9 m @ 12.68% |
| Trench 3 | 7592200 | 394751 | 394749 | 2 m @ 14.7% |
| | | 394744 | 394741 | 3 m @ 16.43% |
| | | 394732 | 394728 | 4 m @ 18.3% |
| Trench 4 | 7592100 | 394728 | 394726 | 2 m @ 16.11% |
| | | 394723 | 394717 | 6 m @ 16.73% |
| | | 394705 | 394703 | 2 m @ 18.53% |
| Trench 5 | 7592000 | 394672 | 394664 | 8 m @ 18.08% |
| | | 394660 | 394657 | 3 m @ 20.88% |
| Trench 6 | 7591900 | 394657 | 394644 | 13 m @ 20.36% |
| Trench 7 | 7591700 | 394618 | 394601 | 17 m @ 19.1% |
| | | 394591 | 394584 | 7 m @ 18.22% |
| | | 394583 | 394580 | 3 m @ 22.4% |
| Trench 8 | 7591600 | 394603 | 394599 | 4 m @ 16.27% |
| | | 394596 | 394591 | 5 m @ 17.87% |
| Trench 9 | 7591400 | 394584 | 394581 | 3 m @ 17.07% |
| | | 394578 | 394575 | 3 m @ 18.27% |
| | | 394578 | 394558 | 12 m @ 18.23% |
| Trench 10 | 7592600 | 394857 | 394840 | 17 m @ 21.33% |
| | | 394834 | 394828 | 6 m @ 21.36% |

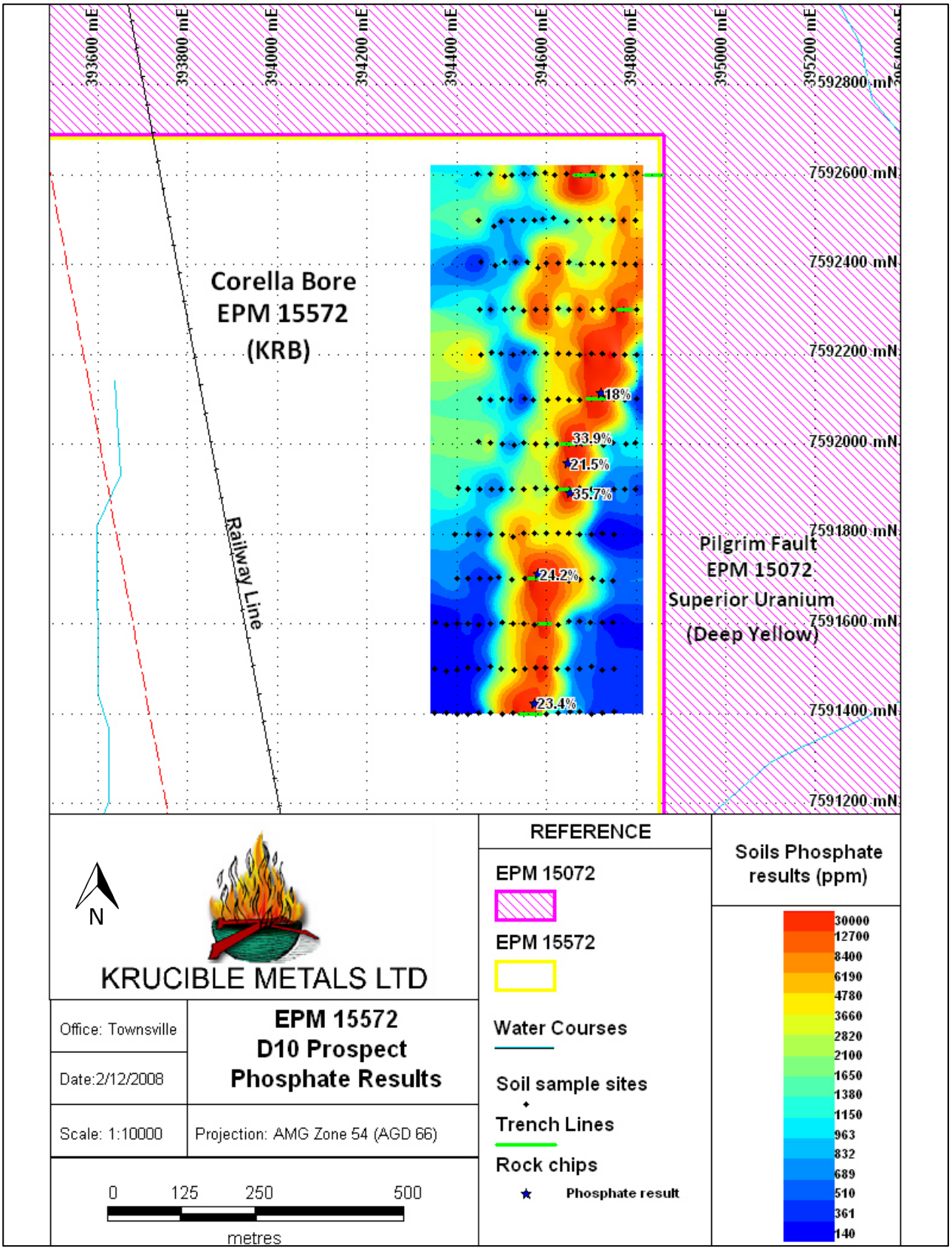
*Source: Krucible, 2010.*
*Note: * Coordinates shown in AMG Zone 54 AGD 66 datum.*

Figure 9-1. Plan view of geological mapping.




*Source: Krucible digital data records*

Figure 9-2. Plan view of contoured soil geochemistry.

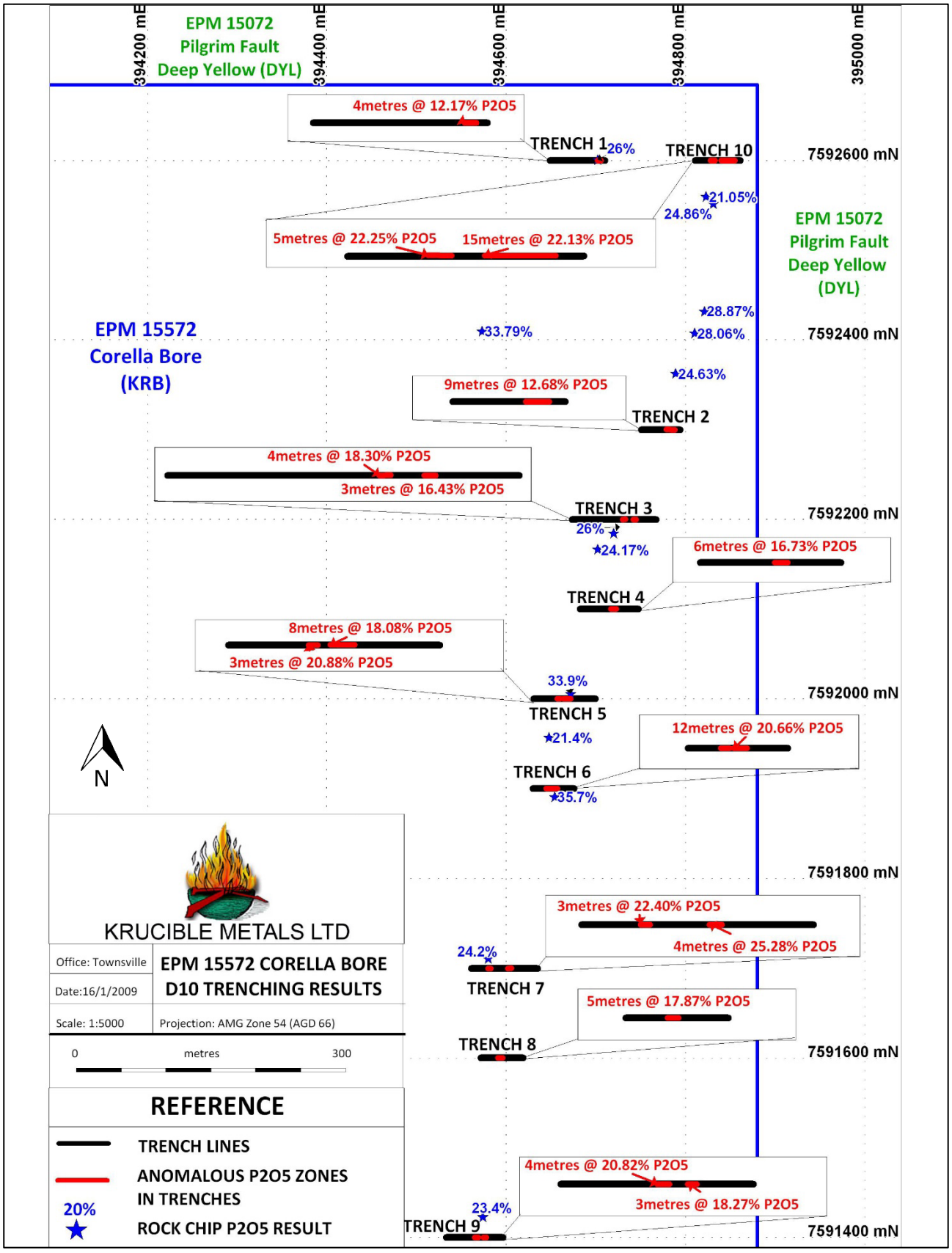



*Source: Krucible digital data records*

Figure 9-3. Views of trench sampling lines and individual sample.


*Source: Krucible digital data records*

Figure 9-4. Plan showing location of trench intervals with elevated $P_2O_5$ grades.




*Source: Krucible digital data records*

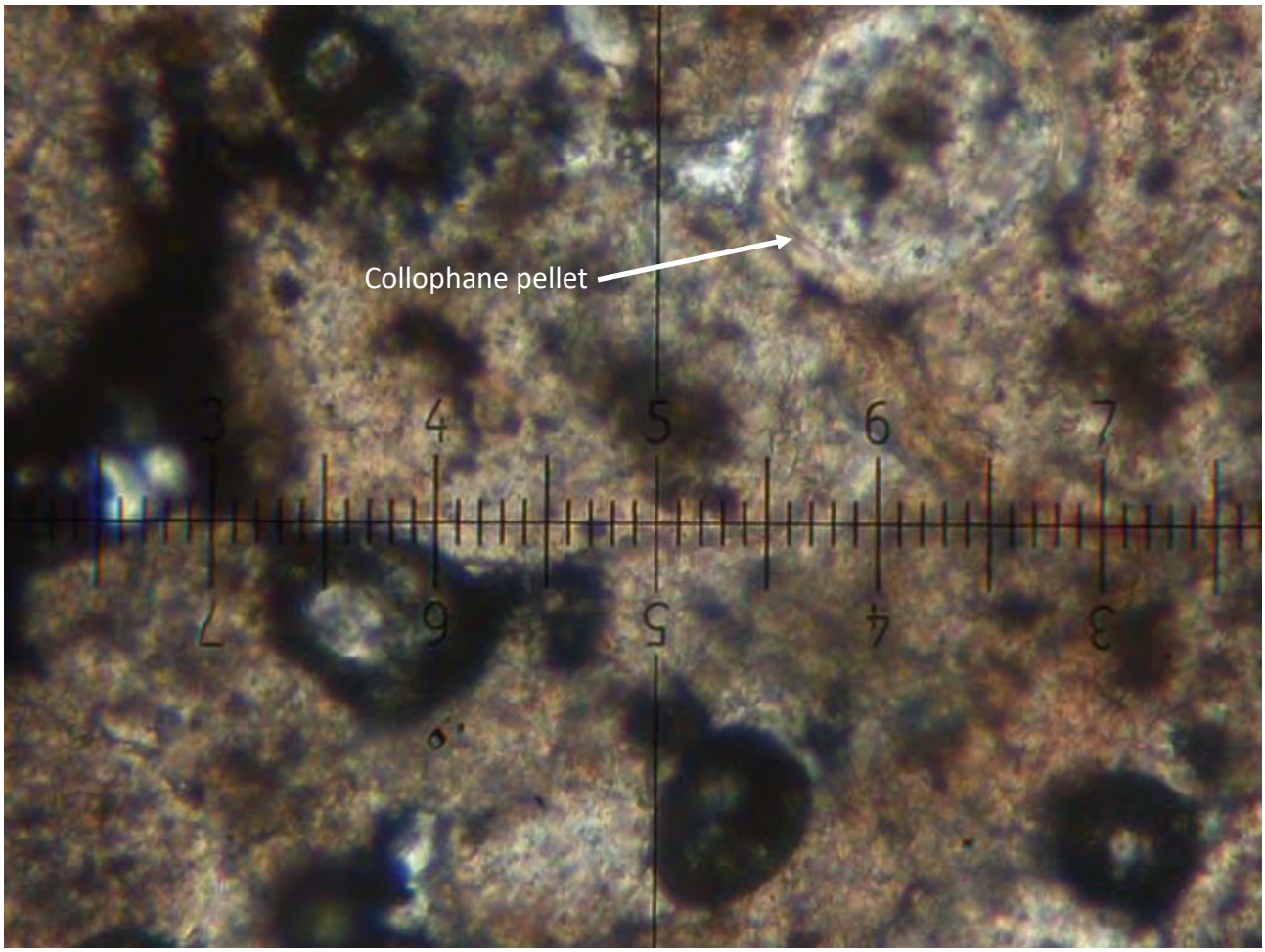
### 9.2.4 Characterisation Studies

#### *9.2.4.1 Petrology*

In 2009, Krucible submitted four drillhole samples to N A Trueman & Associates Pty Ltd (Trueman) for petrological examination. Trueman provided the following descriptions:

- Sample 208916. This is a banded, secondary phosphorite containing thin colloform layers of dahllite. Organic matter is dispersed through most layers.
- Sample 208917. This is a high-grade, pelletal phosphorite composed almost entirely of compacted collophane pellets varying from less than 0.1 mm to 0.2 mm in width. They are stained with varying amounts of organic matter. Secondary veins of collophane also occur (Figure 9-5Figure 9-5. Photograph of Sample 208917 showing collophane pellets.).
- Sample 208919. This is a pelletal phosphorite but contains minor amounts of interstitial silica.
- Sample 208926. This is a weathered, weakly phosphatic chert mainly consisting of interlocking fine grained silica but with traces of dispersed collophane pellets in layers.

Figure 9-5. Photograph of Sample 208917 showing collophane pellets.




*Source: Trueman, 2009*
*Note: Numbered scale units are in mm*

#### *9.2.4.2 QEMSCAN*

In 2009, Krucible submitted four trench samples to Amdel Mineral Laboratories (Amdel) for quantitative evaluation of minerals by scanning electron microscopy (QEMSCAN) analysis to characterise the phosphate mineralisation. QEMSCAN can provide information including mineral abundance and species, liberation/locking characteristics of the phosphate-bearing minerals, grain size, and deportment of iron, phosphorus, and calcium.

The QEMSCAN study identified that the major minerals in terms of abundance were apatite, quartz, and kaolinite. Feldspar (anorthorite, albite, orthoclase), pyrophyllite (clay), and goethite (Fe oxide), were also detected. Apatite is the major P-bearing mineral and the study identified a variety of apatite species were detected containing Mg, Al, Na, Si, Cl, F, and Fe impurities. A low density apatite species (assumed to be hydroxyapatite) was also identified. Other P-bearing minerals included crandalite (Al Ca phosphate), P-bearing goethite, and collinsite.( Mg Fe Ca phosphate). Table 9-3 presents the mineral abundance for the four samples from Korella North.

The study also identified that the apatite is predominately exposed. This was confirmed by particle images that showed apatite lining pores and forming rims around other minerals e.g., quartz. Apatite is generally found adjacent to quartz and other silicates.

Table 9-3. QEMSCAN mineral abundance.

| Mineral Species | Sample 26242 | Sample 26243 | Sample 26337 | Sample 26338 |
|---|---|---|---|---|
| Pore | 0.0 | 0.0 | 0.0 | 0.0 |
| Mn- Carbonate | 0.1 | 0.1 | 0.0 | 0.0 |
| P-Goethite | 0.0 | 0.0 | 0.0 | 0.0 |
| Crandalite | 0.0 | 0.0 | 0.0 | 0.0 |
| Collinsite | 0.0 | 0.0 | 0.0 | 0.0 |
| Apatite | 64.1 | 32.2 | 48.2 | 65.2 |
| Fluoroapatite | 0.0 | 0.0 | 0.0 | 0.0 |
| Chloro-fluoroapatite | 0.1 | 0.1 | 0.1 | 0.2 |
| Si-Apatite | 0.6 | 1.0 | 0.8 | 0.9 |
| Hydroxyl apatite | 0.2 | 0.2 | 0.2 | 0.2 |
| Goethite/Apatite intergrowth | 0.0 | 0.0 | 0.0 | 0.0 |
| Apatite Quartz intergrowth | 0.1 | 0.3 | 0.2 | 0.2 |
| Apatite-Quartz-Clay intergrowth | 0.0 | 0.0 | 0.0 | 0.0 |
| Apatite + Ca Carbonate | 0.2 | 0.0 | 0.1 | 0.2 |
| Quartz | 24.0 | 53.5 | 36.9 | 23.9 |
| Fe-rich Kaolinite | 1.1 | 1.2 | 1.1 | 0.7 |
| Kaolinite | 2.6 | 1.7 | 2.5 | 1.8 |
| Biotite | 0.1 | 0.2 | 0.0 | 0.0 |
| Pyrophyllite | 2.4 | 2.9 | 4.1 | 2.3 |
| Muscovite | 0.1 | 0.1 | 0.1 | 0.1 |
| Calcite | 0.0 | 0.1 | 0.0 | 0.1 |
| Orthoclase | 1.0 | 1.7 | 1.4 | 1.1 |
| Anorthorite | 1.4 | 1.5 | 1.4 | 0.9 |
| Albite | 1.4 | 2.5 | 1.9 | 1.3 |
| Fe-Oxide (hydroxide) | 0.2 | 0.2 | 0.4 | 0.3 |
| Ilmenite/Rutile | 0.2 | 0.5 | 0.4 | 0.3 |
| REE & U | 0.0 | 0.0 | 0.0 | 0.0 |
| Other | 0.1 | 0.1 | 0.1 | 0.1 |
| **Total** | **100.0** | **100.0** | **100.0** | **100.0** |

*Source: Amdel, 2009*

## 9.3 Avenir Makatea Pty Ltd

AM lodged the application for EPMA 28589 in August 2022 and has completed the following work at the Property during the application period:

- Collation of all available geological, geochemical, geophysical, and drilling data.
- Site visit to inspect the property, outcrops of phosphate mineralisation, and verify the location of previous drilling (refer to Section 12).
- Airborne LiDAR survey to generate high-resolution surface topography.

- Resurvey of drillhole collars (also refer to Section 12).
- Preliminary beneficiation assessment and mining study
- Preparation of a new Mineral Resource estimate based on the results of the previous work completed by Krucible (refer to Section 14).

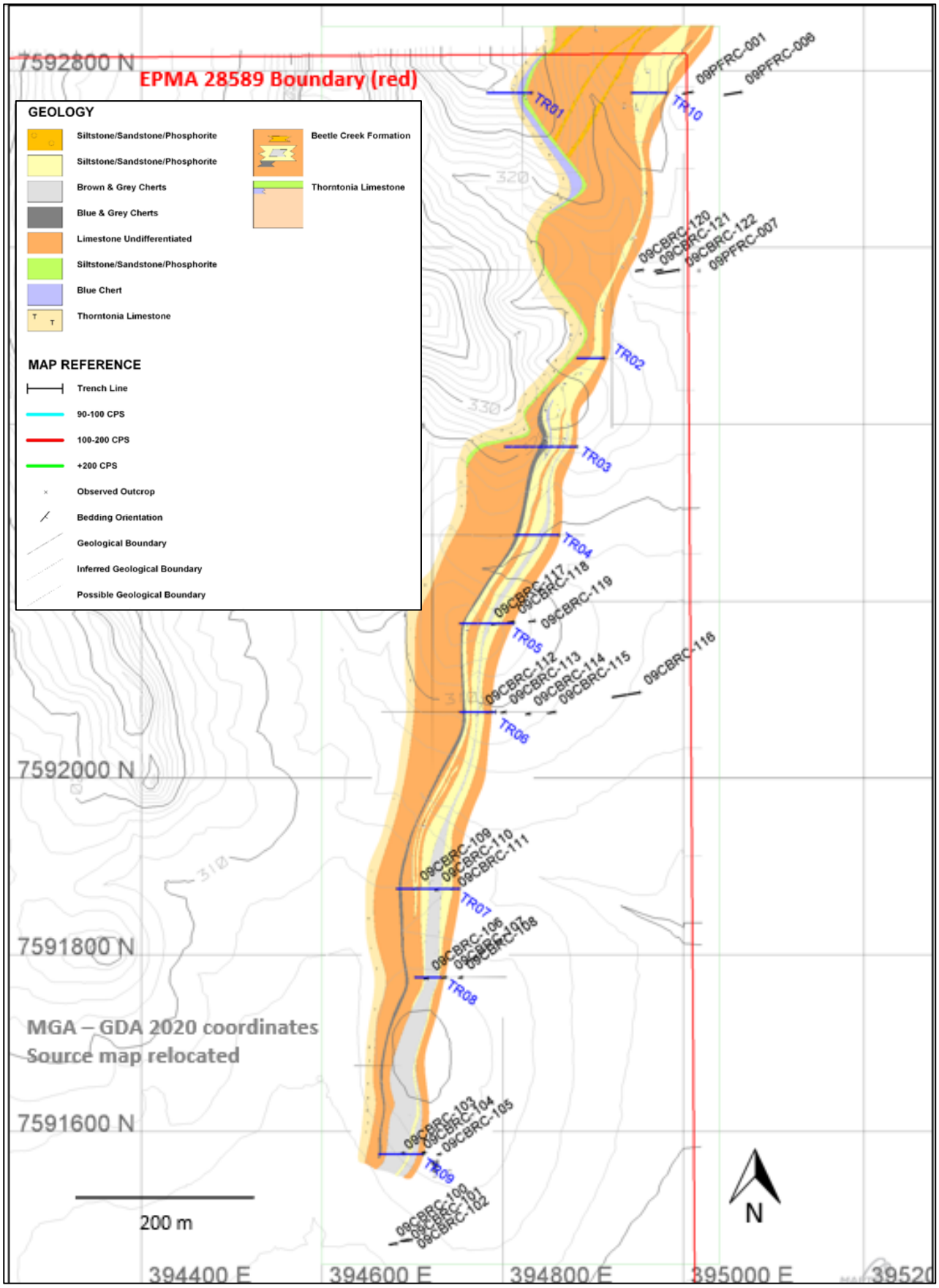
### 9.3.1 LiDAR Survey and Drillhole Collar Verification

In May 2023 AM engaged the survey company Atkinson and Booy Surveys to conduct a drone-based LiDAR survey across the western portion of the Property over the Korella North deposit area to generate accurate surface topography, and to verify the location of all Krucible drillholes.

### 9.3.2 Data Validation and Transposition

Since the late 2010s, Australia has implemented a new datum called Geocentric Datum of Australia (GDA) 2020. AM has transposed all exploration data undertaken by Krucible from the AMG Zone 54 AGD 66 datum to the new Map Grid of Australia (MGA) Zone 54 GDA 2020 datum. Figure 9-6 is a compilation of the surface geology, trenching, drillhole data and surface topography presented in the new datum.

Figure 9-6. AM compilation of Krucible data in MGA – GDA 2020 grid coordinates.




*Source: Derisk, 2023*

# 10 DRILLING

There has only been one program of drilling at the Property, completed by Krucible in 2009 using the RC drilling method. AM has secured digital data files that provide comprehensive data and information on the drilling program and the relevant Qualified Persons have reviewed this information.

## 10.1 Drilling Logistics and Statistics

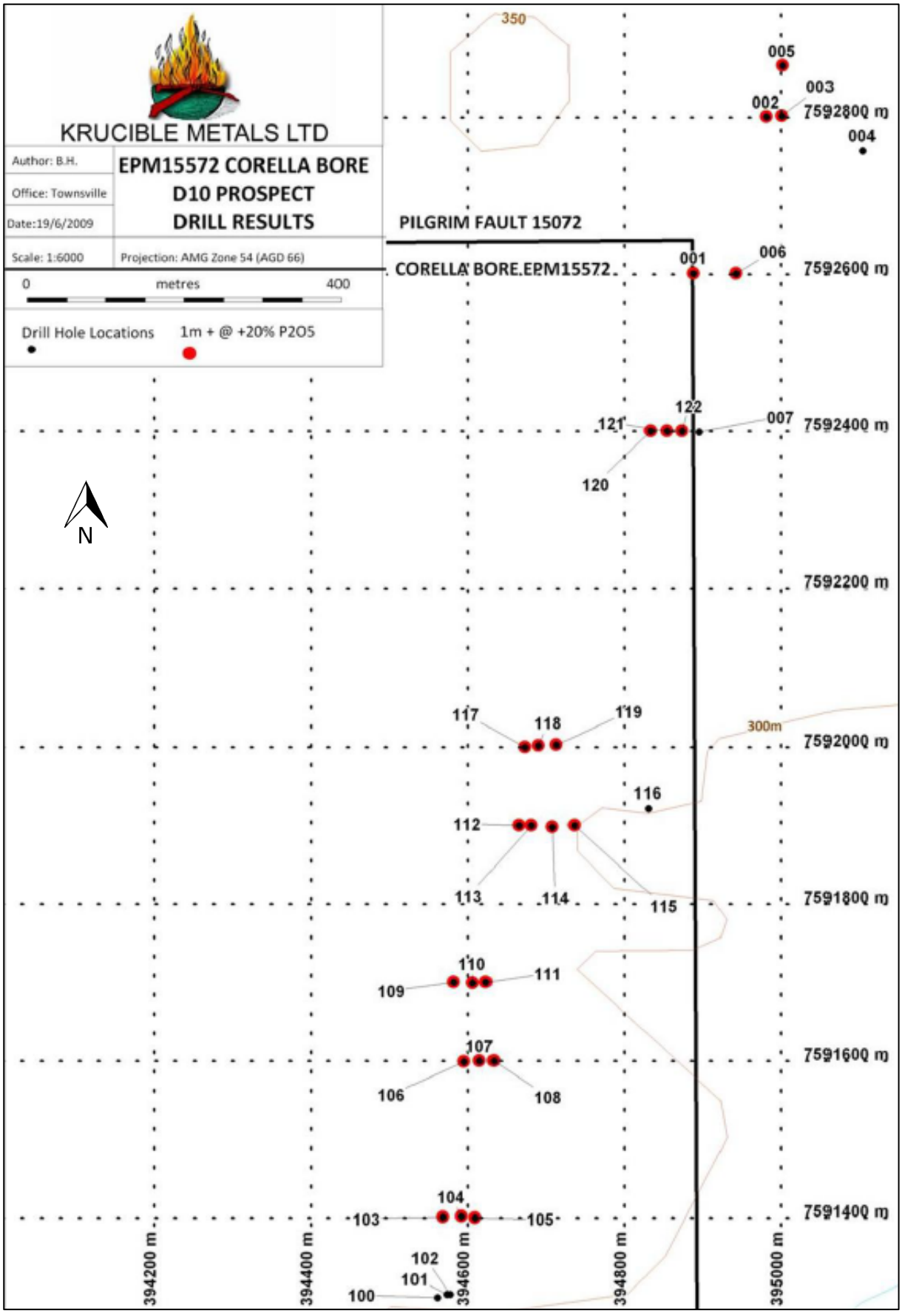
Krucible engaged All Terrain Drilling (ATD) to complete the RC drilling program over Korella North. A total of 23 holes (766 m) have an 09CBRC prefix and were drilled within the current Property limits. An additional seven holes (242 m) with a prefix of 09PFRC were drilled immediately northeast of the Property boundary (Table 10-1). Figure 10-1 shows the location of all drillholes. The 09PFRC holes have been used to prepare a geological interpretation of the mineralisation and assays were used to estimate phosphate grades.

Table 10-1. Drilling summary.

| Hole Name | Easting (m) [1] | Northing (m) [1] | Elevation (m) | Azimuth (°) | Dip (°) | Length (m) |
|---|---|---|---|---|---|---|
| 09CBRC - 100 | 394561 | 7591299 | 305 | 260 | -60 | 19 |
| 09CBRC - 101 | 394573 | 7591303 | 305 | 260 | -60 | 19 |
| 09CBRC - 102 | 394577 | 7591303 | 305 | 260 | -60 | 19 |
| 09CBRC - 103 | 394568 | 7591401 | 307 | 260 | -60 | 19 |
| 09CBRC - 104 | 394592 | 7591402 | 308 | 260 | -60 | 31 |
| 09CBRC - 105 | 394609 | 7591400 | 308 | 260 | -60 | 46 |
| 09CBRC - 106 | 394595 | 7591599 | 309 | 260 | -60 | 25 |
| 09CBRC - 107 | 394615 | 7591600 | 309 | 260 | -60 | 31 |
| 09CBRC - 108 | 394633 | 7591600 | 308 | 260 | -60 | 40 |
| 09CBRC - 109 | 394582 | 7591700 | 310 | 260 | -60 | 25 |
| 09CBRC - 110 | 394606 | 7591699 | 310 | 260 | -60 | 31 |
| 09CBRC - 111 | 394681 | 7591900 | 309 | 260 | -60 | 31 |
| 09CBRC - 112 | 394708 | 7591898 | 312 | 260 | -60 | 25 |
| 09CBRC - 113 | 394736 | 7591900 | 312 | 260 | -60 | 40 |
| 09CBRC - 114 | 394830 | 7591922 | 311 | 260 | -60 | 43 |
| 09CBRC - 115 | 394673 | 7592000 | 311 | 260 | -60 | 55 |
| 09CBRC - 116 | 394623 | 7591700 | 309 | 260 | -60 | 64 |
| 09CBRC - 117 | 394665 | 7591900 | 315 | 260 | -60 | 22 |
| 09CBRC - 118 | 394690 | 7592002 | 314 | 260 | -60 | 34 |
| 09CBRC - 119 | 394713 | 7592003 | 314 | 260 | -60 | 40 |
| 09CBRC - 120 | 394833 | 7592400 | 318 | 260 | -60 | 21 |
| 09CBRC - 121 | 394854 | 7592400 | 317 | 260 | -60 | 34 |
| 09CBRC - 122 | 394873 | 7592400 | 316 | 260 | -60 | 52 |
| **Subtotal = 23** | | | | | | **766** |
| 09PFRC – 001 * | 394888 | 7592601 | 320 | 260 | -60 | 26 |
| 09PFRC – 002 * | 394981 | 7592801 | 322 | 260 | -60 | 28 |
| 09PFRC – 003 * | 395001 | 7592802 | 319 | 260 | -60 | 34 |
| 09PFRC – 004 * | 395102 | 7592757 | 314 | 0 | -90 | 37 |
| 09PFRC – 005 * | 395002 | 7592866 | 320 | 260 | -60 | 22 |
| 09PFRC – 006 * | 394942 | 7592601 | 317 | 260 | -60 | 40 |
| 09PFRC – 007 * | 394895 | 7592399 | 315 | 0 | -90 | 55 |
| **Subtotal = 7** | | | | | | **242** |
| **TOTAL = 30** | | | | | | **1,008** |

*Source: Krucible digital data records*
*Note: [1] Coordinates shown in AMG Zone 54 AGD 66 datum. *denotes hole collars are outside the Property boundary*

Figure 10-1. Drillhole collar locations.




*Source: Krucible, 2010*

Almost all drillholes were drilled to the west at an angle of 60° in order to intersect the shallow easterly dipping phosphate mineralisation at a perpendicular angle.

## 10.2 Drilling Conditions

Krucible did not record details about drilling conditions. All drill sites were located on flat or gently undulating terrain that required minimal site preparation to access drill sites. Figure 10-2 illustrates an example of typical drilling conditions experienced in the district. ATD fitted a cyclone to the drill rig to collect all dust and cuttings from the drilling process.

Figure 10-2. Example of drilling conditions in 2009.


*Source: Krucible digital data records*

## 10.3 Drillhole Collar Surveys

Krucible used handheld global positioning system (GPS) units to record the location of the drill collars in 2009 using the AMG Zone 54 AGD 66 datum. All drillhole collars are preserved and AM has resurveyed all drill collars using the new MGA Zone 54 GDA 2020 datum

## 10.4 Downhole Surveys

There are no downhole surveys recorded in the Krucible database. As the deepest hole is only 64 m in length, the relevant Qualified Persons do not consider the lack of downhole surveys as a material risk.

## 10.5 Sample Recovery

All drilling was completed using the RC percussion method in which sampling was undertaken at nominal 1.0 m intervals. Krucible did not systematically measure the sample recovery. The relevant Qualified Persons understand that all of the sample recovered through the cyclone was subsampled using a riffle splitter at the drill rig to generate a sample for laboratory analysis. The remainder of the sample for each interval was stored in a large plastic bag and retained.

Krucible did not record whether samples were recovered dry, moist or wet. The relevant Qualified Persons note that almost all holes were angled and almost half of the holes were less than 30 m in length. All pictures of Krucible drilling activities at Korella and Korella North sighted by the Qualified Persons suggest drilling was above the water table. However, the relevant Qualified Persons cannot verify that sample recovery throughout the Korella North drilling was high. The lack of drilling recovery records reduces the reliability of the drilling data and contributes to the assessment and classification of the Korella North Mineral Resource estimate.

## 10.6 Geological Logging

Detailed lithological logging of all RC holes was undertaken by Krucible recording lithology, silica and carbonate alteration, iron oxide content, and response to dilute acid. In addition, Krucible used a handheld scintillometer to record natural radioactivity in counts per second to assist with defining phosphate enrichment.

A sample from every 1.0 m interval was sieved and washed, then stored in a chip tray as a permanent record of the drilling. Figure 10-3 shows an example of the chips

Figure 10-3. Example of preserved RC chip samples from Korella drilling in 2008.


*Source: Krucible digital data records*

Krucible stored all drilling data in Excel spreadsheets and the relevant Qualified Person has reviewed the database against the drill logs.

## 10.7 Relationship of Drilling to Mineralisation

The sedimentary sequence containing the phosphate mineralisation at Korella North is oriented in a north-south direction and dips gently to the east. Almost all drillholes testing the deposit are oriented in a westerly direction and steeply dipping to achieve a high angle intersection through the stratigraphy and mineralisation.

## 10.8 Reliability

The relevant Qualified Persons have reviewed the historical records available documenting drilling methods and procedures used for the drilling programs completed at the Property. Records are incomplete and some documentation is missing. Therefore, it is not possible to independently validate some drilling data. Where the relevant Qualified Persons have identified specific concerns associated with drilling, sampling and recovery information relating to estimation of Mineral Resources, these are specifically addressed in Section 14 of this Report.

# 11 SAMPLE PREPARATION, ANALYSES AND SECURITY

There has only been one program of trenching and one program of drilling at the Property, completed by Krucible in 2008 and 2009 respectively. Derisk has utilised both the trenching data and drilling date in the Korella North Mineral Resource estimate.

AM has secured digital data files that provide detailed data and information on the trenching and drilling program, and the relevant Qualified Persons have reviewed this information.

## 11.1 Surface Trenching

### 11.1.1 Sampling Methods

Krucible marked out east-west trending trench lines and excavated a shallow narrow trench, removing obvious soil material prior to sampling. Samples were collected at 1.0 m intervals and Krucible reported that most samples were from 2 -3 kg in weight (refer to Figure 9-3).

Sampling was undertaken through the interpreted phosphatic zone as well as into both the hangingwall and footwall. Krucible used a handheld scintillometer to record natural radioactivity to assist with defining phosphate enrichment to screen mineralised intervals from unmineralised intervals for analysis.

### 11.1.2 Sample Preparation

The sample preparation method used by ALS is not documented in detail, but samples were dried, crushed if required, and pulverised using ALS method PUL-23 prior to analysis.

### 11.1.3 Analytical Methods

A total of 250 samples were sent to ALS and analysed by method ME-OG62 for Al, Ca, Cu, Fe, Mg, Mn, P, Pb, and Zn. The method involves a four-acid digestion followed by either an atomic absorption spectroscopy (AAS) or inductively coupled plasma atomic emission spectroscopy (CP-AES) finish. The $P_2O_5$ content is directly calculated from the P content, whereby $P_2O_5$ = P x 2.291. Almost all samples submitted to ALS contained highly elevated phosphate contents due to the screening process.

There was no relationship between the laboratory and the tenement holders other than a fee-for-service commercial agreement to analyse samples supplied by the tenement holder. The relevant Qualified Persons have not been able to verify what certification or accreditation that ALS held at the time the work was completed.

### 11.1.4 QA/QC Processes

The relevant Qualified Person understands that Krucible did not implement a specific quality assurance and quality control (QA/QC) procedure to monitor the quality of the trench sampling and analysis program.

ALS completed a number of routine QA/QC procedures on all batches it received, including the analysis of duplicate pulps and several different laboratory standards, including blanks.

The relevant Qualified Person has reviewed the QA/QC results reported by ALS and considers that the reported results suggest no material concerns in the analytical procedures used by ALS. However, the relevant Qualified Person also notes that the ALS QA/QC procedures are designed to test analytical quality and are not designed to assess sample preparation and subsampling quality.

### 11.1.5 Security

There are no records describing security arrangements implemented by Krucible for the trench sampling and analysis.

### 11.1.6 Assessment

The relevant Qualified Person considers that the documentation sighted describing sample preparation procedures, analytical procedures, QA/QC systems and security arrangements used in the surface trenching program undertaken by Krucible at the Property were typical of procedures used generally within the exploration industry. Phosphate is a bulk commodity, often measured in tens of percent, and the relevant Qualified Person considers that concerns with the lack of independent QA/QC systems are not as serious when compared with commodities where economically viable contents are measured in parts per million. The relevant Qualified Person considers that these procedures are adequate to support Mineral Resource estimation.

## 11.2 RC Drilling

### 11.2.1 Sampling Methods

Krucible sampled all RC drilling intervals at the drill site at 1.0 m increments. All returns from drilling were processed via a cyclone mounted to the drill rig. All of the sample from each 1.0 m interval was subsampled using a two-stage riffle splitter collecting 25% of the sample in a calico bag for analysis, retaining the remainder of the sample in a large plastic bag (Figure 11-1). Krucible used a handheld scintillometer to record natural radioactivity to assist with defining phosphate enrichment to screen mineralised intervals from unmineralised intervals for analysis.

Figure 11-1. Photographs of RC drill rig, cyclone, and riffle splitter configuration.


*Source: Krucible digital data records*

Krucible also collected three samples per hole that were collected using a spear-sampling method from an interval near the start, the middle, and the end of each hole. These samples were collected and analysed in order to collect broad multi-element geochemistry.

### 11.2.2 Sample Preparation

The sample preparation method used by ALS is not documented in detail, but samples were weighed on receipt, dried and pulverised using ALS method PUL-23 prior to analysis.

### 11.2.3 Analytical Methods

A total of 593 samples were sent to ALS and analysed by method ME-OG62 for P. The method involves a four-acid digestion followed by an AAS finish. The $P_2O_5$ content is directly calculated from the P content, whereby $P_2O_5$ = P x 2.291. Almost all samples submitted to ALS contained highly elevated phosphate contents due to the screening process

The samples collected for multielement analysis were also sent to ALS but were analysed using a different method ME-MS41. This method involves an aqua-regia digestion followed by an inductively coupled plasma mass spectrometry (ICP-MS) finish.

There was no relationship between the laboratory and the tenement holders other than a fee-for-service commercial agreement to analyse samples supplied by the tenement holder. The relevant Qualified Persons have not been able to verify what certification or accreditation that ALS held at the time the work was completed.

### 11.2.4 QA/QC Processes

The relevant Qualified Person understands that Krucible did not implement a specific QA/QC procedure to monitor the quality of the drilling sampling and analysis program.

ALS completed a number of routine QA/QC procedures on all batches it received, including the analysis of duplicate pulps and analysis of several different laboratory standards including blanks.

The relevant Qualified Person has reviewed the QA/QC results reported by ALS and considers that the reported results suggest no material concerns in the analytical procedures used by ALS. However, the relevant Qualified Person also notes that the ALS QA/QC procedures are designed to test analytical quality and are not designed to assess sample preparation and subsampling quality.

### 11.2.5 Security

There are no records describing security arrangements implemented by Krucible for the trench sampling and analysis.

### 11.2.6 Assessment

The relevant Qualified Person considers that the documentation sighted describing sample preparation procedures, analytical procedures, QA/QC systems, and security arrangements used in the RC drilling program undertaken by Krucible suggest there were inadequacies in some aspects of this work. Consequently, the relevant Qualified Person considers that drilling-related exploration undertaken by Krucible was not typical of procedures used generally within the exploration industry.

Phosphate is a bulk commodity, often measured in tens of percent. The relevant Qualified Person considers that concerns with the lack of drilling documentation and independent QA/QC systems are not as serious when compared with commodities where economically viable contents are measured in parts per million.

The relevant Qualified Person considers that these procedures are adequate to support Mineral Resource estimation.

# 12 DATA VERIFICATION

## 12.1 Qualified Person Site Visit

The relevant Qualified Person has visited the Property in February and July 2023, inspecting the general site conditions and local infrastructure, historical drilling sites (Figure 12-1), and surface exposures of phosphate mineralisation and host rocks (Figure 12-2).

Figure 12-1. Site visit confirmation of drill collars, February 2023.

*Source: Site visit to Property by Garry Edser, February 2023*

Figure 12-2. Surface exposure of phosphorite (foreground), February 2023.


*Source: Site visit to Property by Garry Edser, February 2023*

## 12.2 Resurvey of Drillhole Collar Co-ordinates

In June 2023, AM engaged Atkinson and Booy Surveys to undertake a drone-based LiDAR survey across the Property, locate all preserved drillhole collars at Korella North, and resurvey the positions of these collars in MGA 2020 Zone 54 with the GDA 2020 datum. All Krucible drillhole collars were located and a photographic record taken. Table 12-1 illustrates an example of the information collected by Atkinson and Booy Surveys.

Table 12-1. Example of drillhole collar verification.

| Drillhole ID | Easting (m) | Northing (m) | Elevation (m) | Collar Photograph |
|---|---|---|---|---|
| 09CBRC_-108 | 394752.9 | 7591773.8 | 311.7 |  |
| 09CBRC_-109 | 394705.8 | 7591875.9 | 307.4 |  |

*Source: Atkinson and Booy Surveys Excel spreadsheet, May 2023*

## 12.3 Data Review

AM has been provided a digital database comprising data and documentation of the exploration completed by Krucible. The relevant Qualified Person has reviewed this database and considers that the work completed by Krucible is well-documented and appears to have been completed to a standard commensurate with general industry practices.

## 12.4 Data Verification Findings

The relevant Qualified Person believes that the database is adequate for the estimation of Inferred and Indicated Mineral Resources according to CIM Definition Standards. However, a more thorough compilation of all past exploration activity, including the documentation describing procedures used in the drilling campaigns is required to raise the confidence in the quality of this data.

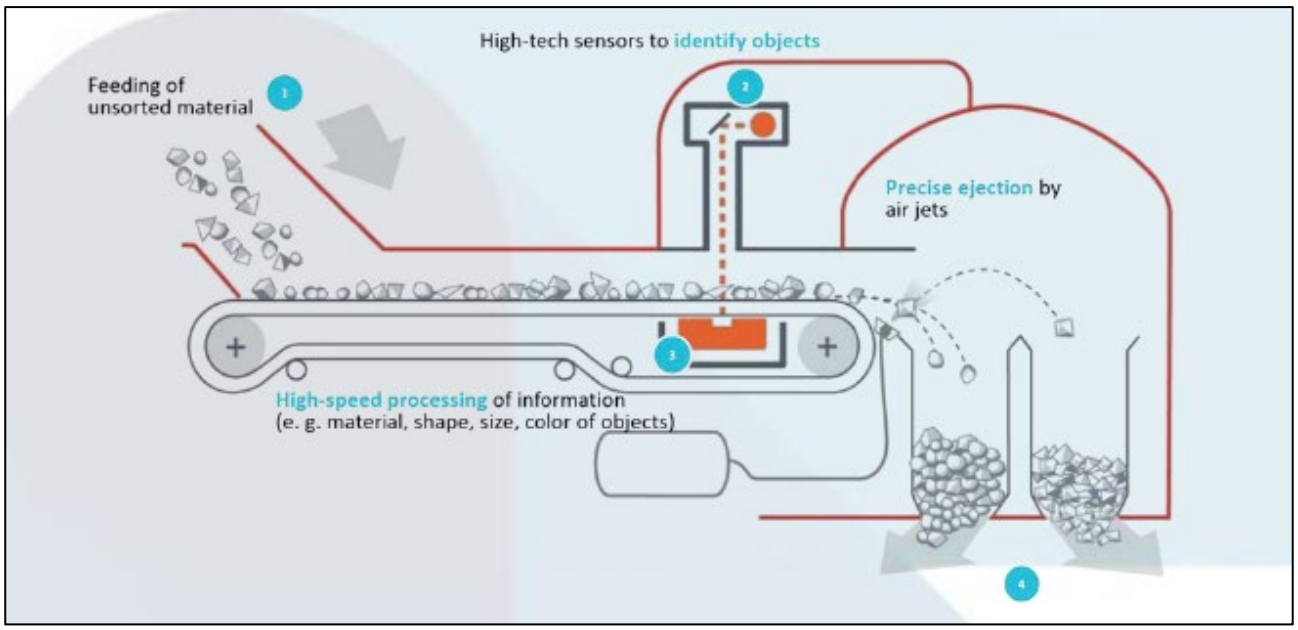
# 13 MINERAL PROCESSING AND METALLURGICAL TESTING

No formal metallurgical testing has been completed at the Property.

AM has completed preliminary testwork on a sample of phosphate mineralisation from the Korella phosphate deposit, located approximately 20 km south of the Property. This material is expected to be similar to the phosphate mineralisation from Korella North. The aim of this testwork was to determine if run-of-mine phosphate mineralisation can be beneficiated using an automated ore sorting method.

AM engaged Tomra Sorting Solutions (Tomra) to undertake this testwork using Tomra's COM Tertiary XRT system, which uses a broad-band electrical x-ray source. X-rays are applied to the material to be sorted while it is moving along a belt. The x-ray sensor system below the material produces a digital image of the material, using two different energy bands. After scanning and evaluation of the data, compressed air is used to eject the identified objects to one of the bays of the separation chamber. Depending on the classification, the selected particles are either ejected upwards by air jets or non-ejected (Figure 13-1). The system can be configured to blow out either the waste material or the product.

Figure 13-1. Schematic diagram of the Tomra COM Tertiary XRT System.




*Source: Tomra Sorting Solutions, September 2022*

AM provided Tomra with a bulk sample comprising 743 kg. This material was screened to two test fractions i.e., 8 – 25 mm, and 25 – 75 mm. Characterisation tests were undertaken to establish appropriate parameters to separate silica-rich waste material from phosphate-rich material in the run-of-mine feed.

The testwork demonstrated excellent potential for waste removal in several steps with various $P_2O_5$ grade/recovery options available based on the amount of waste removal that may be desirable. Tomra provided recommendations for further trials. Based on this preliminary testwork, AM considers that there is potential to upgrade low-grade phosphate mineralisation containing less than 15% $P_2O_5$ to a product containing more than 20% $P_2O_5$.

The relevant Qualified Persons consider that this testwork provides encouragement that Korella North phosphate mineralisation may be amenable to beneficiation, however tests will need to be undertaken directly on samples from Korella North to demonstrate that x-ray ore sorting technology is a technically and financially viable beneficiation option.

# 14 MINERAL RESOURCE ESTIMATE

## 14.1 Methodology

The process used by Derisk to prepare the Korella North Mineral Resource estimate comprised the following steps:

1. Digital and hardcopy drillhole data and surface trenching data were extracted from a master database then imported into Microsoft Access software for checking and validation.
2. Digital topographic survey data collected by LiDAR technology was reviewed and imported into the Vulcan software package.
3. Data validation checks were completed, focused on drillhole collar coordinates, trenching interval coordinates, and sampling/analysis data. Once source data was checked, modifications were applied to the master data sets accordingly.
4. Three-dimensional interpretations of lithology were created in Vulcan, based on the drillhole logs, trench mapping, and assays.
5. Statistical analysis of drillhole assay data and trenching assay data was completed and used to establish the optimum composite sample length and the creation of mineralisation domains for estimation based on lithology.
6. Drillhole and trench composites were generated for $P_2O_5$, followed by composite statistics and a variographic analysis of the data.
7. A three-dimensional block model was created in Vulcan, with some sub-celling of parent blocks used for volume accuracy, particularly near surface.
8. Estimation search parameters were developed and estimates were generated using the IDS method.
9. Block model validation comprised visual checking of block grades against composite values and other statistical checks.
10. Assignment of the Mineral Resource classification was completed, considering the confidence in the geological interpretation of the mineralisation, drillhole and trench spacing, sample density, and assessments of the integrity and robustness of the sample database.
11. A grade-tonnes distribution was produced to illustrate the sensitivity of the estimate to different cut-off criteria.
12. Criteria to support the reasonable prospects for eventual economic extraction were assessed and an appropriate cut-off criterion was selected for reporting Mineral Resources.

The relevant Qualified Person has reviewed and assessed the data inputs, estimation parameters, and reporting criterion for Korella North and reported the Mineral Resource using the 2014 CIM Definition Standards at an effective date of 11 August 2023.

## 14.2 Resource Inputs

### 14.2.1 Drillhole and Trench Data

Drilling is comprised solely of RC drilling completed by Krucible in 2009. A total of 30 drillholes (1,008 m) have been used in the current resource estimate, although seven of these fall outside of the Property (Table 14-1). In addition, 10 surface trenches completed by Krucible in 2008 have also been included in the resource estimate.

Table 14-1. Korella North resource input data.

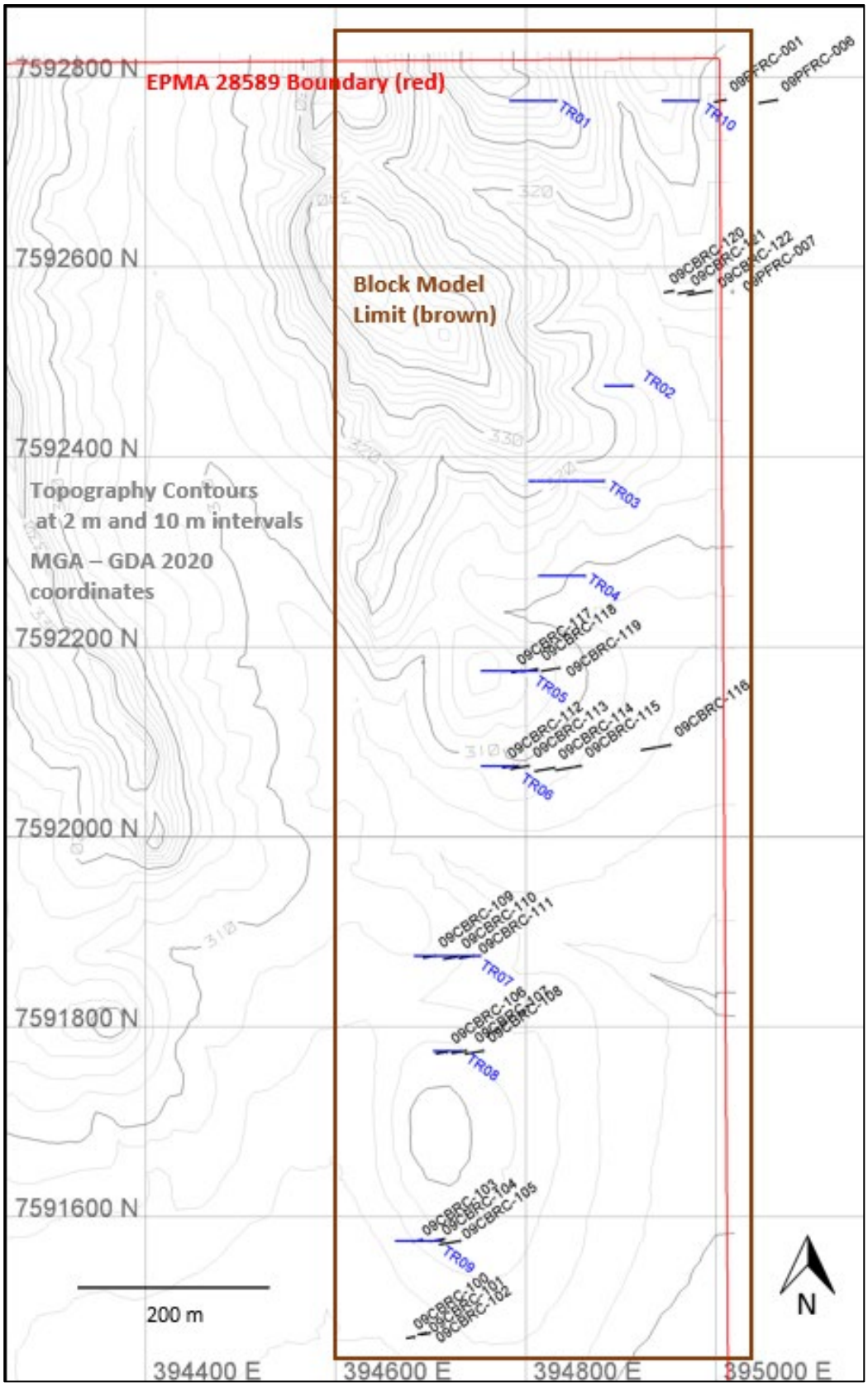
| Data Type | Prefix | No. of holes or trenches | Total depth/length (m) | Average depth/length (m) | $P_2O_5$ samples | Radiometric samples |
|---|---|---|---|---|---|---|
| Drilling * | 09PFRC | 7 | 242 | 34.6 | 131 | 64 |
| Drilling | 09CBRC | 23 | 766 | 33.3 | 462 | 762 |
| Trench | TR | 10 | 499 | 49.9 | 254 | 497 |
| Drilling & Trench | 09CBRC & TR | 33 | 1,265 | 38.3 | 716 | 1,259 |

*Note: * These drillholes fall outside of EPMA 28589 but were used in the interpretation and grade estimation process.*

The drilling data consists of lines spaced from 100 – 400 m apart along strike with most lines containing a fence of three drillholes angled steeply to the west to test the shallow east-dipping MCPM (Figure 14-1). The trench data consists of ten lines spaced 100 – 300 m apart along strike with samples collected at 1.0 m

intervals. Drillhole and trench information was originally recorded in the AGD66 Zone 54 grid coordinate system but has been converted to MGA 2020 Zone 54 with the GDA 2020 datum.

Figure 14-1. Plan view of RC drillhole and trench locations, with surface topography contours.




*Source: Derisk, 2023*

### 14.2.2 Topography and Drillhole Surveys

A subset of 2.0 m contours and key spot heights from the 2023 LiDAR survey was used to create a topographic surface for the Korella North area. Trenches were draped over the topographic surface to provide more accurate elevations. There are no downhole drillhole surveys.

### 14.2.3 Geological and Mineralisation Interpretation

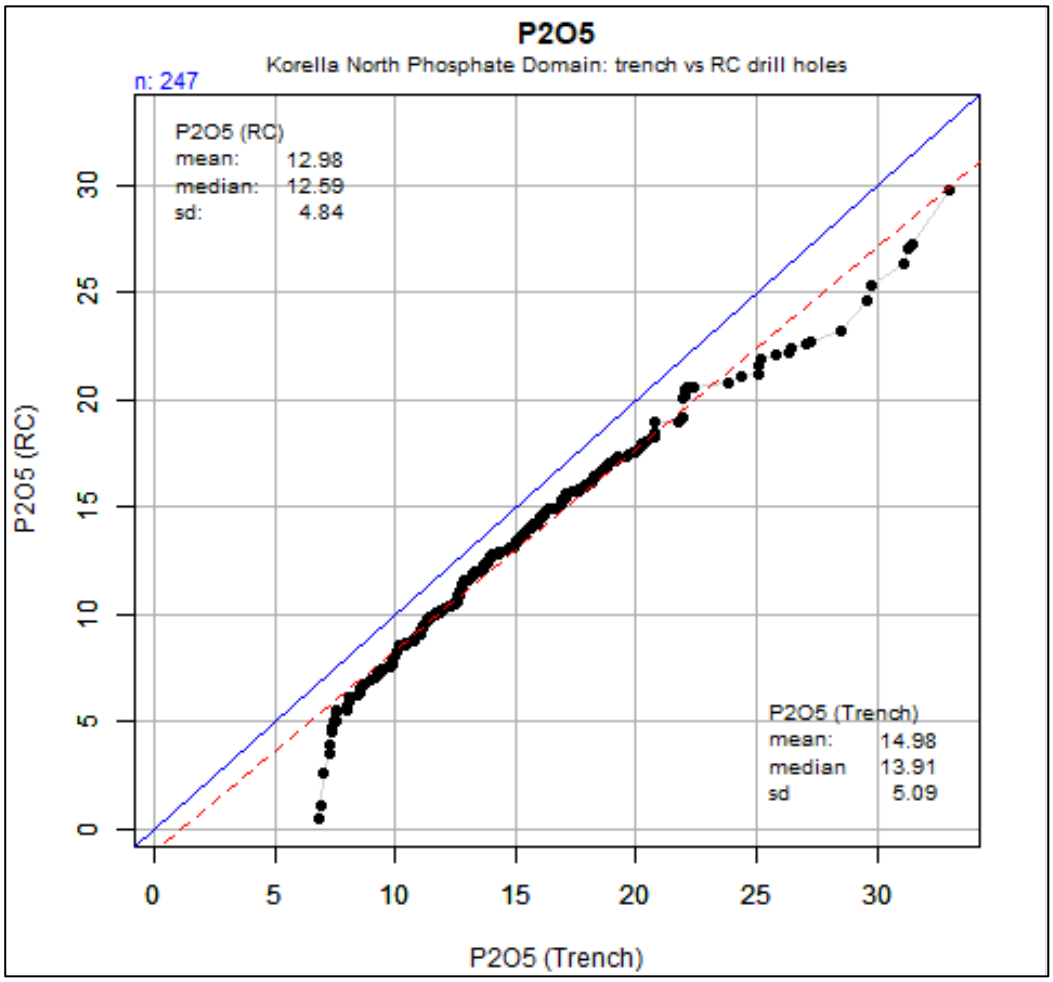
Most phosphate mineralisation is confined to the MCPM of the Beetle Creek Formation. Derisk created a MCPM lithological domain based on surface mapping, MCPM trench mapping and analyses, and drillhole logging data and analyses. Minor adjustments were made to the hangingwall and footwall contacts. In addition, a near-surface weathering-related blanket was created within the MCPM domain to represent an enriched supergene zone based on an analysis of the trench and drillhole geochemistry, as described below.

## 14.3 Data Analysis

### 14.3.1 Trench and Drillhole Assay Data

All trench and RC samples are 1.0 m in length. Derisk reviewed the phosphate grade distribution within both populations to assess the potential of using the trench data to complement the drillhole data to estimate the Mineral Resource. Figure 14-2 is a quantile-quantile plot (Q-Q plot) comparing the RC and trench analyses and clearly shows that the trench data (mean of 14.98% $P_2O_5$) is higher grade than the RC data (mean of 12.98% $P_2O_5$).

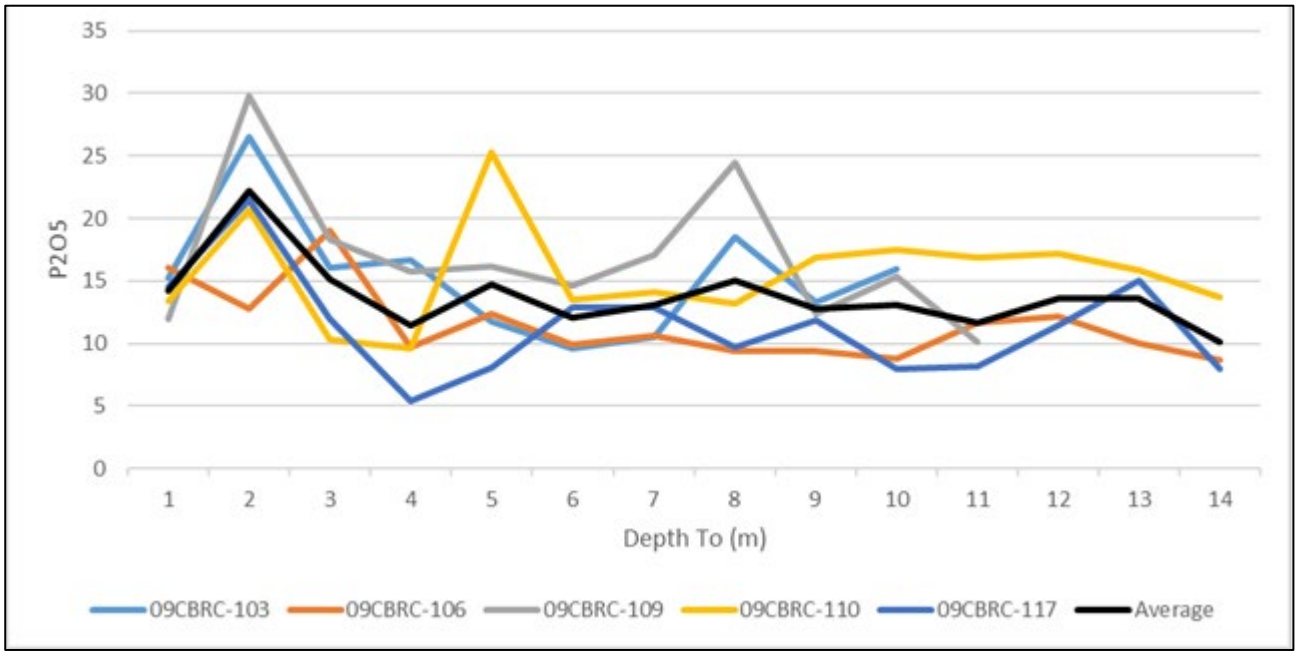
Figure 14-2. Q-Q plot of RC data vs trench data for $P_2O_5$.




*Source: Derisk, 2023*

Six RC drillholes are collared in the MCPM and an analysis of phosphate grade with depth in these holes suggests there is a thin surface enrichment blanket (Figure 14-3). Derisk elected to create a 3 m thick surface within the MCPM in order to constrain the higher-grade trench samples and very shallow drillhole intervals.

Figure 14-3. Phosphate grade with drillhole depth in holes collared in MCPM.




*Source: Derisk, 2023*

### 14.3.2 Sample Recovery

No statistical analysis of sample recovery was undertaken because there were no drilling records documenting recovery for the RC drilling. The relevant Qualified Person acknowledges that the lack of sample recovery statistics is a potential risk area to the Mineral Resource estimate, however phosphate is a bulk commodity and the risk is considered to be relatively low.

### 14.3.3 Compositing

All RC samples and all trench samples are 1.0 m in length and Derisk adopted a 1.0 m composite length.

Derisk created a hangingwall waste domain corresponding with the Inca Formation (Domain 10) and a footwall waste domain corresponding with the Lower Siltstone Member (Domain 30). Within the MCPM, Derisk created two domains i.e., a fresh MCPM horizon (Domain 20) and a thin near surface weathered MCPM horizon (Domain 21).

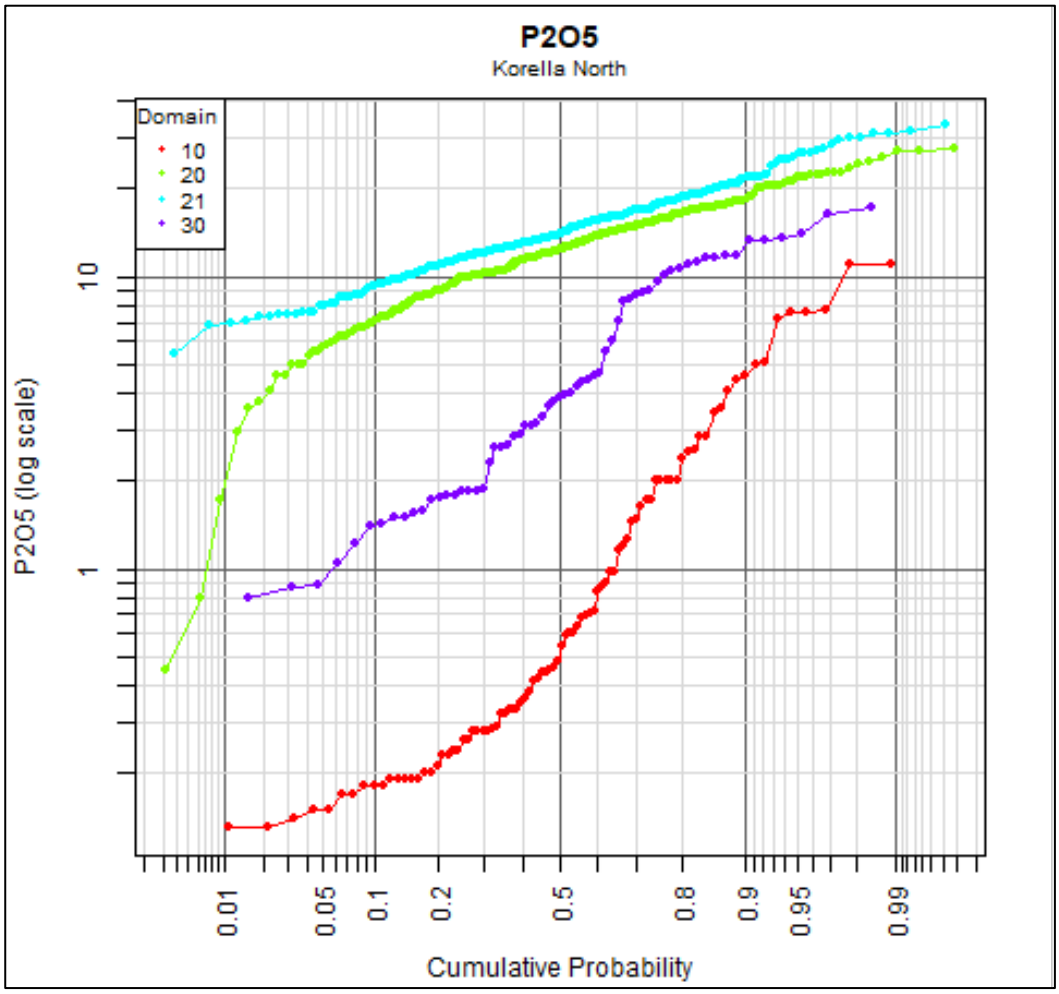
Table 14-2 presents $P_2O_5$ statistics for all domains and Figure 14-4 presents cumulative probability plots. These clearly illustrate that the small number of RC composites lying within the weathered MCPM domain are higher grade than the RC samples within the fresh MCPM, and that the weathered surface blanket is enriched in phosphate.

Table 14-2. Composite statistics for $P_2O_5$ by domain.

| Domain | Description | Data Type | No. Composites | Minimum (%) | Maximum (%) | Mean (%) | Coefficient of Variation |
|---|---|---|---|---|---|---|---|
| 10 | Hangingwall | All | 90 | 0.1 | 11.0 | 1.5 | 1.5 |
| 20 | MCPM Fresh | RC | 316 | 0.5 | 27.3 | 12.8 | 0.4 |
| 21 | MCPM Weathered * | RC | 20 | 5.4 | 29.8 | 15.8 | 0.4 |
| | | Trench | 247 | 6.8 | 33.0 | 15.0 | 0.3 |
| | | All | 267 | 5.4 | 33.0 | 15.0 | 0.3 |
| 30 | Footwall | All | 63 | 0.8 | 17.4 | 5.7 | 0.8 |

*Note: * This domain is 3 m thick and parallel with the surface topography*

Figure 14-4. Cumulative probability plot for all $P_2O_5$ data in each domain.




*Source: Derisk, 2023*

### 14.3.4 Grade Capping

A review of the phosphate analyses was undertaken to determine if grade capping of high grades was warranted. Based on this review, and in the absence of any extreme high grades, no grade capping was applied to the composite data.

### 14.3.5 Variography

Structured variograms are present for all assay data using all domains, however when assessed for Domain 20 and 21 the variograms structure become shorter. Downhole ranges for the RC drilling are only 2 m and extend to 6 m for trenches, which are less perpendicular to the geological dip i.e., a partially down dip orientation. Downdip variograms indicate a range of 75 m. This also fits the wider spaced strike (north-south) direction where the minimum drillhole spacing is 100 m.

The relatively short variograms structures suggest there is reduced opportunity to be selective without greater drill definition than currently provided at 100 m by 30 m centres. This is slightly at odds with visual assessment of the samples that indicates a central band of lower grade. Further work will be required to better understand the internal grade variations within the MCPM.

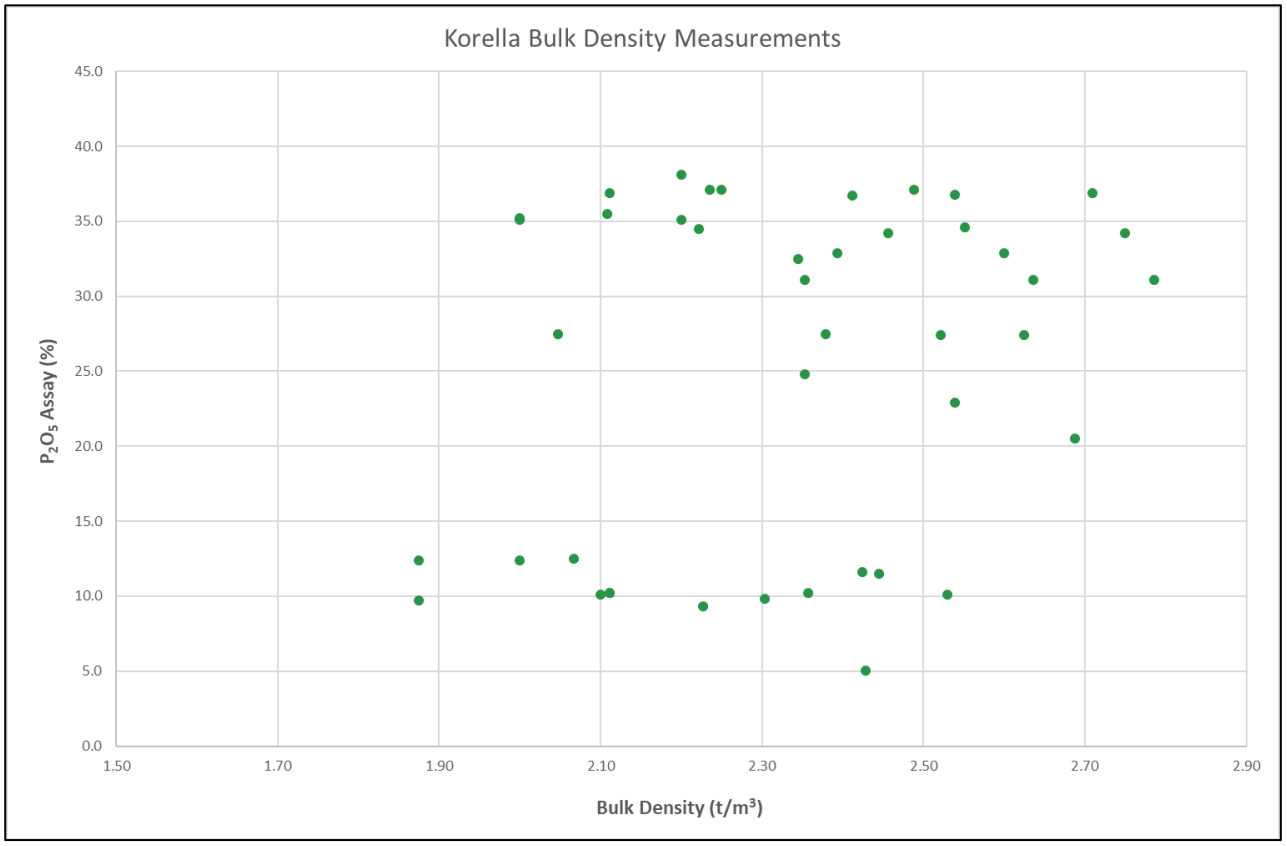
### 14.3.6 Bulk Density

No direct bulk density (BD) determinations have been measured from any samples at Korella North. However, Krucible measured BD on diamond drill core from the Korella deposit 20 km to the south, which is in the same formation as Korella North.

A total of 43 measurements of whole core from five diamond drill holes were documented by Krucible at Korella. Core lengths ranged from 10.0 – 19.0 cm and BD was measured using a water displacement method.

Krucible wrapped the core in cling wrap prior to water immersion to prevent disintegration of the sample. Figure 14-5 presents a scatter plot of measured BD versus phosphate grade. Each length of core was nominally assigned the average phosphate grade of the sample interval it came from and as such may not be accurate if the material making up the sample interval was heterogeneous.

Figure 14-5. Cumulative probability plot for all $P_2O_5$ data in each domain.




*Source: Krucible digital data records*

The BD data shows the samples cover two distinct grade populations i.e., 5 – 12% $P_2O_5$ and 20 – 38% $P_2O_5$. No obvious relationship is visible between BD and phosphate grade except that the average BD of the higher-grade samples overlaps but is higher than the average BD of the lower-grade samples. Table 14-3 summarises the BD statistics and indicates a mean of 2.33 t/m$^3$.

Table 14-3. Korella bulk density measurement statistics.

| Number | Minimum (t/m$^3$) | Maximum (t/m$^3$) | Mean (t/m$^3$) | Mode (t/m$^3$) | Median (t/m$^3$) | Standard Deviation |
|---|---|---|---|---|---|---|
| 43 | 1.87 | 2.79 | 2.33 | 2.11 | 2.35 | 0.24 |

*Source: Krucible digital data records*

The relevant Qualified Person makes the following observations:

- BD measurements made on competent pieces of core can potentially result in a bias if there is also substantial material that is friable and cannot be measured the same way. Typically, this can lead to a BD that is too high.
- The use of cling wrap to protect the core from disintegration during water immersion can sometimes result in air bubbles being retained inside the cling wrap, leading to an inaccurate BD measurement.
- BD estimates used for other Georgina Basin phosphate deposits hosted in the MCPM or local equivalents typically report a lower mean BD than 2.33 t/m$^3$ (Qualified Person personal knowledge). The relevant Qualified Person notes that BD estimates for the phosphate mineralisation of four other deposits in the Georgina Basin range from 1.70 – 2.25 t/m$^3$.

The relevant Qualified Person considers that it is appropriate to apply a mean BD of 2.0 t/m$^3$ to individual blocks coded as Domain 20 and 21 within the model for the Korella North Mineral Resource estimate. The

lack of direct BD measurements at Korella North represents a technical risk if the actual BD is less than 2.0 t/m$^3$, and an opportunity if the actual BD is greater than 2.0 t/m$^3$.

## 14.4 Resource Estimation

### 14.4.1 Block Model Set-up

The Mineral Resource estimate for Korella North was prepared on the assumption that the mineralisation will be amenable to open pit mining methods.

The block model is in the MGA 2020 Zone 54 with the GDA 2020 datum grid with dimensions listed in Table 14-4. The parent block size is smaller than is supported by the drillhole spacing. It does not reflect any assumptions of selectivity and was selected principally to allow some cross strike resolution given the shallow easterly dip and slight changes in strike direction. Subblocks of 1 m vertically were adopted to provide reasonable topography and Domain 21 volume resolution and accuracy.

Table 14-4. Block model extents.

| | East | North | RL |
|---|---|---|---|
| Minimum MGA Coordinate | 394600 | 7591450 | 260 |
| Maximum MGA Coordinate | 395040 | 7592850 | 360 |
| Model Extent (m) | 440 | 1,400 | 100 |
| Block Size (m) | 5 | 10 | 2 |
| Subblock Size (m) | 5 | 10 | 1 |

*Source: Derisk, 2023*

The block model dimensions were restricted by the topographic surface based on block centroids below this surface. Blocks beyond the EPMA boundary were discarded.

Geological domains 10, 20, and 30 were assigned based on the modelled surfaces for the top and bottom of Domain 20. Domain 21 was assigned for all Domain 20 blocks within 3 m of the LiDAR topography survey model.

### 14.4.2 Estimation Parameters

Domain wireframe models reflect surface mapping as well as drilling and trench intercepts. Also, there are slight changes in strike direction and modelled dip. Simple unfolding was used to improve the sample selection for all estimation. This was applied using locally assigned search orientations based on the top and bottom surfaces for Domain 20. For the near surface enrichment (Domain 21), a horizontal orientation was assumed due to the thinness of the domain.

Block phosphate grades were estimated using IDS and Vulcan software. Phosphate was estimated into Domains 20 and 21 in a single search pass with parameters listed in Table 14-5 and orientations as described above. IDS used a 1 to 10 flattening anisotropy for Domain 20 and an isotropic anisotropy for Domain 21.

Table 14-5. Phosphate grade estimation search parameters.

| Domain | X Search (m) | Y Search (m) | Z Search (m) | Minimum No. of Composites | Maximum No. of Composites | Maximum Composites Per Hole | Maximum Composites Per Octant | Maximum Drill holes |
|---|---|---|---|---|---|---|---|---|
| 20 | 300 | 90 | 25 | 3 | 16 | 4 | 4 | 4 |
| 21 | 300 | 90 | 90 | 3 | 16 | 4 | 4 | 4 |

*Source: Derisk, 2023*

### 14.4.1 Model Validation

Validation of the estimation was undertaken by visual checks of the model versus drillhole composite grades, and analysis of model versus composite statistics (Table 14-6). These checks indicate that the block model fairly represents the grades observed in the drillhole composites.

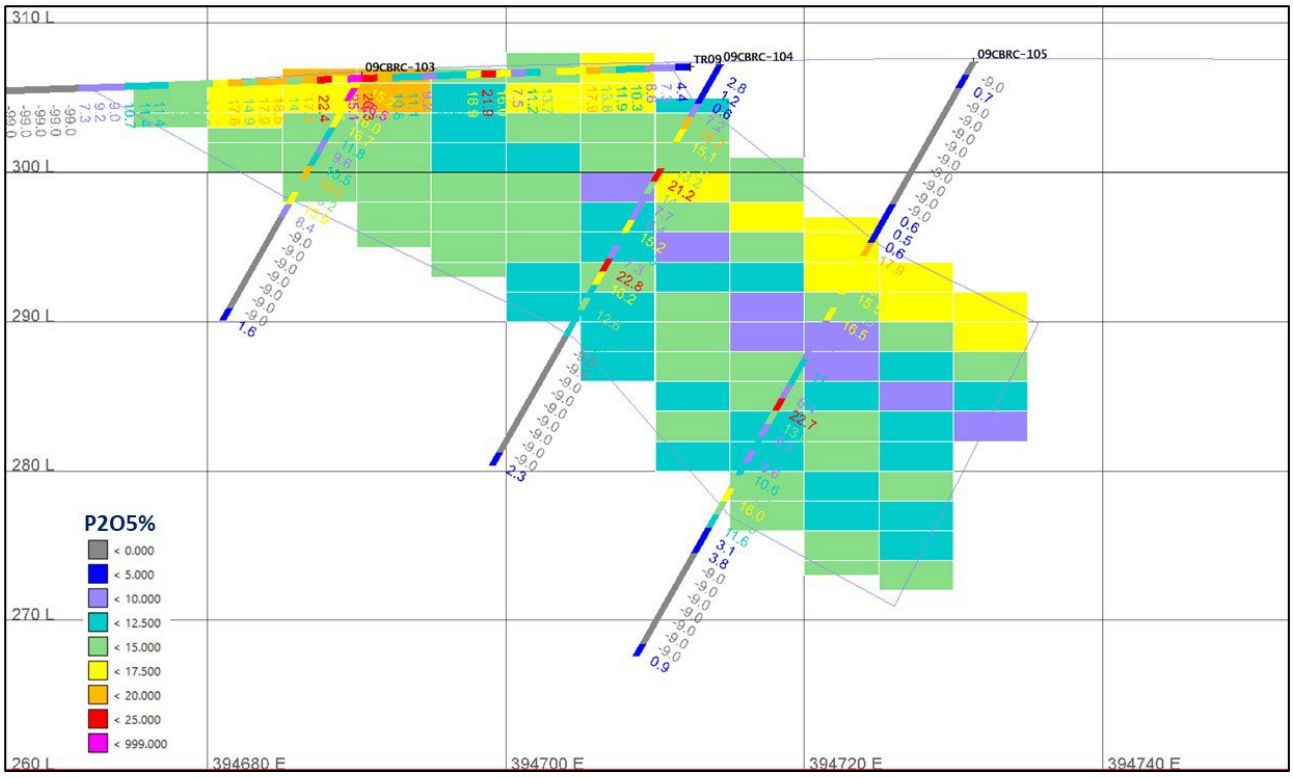
Figure 14-6 to Figure 14-8 present three cross sections through the model comparing block model grades with drillhole and trench composite grades.

Table 14-6. Phosphate grade estimation validation – composites vs block model statistics.

| Domain and Description | Composites – $P_2O_5$ | | | Model – $P_2O_5$ | | | Difference (%) |
|---|---|---|---|---|---|---|---|
| | Minimum (%) | Maximum (%) | Mean (%) | Minimum (%) | Maximum (%) | Mean (%) | |
| 20 MCPM Fresh | 0.5 | 27.3 | 12.8 | 2.9 | 24.0 | 12.6 | -1.3% |
| 21 MCPM Weathered | 5.4 | 33.0 | 15.0 | 7.8 | 28.6 | 14.7 | -2.1% |

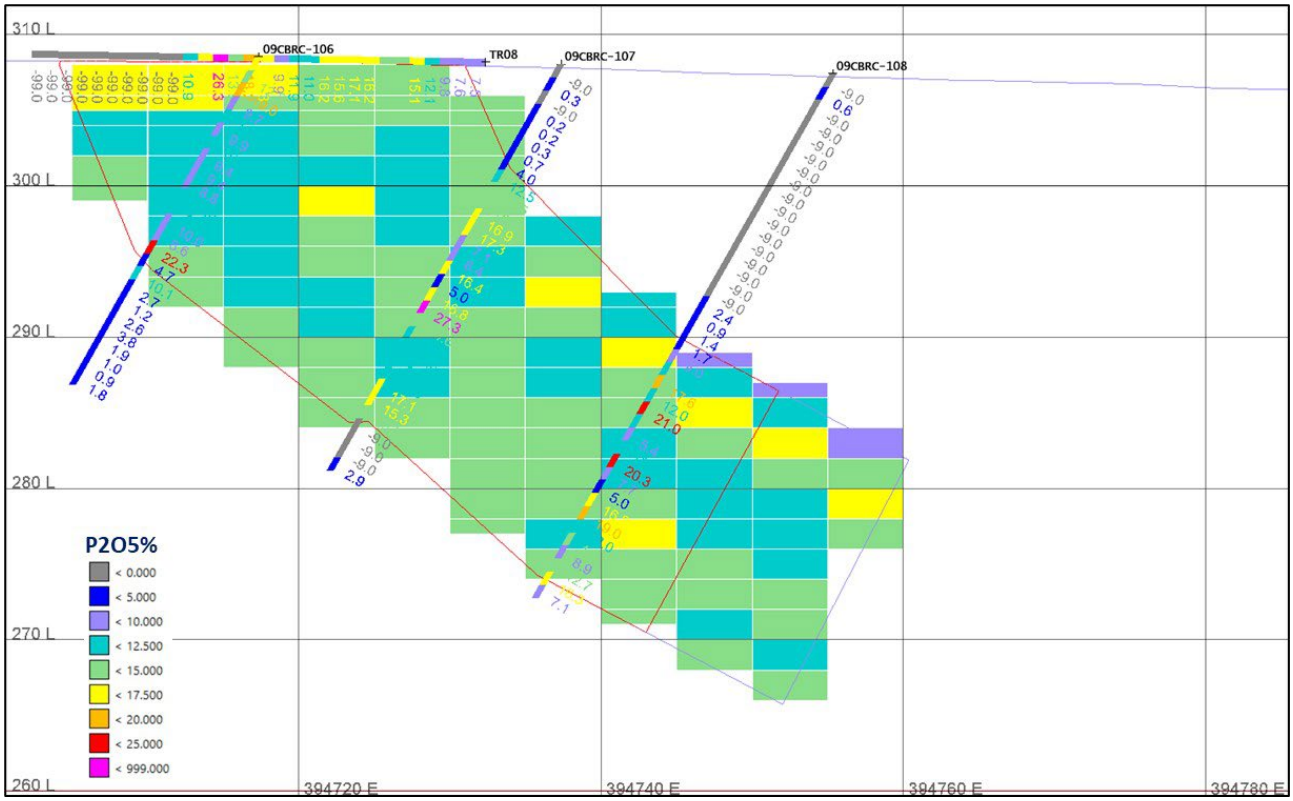
*Source: Derisk, 2023*

Figure 14-6. Cross section at 7591575 mN showing trench data, drillhole data, and block model grades.



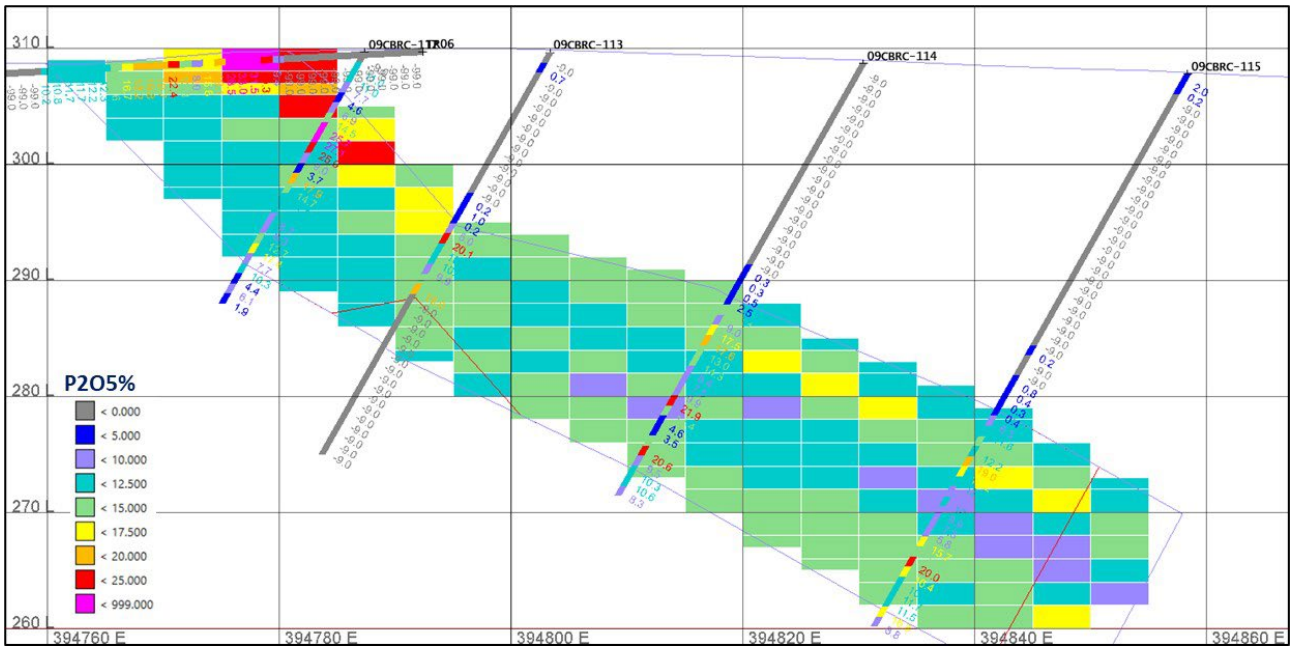

*Source: Derisk, 2023*

Figure 14-7. Cross section at 7591780 mN showing trench data, drillhole data, and block model grades.




*Source: Derisk, 2023*

Figure 14-8. Cross section at 7592075 mN showing trench data, drillhole data, and block model grades.




*Source: Derisk, 2023*

### 14.4.2 Classification

Classification of the estimate considered a range of factors including geological and mineralisation controls and interpretation, trench and drilling density, and data input quality. Some of the deficiencies associated with some of the data inputs include:

- Uncertainties associated with data collection protocols for the RC drilling campaign.
- Uncertainties associated with QA/QC protocols and systems used for the RC drilling and trenching campaigns.
- Lack of direct BD measurements.

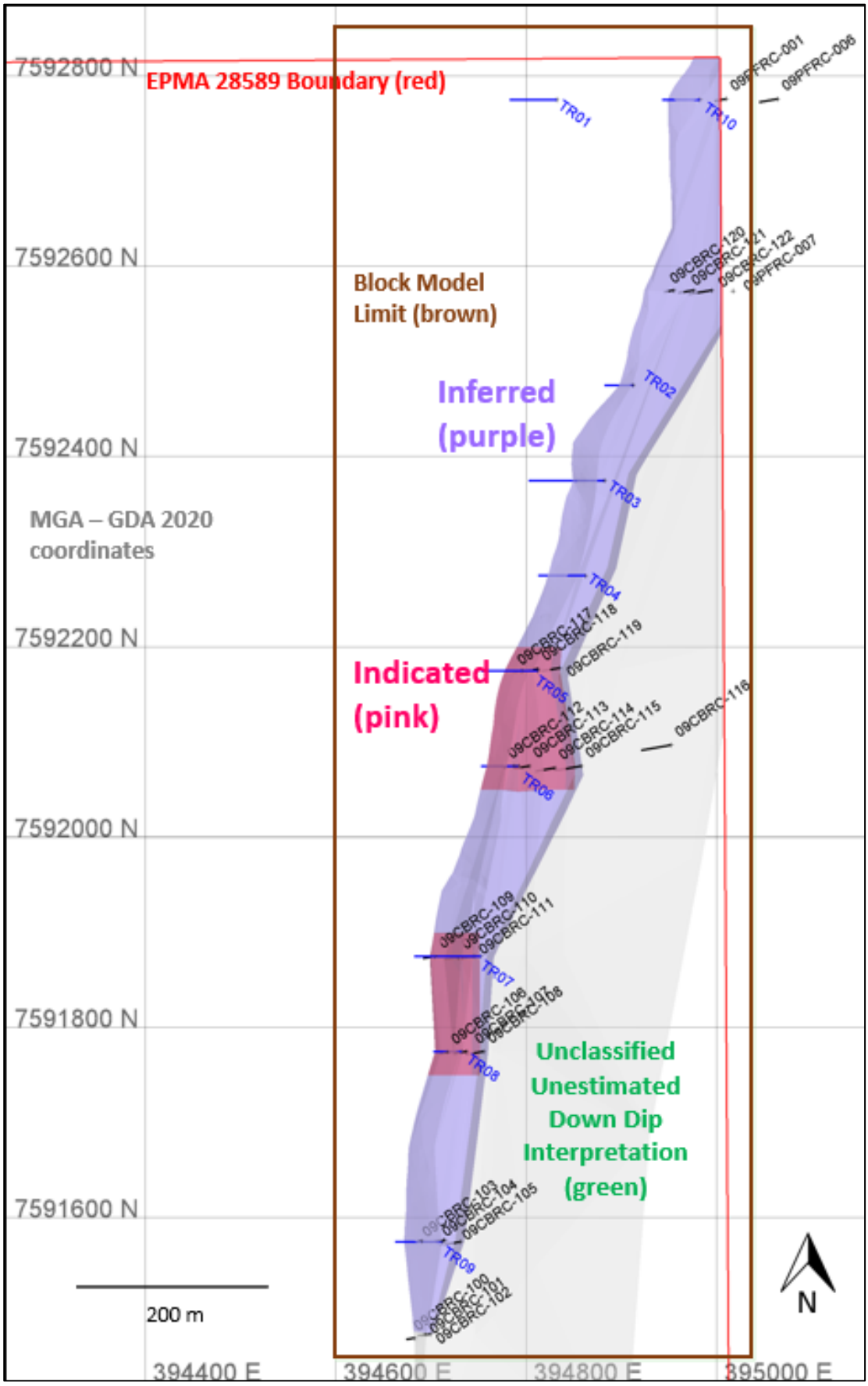
The CIM definition Standards define Indicated and Inferred Resources as follows:

- "An Indicated Mineral Resource is that part of a Mineral Resource for which quantity, grade or quality, densities, shape and physical characteristics are estimated with sufficient confidence to allow the application of Modifying Factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Geological evidence is derived from adequately detailed and reliable exploration, sampling and testing and is sufficient to assume geological and grade or quality continuity between points of observation".
- "An Inferred Mineral Resource is that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity. An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve".

The relevant Qualified Person considers that there is adequate confidence to classify two areas as Indicated Resources where the drilling and trench data are at a spacing of approximately 100 m by 30 m, with extrapolation of 10 m down dip and 25 m along strike. Inferred Resources have been classified for the drill defined areas with up to 400 m spacing, with mapping and trenching support, and extrapolation of 25 m down dip and 50 m along strike. This assessment is based on the relevant Qualified Persons experience with similar sediment-hosted phosphate deposits in the Georgina Basin.

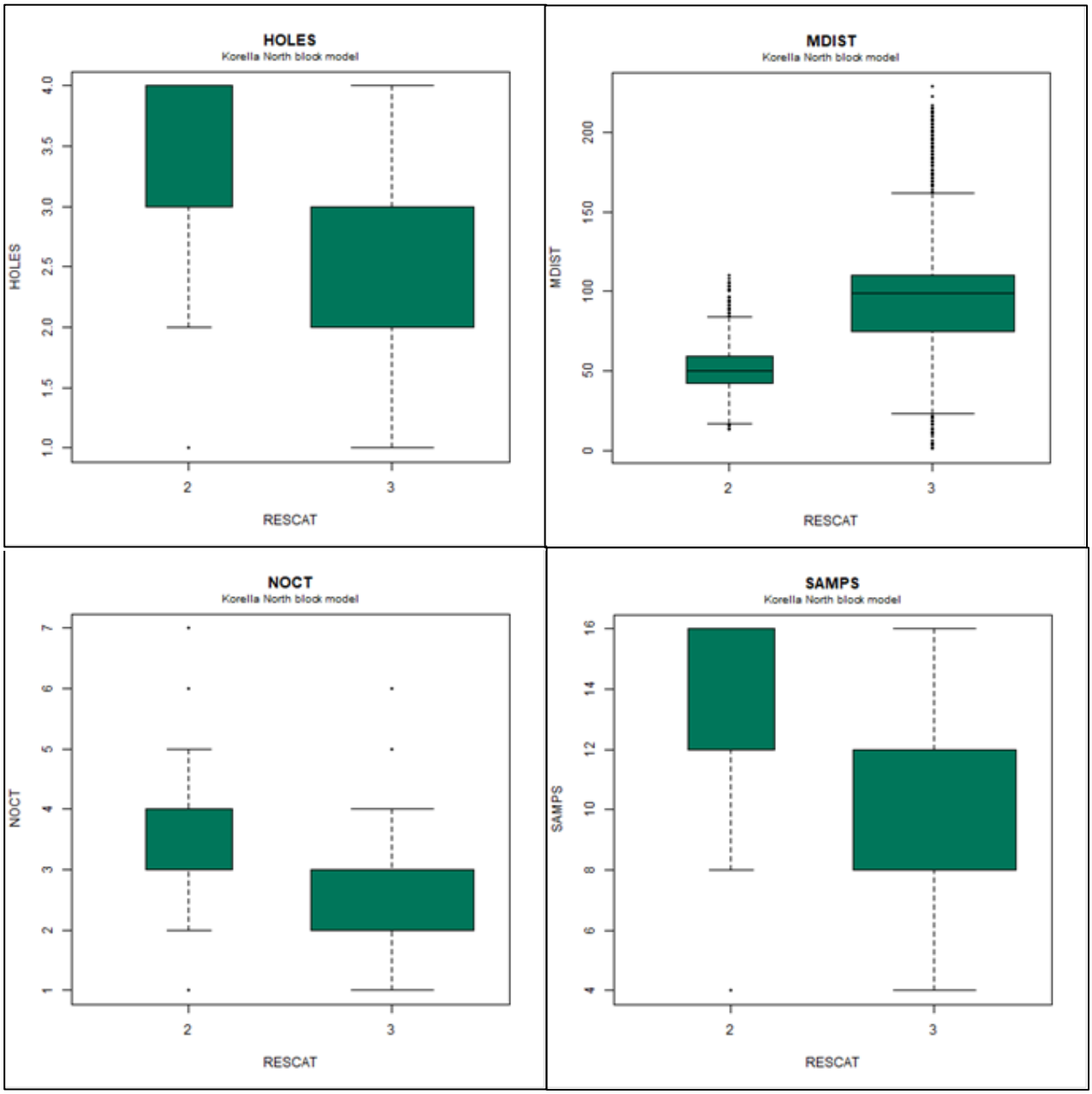
Figure 14-9 illustrates a plan view of the model extents and resource classification and highlights that the resource is constrained by the EPMA boundary at the northern end. Figure 14-10 shows estimation statistics for Indicated vs Inferred Resources and highlights that the data density and spacing supporting Indicated Resources is significantly better than the density and spacing of Inferred Resources.

Figure 14-9. Plan view of interpretation and classification wireframes.




*Source: Derisk, 2023*

Figure 14-10. Estimation statistics for Indicated (Rescat=2) and Inferred (Rescat=3) Resource classification.




*Source: Derisk, 2023*

*Notes: Top LHS – The number of holes and trenches used in the block estimate*
*Top RHS – The mean distance of all samples used in the block estimate*
*Bottom LHS – The number of octants around the block centroid contributing composites to the estimate*
*Bottom RHS – The number of composites used in the block estimate*

## 14.5 Mineral Resource Estimate

### 14.5.1 Grade – Tonnes Relationship

The Korella North Mineral Resource has been estimated using a constrained methodology within the main rock type that hosts phosphate mineralisation. This approach means that it is possible to create grade-tonnes tables (Table 14-7) that show the sensitivity to changes in the cut-off criterion used to report the Mineral Resource estimate. As the cut-off criterion rises from 0% to 10% $P_2O_5$, there is little change in tonnes and grade, however once the cut-off criterion rises above 10% $P_2O_5$, the resource tonnage falls rapidly.

Table 14-7. Block model estimate using various cut-off criteria.

| Cut-off ($P_2O_5$ %) | Indicated | | Inferred | |
|---|---|---|---|---|
| | Tonnes (M) | $P_2O_5$ grade (%) | Tonnes (M) | $P_2O_5$ grade (%) |
| 0 | 0.7 | 12.8 | 2.2 | 12.8 |
| 8 | 0.6 | 12.8 | 2.2 | 12.8 |
| 9 | 0.6 | 12.9 | 2.2 | 12.9 |
| 10 | 0.6 | 13.1 | 2.1 | 13.0 |
| 11 | 0.5 | 13.4 | 1.8 | 13.3 |
| 12 | 0.4 | 14.0 | 1.4 | 13.9 |
| 13 | 0.3 | 14.8 | 0.9 | 14.6 |
| 14 | 0.2 | 15.6 | 0.5 | 15.5 |
| 15 | 0.1 | 16.4 | 0.3 | 16.4 |

*Source: Derisk, 2023*

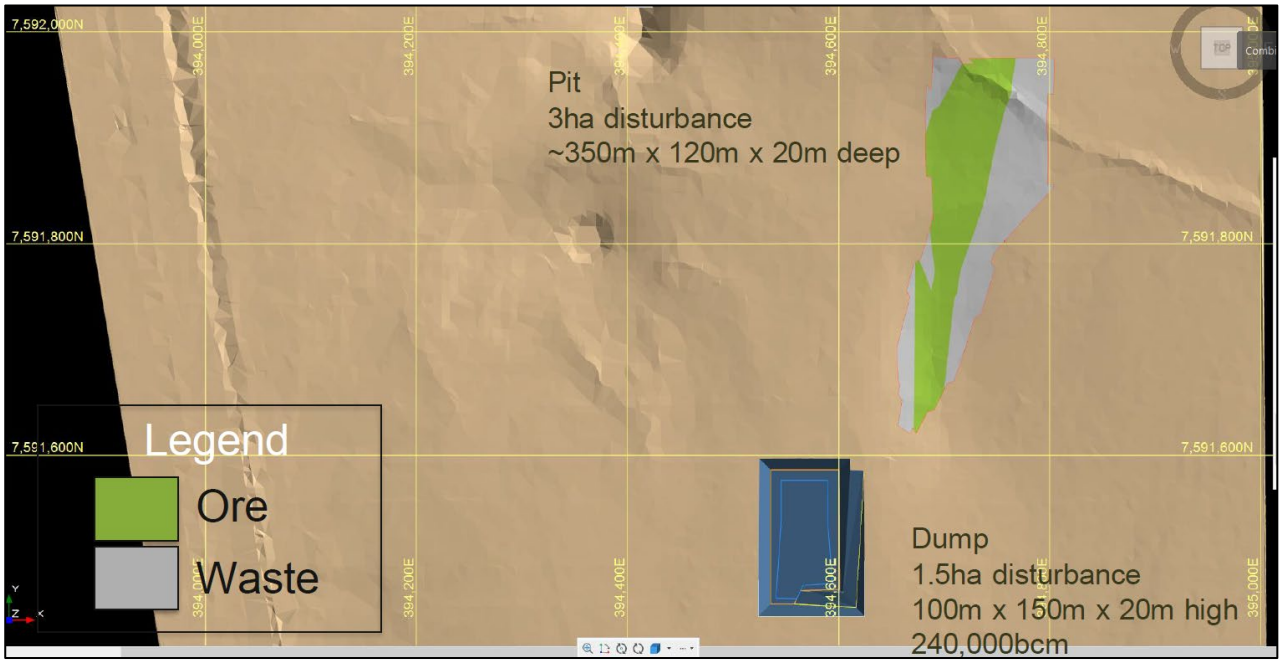
### 14.5.2 Cut-off Criterion for Reporting

The relevant Qualified Person has reviewed the Korella North Mineral Resource estimate in the context that there must be reasonable prospects for eventual economic extraction. The Mineral Resource model is restricted to 260 mRL, about 50 m below surface as well as 25 m down dip extrapolation. These constrain the estimates to areas potentially suitable for open pit mining.

AM has advised Derisk that it is assessing the opportunity to establish a selective open pit mining and beneficiation operation with the objective of producing a direct shipping product grading 20% $P_2O_5$ for an international client. The Company plans to selectively mine and separate individual units within the MCPM to generate several different grade-based stockpiles to facilitate blending and/or beneficiation using the Tomra ore sorting technology. The grade ranges planned include material >30% $P_2O_5$, material grading from 20 – 30% $P_2O_5$, material grading from 15 – 20% $P_2O_5$, and material grading from 10 – 15% $P_2O_5$.

AM engaged a mining contractor to complete a conceptual mining design based on assumptions of 3.5 m benches, 77 t trucks, 100 t excavator, and a maximum disturbance area of 5 hectares to demonstrate there are reasonable prospects for economic extraction of phosphate from Korella North. This conceptual work identified that there is potential for a direct shipping operation at Korella North (Figure 14-11).

Figure 14-11. Korella North conceptual pit and dump area design.




*Source: Golding, 2023*

Based on the results of the conceptual mining study and supported by the preliminary beneficiation testwork completed by the Company at its Korella deposit, the relevant Qualified Person considers it is appropriate to apply a cut-off criterion of 10% $P_2O_5$ for reporting at Korella North.

### 14.5.3 Mineral Resource Statement

Table 14-8 presents the Korella North Mineral Resource estimate reported at a cut-off criterion of 10% $P_2O_5$. The relevant Qualified Person concludes that the factors assessed and documented in the preceding sections demonstrate that there are reasonable prospects for eventual economic extraction. Furthermore, the relevant Qualified Person is not aware of any non-technical issues such as environmental, permitting, legal, title, taxation, socio-economic, marketing, political, or other relevant factors that are likely to prevent the reporting of a Mineral Resource for Korella North.

Table 14-8. Korella North Mineral Resource as at 11 August 2023 reported using a cut-off criterion of 10% $P_2O_5$.

| Classification | Tonnes (M) | $P_2O_5$ grade (%) | Contained $P_2O_5$ (t) |
|---|---|---|---|
| Measured | - | - | - |
| Indicated | 0.6 | 13.1 | 80,000 |
| Measured plus Indicated | 0.6 | 13.1 | 80,000 |
| Inferred | 2.1 | 13.0 | 275,000 |

*Notes: 1. In situ resources reported at a cut-off criterion of 10% $P_2O_5$.*
*2. Figures have been rounded to reflect the relative uncertainty in the estimate.*

## 14.6 Comparison with Previous Estimates

There have been no previous estimates of Mineral Resources publicly reported for Korella North.

## 14.7 Exploration Potential

The phosphate mineralisation at Korella North has been modelled over a strike length of 1.3 km. The sedimentary sequence hosting the phosphate dips on average at approximately 30° to the east and drill testing to date has tested a depth extent of some 50 m below surface. At the northern end of the deposit, mineralisation extends outside of the EPMA, however in the central and southern part of the deposit, there is potential to extend the Mineral Resource down dip.

# 15 MINERAL RESERVE ESTIMATES

A portion of the Korella North Mineral Resource estimate has been classified as Indicated. However, inadequate work has been completed to assess the Modifying Factors as defined by the CIM Definition Standards i.e., mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors, to enable the conversion of any of the Indicated Mineral Resource to a Mineral Reserve.

# 16 MINING METHODS

If a viable mining project can be established at Korella North, mining will be by open pit methods.

# 17 RECOVERY METHODS

There has been some preliminary metallurgical testwork to assess beneficiation methods that may be appropriate to upgrade raw feed to generate a product suitable for direct shipping.

# 18 PROJECT INFRASTRUCTURE

The Property is located approximately 125 km south-southeast of Mount Isa in northwest Qld. Mount Isa is the main administrative, commercial, and industrial centre for the state's northwest region. Access from Mount Isa to the Project is via public sealed and unsealed roads, then by a network of unsealed private tracks.

The Property is adjacent to the Phosphate Hill mine and processing facility, which was established in 1999. Consequently, there is significant local infrastructure, which includes a gas pipeline, a railway, and sealed and unsealed roads suitable for heavy vehicle transport that are all located within 2 km of the Property.

# 19 MARKET STUDIES AND CONTRACTS

The Company has commenced discussions with potential customers for the supply of a direct shipping product containing 20% $P_2O_5$, however Derisk understands that no formal agreements have been signed. The relevant Qualified Person considers that there is likely to be opportunities to sell specific products generated from a viable mining operation at Korella North.

# 20 ENVIRONMENTAL STUDIES, PERMITTING, AND SOCIAL AND COMMUNITY IMPACT

As at the effective date of this Report, AM has commenced preparations for submitting a Mining Lease application over the eastern portion of the Property. The Mining Act permits the application of a Mining Lease, which is not dependent on the grant of EPM 28589.

# 21 CAPITAL AND OPERATING COSTS

There is no Mineral Reserve at Korella North, and no detailed technical study has been undertaken to assess the likely capital and operating costs to establish and operate a mining operation.

# 22 ECONOMIC ANALYSIS

There is no Mineral Reserve at Korella North and no economic analysis has been undertaken.

# 23 ADJACENT PROPERTIES

## 23.1 Phosphate Hill Mine

The Phosphate Hill mine, owned by IPL, is located immediately west of the Property. The mining operation and associated fertiliser production plant commenced operation in 1999 at an annual mining rate of 2 Mt of phosphorite ore to produce approximately 1.0 Mt of fertiliser product per annum (Dippel, 2004). Figure 23-1 shows a small part of the processing plant with part of the open pit mine in the background. As at the effective date of this Report, the mine and process plant continue to operate.

Figure 23-1. View of part of the Phosphate Hill process plant and open pit in the background, circa 2003.


*Source: Dippel, 2004*

IPL is listed on the Australian Securities Exchange (ASX) but is not a mining entity. Consequently IPL is not required to provide information about its mining operation, Mineral Resources, and Mineral Reserves. In a media statement issued in May 2006 (IPL, 2006), IPL noted that the "mine has estimated phosphate rock reserves of 85 million tonnes, equivalent to a mine life of 30 years". No further information on Mineral Resources or Mineral Reserves has been publicly reported.

The Phosphate Hill deposit is hosted within the MCPM, which is the same formation that hosts phosphate mineralisation on the Property. Derisk notes that AM's strategy for Korella North is different to that being executed by IPL at Phosphate Hill, where mineralisation is processed on site to produce two fertiliser products for sale – diammonium phosphate and mono-ammonium phosphate.

The relevant Qualified Persons have been unable to verify the information described for Phosphate Hill and the information is not necessarily indicative of the mineralisation on the Property that is the subject of this Technical Report.

## 23.2 Korella Deposit

AM has an agreement with Australian Venus Resources Pty Ltd (AVR) to acquire the Korella project (ML 90209) – previously known as the Corella Bore or PHM South deposit. This deposit is located 20 km south of the Property and immediately south of the Phosphate Hill operation. At Korella, phosphate mineralisation is also hosted within the MCPM.

In 2009, Krucible, which was listed on ASX, held the concession over this deposit and completed extensive exploration resulting in the publication of a Mineral Resource estimate reported in compliance with the 2004 JORC Code. Subsequently, Krucible completed a mining and beneficiation study to assess the feasibility of establishing an operation at Korella but did not advance the project further.

AM intends to establish a district-scale phosphate mining and beneficiation operation that includes both Korella and Korella North. The relevant Qualified Persons have been unable to verify the information described for Korella and the information is not necessarily indicative of the mineralisation on the Property that is the subject of this Technical Report.

# 24 OTHER RELEVANT DATA AND INFORMATION

There is no other technical information relevant to the Property.

# 25 INTERPRETATION AND CONCLUSIONS

## 25.1 Interpretation

Exploration to date at the Property has demonstrated the presence of sediment-hosted phosphate mineralisation at the Property, first identified in the 1960s. Most exploration was undertaken in the late 2000s and little work was completed from 2010 to 2022 due to the perception that the phosphate mineralisation was lower grade and therefore less attractive than other local deposits.

The phosphate mineralisation has been modelled over a strike length of 1.3 km. The sedimentary sequence hosting the phosphate dips on average at approximately 30° to the east and drill testing to date has tested a depth extent of some 50 m below surface. At the northern end of the deposit, mineralisation extends outside of the EPMA, however in the central and southern part of the deposit the relevant Qualified Persons consider that there is potential to extend the Mineral Resource down dip.

Based on the historical drilling, the Korella North deposit has an Indicated Mineral Resource of 0.6 Mt @ 13.1% $P_2O_5$ and an Inferred Mineral Resource of 2.1 Mt @ 13.0% $P_2O_5$, reported in accordance with the CIM Definition Standards. A portion of the Korella North Mineral Resource estimate has been classified as Indicated, however, inadequate work has been completed to assess the Modifying Factors to enable the conversion of any of the Indicated Mineral Resource to a Mineral Reserve.

The Property is located approximately 125 km south-southeast of Mount Isa, which is the main commercial and industrial centre for the state's northwest region. Access from Mount Isa to the Project is via public sealed and unsealed roads, then by a network of unsealed private tracks. The Property is adjacent to the Phosphate Hill mine and processing facility, which was established in 1999. Consequently, there is significant local infrastructure, which includes a gas pipeline, a railway, and sealed and unsealed roads suitable for heavy vehicle transport that are all located within 2 km of the Property.

## 25.2 Risk Assessment

The relevant Qualified Persons have identified the key risks associated with the Property as follows:

- There is technical risk associated with inadequate documentation describing some of the data collection methods used by previous tenement holders. This results in a low level of confidence over the veracity of some inputs into the Mineral Resource estimate. This uncertainty has been considered when determining the classification of the Mineral Resource estimate.
- There is governmental risk associated with the granting of an EPM over the Property, and then the granting of a Mining Lease over that part of the Property hosting the Korella North deposit.
- There is financial risk if technical studies evaluating the economic viability of establishing a mining and on-site beneficiation operation at the Property are not positive.

## 25.3 Opportunities

The relevant Qualified Persons have identified opportunities at the Property as follows:

- There is potential to extend the phosphate Mineral Resource down dip of the currently defined resource limits.
- There is the potential to identify potentially economic concentrations of REE, particularly yttrium that are associated with the phosphate mineralisation.
- Ore sorting technology being investigated by AM may allow very low grade phosphate mineralisation to be upgraded to a saleable product, thereby increasing the Mineral Resource by lowering the economic cut-off criterion.

## 25.4 Conclusions

AM has evaluated the previous exploration completed over the Property and considers that a modest open pit mining and on-site beneficiation operation may be technically and economically viable. The relevant Qualified Person supports this preliminary assessment but notes that significant work is yet to be completed at the Property to determine if Mineral Reserves can be estimated.

# 26 RECOMMENDATIONS

AM has commenced planning for the application of a Mining Lease over the eastern side of the Property where it considers there is potential to host an open pit phosphate mining and beneficiation operation. Whilst this application is not dependent on the grant of EPMA 28589, once the EPMA is granted the company proposes to complete exploration and technical studies in the area earmarked for initial mining based on the results of work completed to date.

## 26.1 Proposed Exploration

AM has advised Derisk that the first objective of the exploration program to be completed immediately upon the grant of EPMA 28589 will be to infill drill an initial five hectare area containing approximately 0.4 Mt of the existing Mineral Resource. The goal is to convert this material to Measured and Indicated Mineral Resource status in Year 1 and complete the technical work required to convert this material to a Mineral Reserve.

Subsequently, the Company intends to infill drill the remainder of the Mineral Resource to a vertical depth of 40 m to also convert this material to Measured and Indicated Mineral Resource status. Once all of the Mineral Resource to a vertical depth of 40 m has been drilled to Measured and Indicated status, the Company will assess the potential to extend the Mineral Resource to a maximum vertical depth of 80 m where the phosphate grades are highest. This program will commence in Year 2 and continue into the following years.

The relevant Qualified Person supports the exploration objectives proposed by AM and notes that exploration completed to date has demonstrated the presence of adequate phosphate mineralisation to support the Company's initial development objectives. However, the relevant Qualified Person recommends a methodical and systematic assessment of the other key geochemical constituents of the phosphate mineralisation – specifically silica, iron, alumina, and calcium as there may be limits on the content of these impurities in a direct shipping product specification.

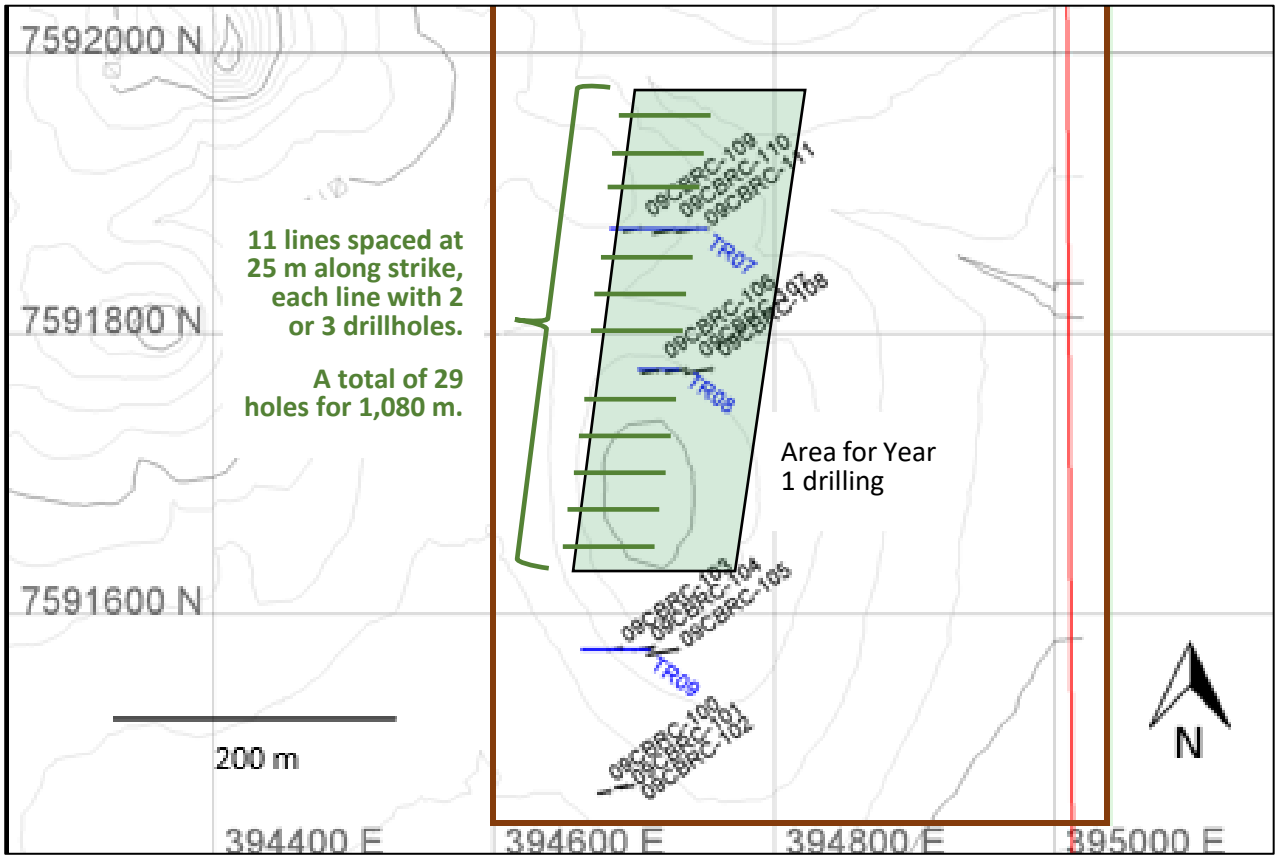
### 26.1.1 2024 Work Program (Phase 1)

AM proposes the following work program for calendar year 2024 at the Property:

- Complete an infill drilling program within the five hectare area identified as the initial location for potential mining at Korella North. Drilling is proposed to comprise both diamond coring and RC drilling:
  - The diamond coring will be used to define the detailed sedimentary units within the MCPM and understand the phosphate grade distribution within these individual units. This understanding will be critical if AM adopts a selective mining process. The diamond core will also provide samples for bulk density determination. The proposed diamond drilling comprises six holes totalling 180 m.
  - The RC drilling will be used to infill drill the five hectare area to convert this material to Measured and Indicated Mineral Resource. The relevant Qualified Person considers that a drill spacing of 25 m along strike x 20 m on east-west sections to a vertical depth of 20 m will be appropriate, opening up the spacing to 50 m along strike x 25 m on east-west sections from a vertical depth of 20 – 40 m. The proposed RC drilling comprises 23 holes totalling 900 m.
- Undertake multielement geochemistry on all drillholes and complete mineralogical characterisation on selected diamond drill core to understand the nature and grain size distribution of the high-grade and lower grade phosphatic units to be mined and beneficiated.
- Complete the technical studies required to address the Modifying Factors required for conversion of the Mineral Resource to a Mineral Reserve. The relevant Qualified Person considers the key Modifying Factors to be considered will include mining, ore sorting and beneficiation, financial, marketing, and environmental factors.

Figure 26-1 shows the area within the Property that will be the focus for the first year program.

Figure 26-1. Plan view of Year 1 drilling program area.




*Source: Derisk, 2023*

### 26.1.2 2025 Work Program (Phase 2)

AM proposes the following work program for calendar year 2025 at the Property. This program is contingent on positive results generated from the Year 1 program, particularly the requirement to establish a Mineral Reserve at the Property:

- Complete an infill drilling program across some of the remaining strike length of the current Mineral Resource extent at Korella North, working both to the north and south of the Year 1 drilling area. Drilling is proposed to comprise both diamond coring and RC drilling:
  - The diamond coring will be used to define the detailed sedimentary units within the MCPM along strike and delineate the phosphate grade distribution within individual units to support selective mining options. The diamond core will also provide samples for bulk density determination.
  - The RC drilling will be used to continue to infill drill the remaining strike length of the Korella North deposit to a vertical depth of 40 m to convert this material to Measured and Indicated Mineral Resource. The drill spacing will be adjusted pending the results of a geostatistical analysis of drilling completed in Year 1, however for planning purposes the relevant Qualified Person assumes the same drill spacing as proposed for Year 1 i.e., 25 m along strike x 20 m on east-west sections to a vertical depth of 20 m, opening up 50 m along strike x 25 m on east-west sections from a vertical depth of 20 – 40 m.
- Undertake multielement geochemistry on all drillholes and complete mineralogical characterisation on selected diamond drill core to better understand the nature and grain size distribution of the high-grade and lower grade phosphatic units to be mined and beneficiated.
- Complete the technical studies required to address the Modifying Factors required for conversion of the Mineral Resource area drilled out in Year 2 to a vertical depth of 40 m to a Mineral Reserve.

## 26.2 Proposed Budget

Table 26-1 sets out the budgets proposed by AM for a two-year exploration program at the Property, commencing in the first quarter of 2024, totalling AUD 0.90 M. The Year 1 budget is AUD 0.475 M and the Year 2 budget is AUD 0.475 M.

The relevant Qualified Person has reviewed the exploration program and budget proposed by AM for the Property and considers them to be technically appropriate and feasible.

Table 26-1. Proposed two-year program and indicative budget.

| Year | Activity | Schedule | Indicative Budget (AUD) |
|---|---|---|---|
| 2024 | Diamond and RC drilling and related activities | First quarter | 200,000 |
| | Multielement geochemistry and mineralogical studies, followed by preparation of a new Mineral Resource estimate | Second quarter | 75,000 |
| | Technical studies and preparation of a new Mineral Reserve estimate for a five hectare area over the Property | Third and fourth quarter | 200,000 |
| **Total – Year 1 (Phase 1)** | | | **475,000** |
| 2025 | Diamond and RC drilling and related activities | First quarter | 250,000 |
| | Multielement geochemistry and mineralogical studies, followed by preparation of an updated Mineral Resource estimate | Second quarter | 75,000 |
| | Technical studies and preparation of an updated Mineral Reserve estimate | Third and fourth quarter | 150,000 |
| **Total – Year 2 (Phase 2)** | | | **475,000** |

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# 28 DEFINITIONS AND GLOSSARY

Table 28-1 provides a list of the definitions used in this report together with a glossary of relevant terms and abbreviations.

Table 28-1. Definitions and glossary of terms.

| Term | Description |
|---|---|
| AAS | Atomic absorption spectroscopy |
| AGD | Australia Geodetic Datum |
| ALS | ALS Laboratory |
| AM | Avenir Makatea Pty Ltd |
| AMG | Australian Map Grid |
| Amdel | Amdel Mineral Laboratories |
| Ardent | Ardent Group Pty Ltd |
| ASX | Australian Securities Exchange |
| ATD | All Terrain Drilling |
| AUD | Australian Dollar |
| AVR | Australian Venus Resources Pty Ltd |
| BD | Bulk density |
| CIM | Canadian Institute of Mining, Metallurgy and Petroleum |
| CIM Definition Standards | CIM Definition Standards for Mineral Resources and Mineral Reserves, 2014 |
| CP-AES | Coupled plasma atomic emission spectroscopy |
| CRP | Chatham Rock Phosphate Limited |
| Derisk | Derisk Geomining Consultants Pty Ltd |
| EA | Environmental Authority |
| EPM | Exploration Permit for Minerals |
| EPMA | Exploration Permit for Minerals application |
| FAusIMM CP (Geo) | Fellow of the Australasian Institute of Mining and Metallurgy, Chartered Professional (Geology) |
| GDA | Geocentric Datum of Australia |
| GPS | Global positioning system |
| ICP-MS | Inductively coupled plasma mass spectrometry |
| IDS | Inverse distance squared |
| ILST | Inca Limestone |
| IS | Inca Shale |
| Inferred Mineral Resource (as defined by CIM Definition Standards) | That part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.<br>An Inferred Mineral Resource has a lower level of confidence than that applying to an Indicated Mineral Resource and must not be converted to a Mineral Reserve. It is reasonably expected that the majority of Inferred Mineral Resources could be upgraded to Indicated Mineral Resources with continued exploration. |
| IPL | Incitec Pivot Ltd |
| JORC | Joint Ore Reserves Committee |
| JORC Code | Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 edition, effective December 2012 |
| kg | kilogram(s) |
| km | kilometre(s) |
| Krucible | Krucible Metals Ltd |
| kt | kilotonne |
| l | litre |
| LiDAR | Light detection and ranging |

| Term | Description |
|---|---|
| LSM | Lower Siltstone Member |
| m | metre(s) |
| $m^2$ | square metre(s) |
| $m^3$ | cubic metre(s) |
| M | million |
| Ma | Million years |
| MAIG | Member of the Australian Institute of Geoscientists |
| MCPM | Monastery Creek Phosphorite Member |
| MEPL | Mines Exploration Pty Ltd |
| MGA | Map Grid of Australia |
| Mineral Reserve (as defined by CIM Definition Standards) | 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.<br>Mineral Reserves are sub-divided in order of increasing confidence into Probable Mineral Reserves and Proven Mineral Reserves. A Probable Mineral Reserve has a lower level of confidence than a Proven Mineral Reserve.<br>The public disclosure of a Mineral Reserve must be demonstrated by a Pre-Feasibility Study or Feasibility Study. |
| Mineral Resource (as defined by CIM Definition Standards) | 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.<br>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.<br>Mineral Resources are sub-divided, in order of increasing geological confidence, into inferred, indicated and measured categories. An Inferred Mineral Resource has a lower level of confidence than that applied to an Indicated Mineral Resource. An Indicated Mineral Resource has a higher level of confidence than an Inferred Mineral Resource but has a lower level of confidence than a Measured Mineral Resource. |
| mm | millimetre(s) |
| Modifying Factors (as defined by CIM Definition Standards) | Considerations used to convert Mineral Resources to Mineral Reserves. These include, but are not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social, and governmental factors. |
| MR Act | Mineral Resources Act 1989 (Qld) |
| Mt | million tonnes |
| Mt/yr | million tonnes per year |
| NI 43-101 *or* the Instrument | National Instrument 43-101 Standards of Disclosure For Mineral Projects |
| NT Act | Native Title Act 1993 (Cth) |
| $P_2O_5$ | Phosphate |
| ppm | parts per million |
| the Property | Korella North Phosphate Property |
| Q-Q plot | Quantile-quantile plot |
| QA/QC | Quality assurance and quality control |
| QEMSCAN | Quantitative evaluation of minerals by scanning electron microscopy |
| Qld | Queensland |
| QD0R | Qld Department of Resources |
| Qualified Person (as defined by NI 43-101) | An individual who is:<br>a) is an engineer or geoscientist with a university degree, or equivalent accreditation, in an area of geoscience, or engineering, relating to mineral exploration or mining;<br>b) has at least five years of experience in mineral exploration, mine development or operation, or mineral project assessment, or any combination of these, that is relevant to his or her professional degree or area of practice; |

| Term | Description |
|---|---|
| | c) has experience relevant to the subject matter of the mineral project and the technical report;<br>d) is in good standing with a professional association; and<br>e) in the case of a professional association in a foreign jurisdiction, has a membership designation that<br>i. requires attainment of a position of responsibility in their profession that requires the exercise of independent judgment; and<br>ii. requires:<br>A. favourable confidential peer evaluation of the individual's character, professional judgement, experience, and ethical fitness; or<br>B. recommendation for membership by at least two peers, and demonstrated prominence or expertise in the field of mineral exploration or mining. |
| RC | Reverse circulation |
| REE | Rare earth element |
| RL | reduced level |
| SEDAR | System for Electronic Document Analysis and Retrieval |
| t | tonne(s) |
| $t/m^3$ | tonnes per cubic metre |
| Technical Report | NI 43-101 Technical Report on the Korella North Phosphate Property, Northwest Qld, Australia |
| TLST | Thorntonia Limestone |
| Tomra | Tomra Sorting Solutions |
| TSXV | TSX Venture Exchange |
| XRD | x-ray diffraction |
| XRF | x-ray fluorescence |
| yr | year(s) |
| > | greater than |
| < | less than |
| % | percent |
| ° | degree(s) |

# 29 QUALIFIED PERSON CERTIFICATES

## 29.1 Mark Berry

I, Mark Berry, state that:

a) I am a Director and Principal Geologist of Derisk Geomining Consultants Pty Ltd, whose business address is Post Office Box 264, Red Hill Queensland 4059, AUSTRALIA.

b) This certificate applies to the report titled NI 43-101 Technical Report on the Korella North Phosphate Property, Northwest Queensland, Australia (Technical Report), with an effective date of 11 August 2023.

c) I have read the definition of a Qualified Person for the purposes of National Instrument 43-101 (the Instrument), and certify that, by reason of my education, affiliation with a professional association as defined in the Instrument, and past relevant work experience, I fulfil the requirements to be a Qualified Person. My qualifications and experience as a Qualified Person are as follows:
   - I am a graduate from the University of Melbourne with a Bachelor of Science (Geology) in 1979.
   - I am a graduate from Macquarie University with a Graduate Diploma (Mineral Economics) in 1990.
   - I am a Member in good standing of the Australian Institute of Geoscientists (Member #1352].
   - My relevant experience after graduation for the purpose of the Technical Report includes 43 years of mineral exploration and mining, with practical experience in greenfield and mine-based exploration, resource and reserve estimation, feasibility studies, mine development, operations, management, and consulting.
   - I have more than fifteen years of direct experience in industrial minerals (including phosphate), base metals, and precious metals mineral deposit styles in exploration, Mineral Resource estimation and assessment, and in mining.

d) I have not visited the Property.

e) I am responsible for the overall compilation of the Technical Report and I am responsible for Sections 1 – 11 and Sections 13 – 29.

f) I am independent of Chatham Rock Phosphate Limited, its subsidiaries, and the Property as described in Section 1.5 of the Instrument.

g) I have not had any prior involvement with the Property before my contribution to the report titled Technical review of the Korella North phosphate deposit in northwest Qld, dated July 2023.

h) I have read the Instrument. The part of the Technical Report for which I am responsible has been prepared in compliance with this Instrument.

i) At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the part of the Technical Report for which I am responsible, contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

*"Mark Berry"*
Signature of Qualified Person

13 September 2023
Date

## 29.2 Garry Edser

I, Garry Edser, state that:

a) For this engagement, I am an Associate Principal Geologist of Derisk Geomining Consultants Pty Ltd, whose business address is Post Office Box 264, Red Hill Queensland 4059, AUSTRALIA. I am also a Director and Principal Consultant of Finrank Geoscience Services (Finrank).

b) This certificate applies to the report titled NI 43-101 Technical Report on the Korella North Phosphate Property, Northwest Queensland, Australia (Technical Report), with an effective date of 11 August 2023.

c) I have read the definition of a Qualified Person for the purposes of National Instrument 43-101 (the Instrument), and certify that, by reason of my education, affiliation with a professional association as defined in the Instrument, and past relevant work experience, I fulfil the requirements to be a Qualified Person. My qualifications and experience as a Qualified Person are as follows:

- I am a graduate from the University of Southern Queensland with a Bachelor of Applied Science (Geology) in 1979.
- I am a graduate from Macquarie University with a Master of Science (Geoscience) in 1988.
- I am a Member in good standing of the Australian Institute of Geoscientists (Member #6152].
- My relevant experience after graduation for the purpose of the Technical Report includes 20 years of mineral exploration and mining, with practical experience in greenfield and mine-based exploration, resource estimation, feasibility studies, mine development, operations, management, and consulting.
- I have more than five years of direct experience in oil and gas, industrial minerals (including phosphate and coal), and precious metals mineral deposit styles in exploration, Mineral Resource estimation and assessment, and in mining.

d) I am responsible for the site visit and contributing to Section 9 – Section 12 of the Technical Report.

e) I am independent of Chatham Rock Phosphate Limited, its subsidiaries, and the Property as described in Section 1.5 of the Instrument.

f) In 2023, as a Principal Consultant of Finrank, I provided a range of technical services for AM that were all provided as fee for service engagements.

g) I have read the Instrument. The part of the Technical Report for which I am responsible has been prepared in compliance with this Instrument.

h) At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the part of the Technical Report for which I am responsible, contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

*"Garry Edser"*
Signature of Qualified Person

13 September 2023
Date

## 29.3 John Horton

I, John Horton, state that:

a) I am an Associate Principal Geologist of Derisk Geomining Consultants Pty Ltd, whose business address is Post Office Box 264, Red Hill Queensland 4059, AUSTRALIA. I am also a Director and Principal Consultant of ResEval Pty Ltd.

b) This certificate applies to the report titled NI 43-101 Technical Report on the Korella North Phosphate Property, Northwest Queensland, Australia (Technical Report), with an effective date of 11 August 2023.

c) I have read the definition of a Qualified Person for the purposes of National Instrument 43-101 (the Instrument), and certify that, by reason of my education, affiliation with a professional association as defined in the Instrument, and past relevant work experience, I fulfil the requirements to be a Qualified Person. My qualifications and experience as a Qualified Person are as follows:

- I am a graduate from the University of Queensland with a Bachelor of Science Honours (Geology) in 1985.
- I am a graduate from Edith Cowan University with a Post Graduate Certificate (Geostatistics) in 2006.
- I am a Fellow and Chartered Professional (CP) in good standing of the Australasian Institute of Mining and Metallurgy (Member #107320].
- I am a Member in good standing of the Australian Institute of Geoscientists (Member #1844].
- My relevant experience after graduation for the purpose of the Technical Report includes 36 years of mineral exploration and mining, with practical experience in greenfield and mine-based exploration, technical reviews, mineral resource evaluation, and consulting.
- I have been a consultant specialising in Mineral Resource evaluation for over 25 years with extensive experience in the Australasian region, including Qld.

d) I have not visited the Property.

e) I am responsible for contributing to Section 14 of the Technical Report.

f) I am independent of Chatham Rock Phosphate Limited, its subsidiaries, and the Property as described in Section 1.5 of the Instrument.

g) I have not had any prior involvement with the Property before my contribution to the report titled NI 43-101 Technical Report on the Korella North Phosphate Property, Northwest Queensland, Australia, with an effective date of 11 August 2023.

h) I have read the Instrument. The part of the Technical Report for which I am responsible has been prepared in compliance with this Instrument.

i) At the effective date of the Technical Report, to the best of my knowledge, information, and belief, the part of the Technical Report for which I am responsible, contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

*"John Horton"*
Signature of Qualified Person

13 September 2023
Date

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