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# Mineral Resource Estimation

**Kerrigan Kaolin Project, Western Australia**  
**Canning Coal Pty Ltd**

**Job No. 2827-03**

**Report Date: 24 December 2021**

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## Executive Summary

### BACKGROUND

Geos Mining was commissioned by Canning Coal Pty Ltd (Canning Coal) to prepare a Mineral Resource Estimate (MRE) of the Kerrigan Kaolin deposit, located ~27kms south of Hyden in the Central Wheatbelt of Western Australia, approximately 330km east of Perth (lat 32°40'S / long 118°50'E).

### GEOLOGICAL SETTING

The Kerrigan region is underlain by Archaean coarse porphyritic granite and adamellite that has been deeply weathered and forming a highly leached kaolinized zone under a lateritic duricrust. The surficial laterite typically comprises a nodular cemented irregular profile up to 2m thick and overlies a variable thickness ferruginous mottled zone. The pallid zone comprising white to cream kaolin occurs as a matrix between relatively coarse quartz crystals derived from the breakdown of K-feldspar and Na-feldspar. Preserved textures of the parent rock can be seen in outcrops showing that the kaolin is of primary origin and not de-deposited.

### EXPLORATION

The main period of exploration was between 1992 and 2007 during which time exploration was carried out by Graphite Holdings, CRA Exploration, Blackjade Holdings, Minerals Corporation and Austral Pigments. Drilling was carried out between 1992 and 1994 and two test pits were constructed.

Canning Coal completed a drilling in 2019 to verify some of the earlier drilling results.

### DATA VALIDATION AND MODELLING

All historical drilling data has been obtained from respective company annual technical reports. Collar data has been validated and elevation values obtained from a recently completed LiDar survey. There have been no Quality Assurance/ Quality Control protocols reported for historical drilling and bulk density measurements are considered unreliable.

The resource model has been constrained by the distribution of drilling and presence of kaolin as geologically logged in the drillholes. The Kerrigan drillhole dataset and the DEM were imported into Leapfrog Geo, a geological modelling software, and a 3D geological model of the cover, kaolin and bedrock lithological units constructed. A total of 263 samples were submitted for Brightness tests by CRAE. Results range from 54.3% to 90.9% with an arithmetic mean of 83.5%.

Due to the limited assay and brightness data available with no indication of spatially correlated distance or directional bias, the interpolation method chosen was IDW (Inverse Distance Weighting) to the power of 2.

The Leapfrog derived geological model was imported into Micromine 2018 and a blank block model (BM) was developed to encompass the Kaolin solid that was generated in Leapfrog. Block grades were interpolated from the 1m Brightness sample data using Micromine software.

Interpolated grades were written to the trimmed block model and exported into an Excel spreadsheet for estimation of volumes and tonnages. A universal Bulk Density value of 1.6 was used for tonnage calculations.

## MRE CLASSIFICATION

In accordance with the classification of Mineral Resources as specified in The JORC Code (2012), Geos Mining considers that the Kerrigan Resource is classified as an Inferred Resource.

**Kerrigan Inferred Resource: 125 million tonnes with estimated ISO brightness of 85% and average yield of 43.9% (as measured on the minus 10 micron fraction).**

## CONCLUSIONS AND RECOMMENDATIONS

The Mineral Resource Estimation has relied on only a small number of measured brightness and other test results and this is considered to be the major limitation on resource classification. There has also been insufficient consideration of Quality Assurance protocols in any of the drilling programs and it is recommended that these be formally addressed in any future drilling to enable a higher degree of confidence in the precision of the test results. Similarly, there has been no external Quality Control testwork on the drill samples, apart from the internal laboratory protocols and results. In accordance with the classification of Mineral Resources as specified in The JORC Code (2012), Geos Mining considers that the Kerrigan Resource is classified as an Inferred Resource.

In Geos Mining's opinion, the project has reasonable prospects for eventual economic extraction in the short term (3-5 years). There has been insufficient drilling within Exploration Licence E70/4718 to define the limits of the Kerrigan kaolin deposit.

A number of recommendations are suggested for future drilling programs:

1. Additional brightness tests and additional chemistry should be carried out from the 2019 drill samples and for all future drilling programs.
2. Field duplicates should be submitted for analysis/ testwork to check for sampling variability. Standards from Meckering should also be included in any analysis/ testwork and umpire analysis should be carried out at another accredited laboratory.
3. Some hole twinning should be carried out to verify previous drilling programs
4. A differential GPS unit should be used to accurately measure collar positions due to the variable collar positions recorded by handheld GPS.
5. The variable kaolin thicknesses observed indicates that future modelling must take into account the undulatory nature of the pallid zone to avoid over-estimation of kaolin volumes.
6. Rigorous bulk density measurements are recommended for any future drilling programs. These can be done in the laboratory or field, provided samples are sealed and have accurate in situ volumes.

7. Aircore drilling should be replaced or supplemented by sonic drilling in future programs where the objective of the drilling is for resource estimation purposes. Sonic drilling relies on high frequency vibration to retrieve in-situ samples from which better visual logging and more accurate bulk density measurements can be made.
8. Kaolin logging should include a less subjective description of brightness by use of the appropriate Munsell chart colours and nomenclature.



Signature:

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Qualifications: Grad Dip (Ind Min Sc), BSc Hons (Min Geol), FAIMM Date: 23 December 2021

## Disclaimer

Geos Mining has undertaken suitable checks, enquiries, analyses, and verification procedures, considered as meeting the Reasonable Grounds Requirement for the soundness of the inputs that lead to the conclusions drawn in a Public Report (in accordance with the VALMIN Code 2015), and can accept no liability if, despite our checks, materially inaccurate, incomplete, or misleading data has affected the conclusions of this report.

Geos Mining and the authors are independent of Canning Coal Pty Ltd and have no financial interests in Canning Coal Pty Ltd or any associated companies. Geos Mining is being remunerated for this report on a standard fee for time basis, with no success incentives.

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# 1. Introduction

## 1.1 BACKGROUND

The Kerrigan Kaolin deposit is located ~27kms south of Hyden in the Central Wheatbelt of Western Australia, approximately 330kms east of Perth (lat 32°40' S / long 118°50' E; Figure 1) within Exploration Licence E70/4718-I.

Geos Mining completed a Mineral Resource Estimate (MRE) for the Kerrigan deposit in 2011 in accordance with the requirements of the JORC Code at that time. The MRE was based on drilling data from CRAE and Graphite Holdings carried out between 1992 and 1994. Since that time and until recently, the only other work completed was the excavation of 6 tonne of kaolin from two test pits.

In December 2019, Canning Coal<sup>1</sup> completed a program of 27 aircore drillholes collared throughout the deposit in order to verify some of the earlier drilling and obtain samples for further testwork and analysis.

Canning Coal have requested that Geos Mining prepare an update to the 2011 MRE in accordance with the JORC Code 2012.

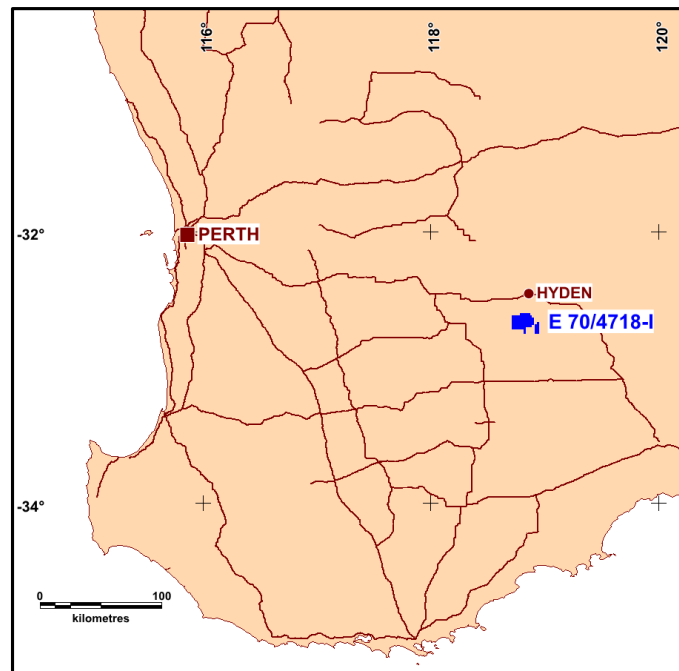


Figure 1: Location of the Kerrigan Kaolin Project

<sup>1</sup> Canning Coal is a wholly owned subsidiary of Altech Chemicals Limited



## 1.2 STANDARDS AND CODES

This MRE has been prepared in accordance with the principles and guidelines of the “Australasian Code for Reporting of Exploration Results, Minerals Resources and Ore Reserves, the JORC Code 2012 Edition ( JORC, 2012). The JORC Code 2012 is an internationally recognised standard for reporting of exploration results, mineral resources and ore reserves.

## 1.3 STATEMENT OF COMPETENCE

This report has been prepared by Geos Mining and has been compiled and edited by Senior Consultant Jeff Randell with assistance from Senior Consultant Greg Curnow. Principal Advisor Sue Border reviewed the report. The geological modelling and Mineral Resource Estimation methodology were developed by Greg Curnow and Sue Border.

Sue Border and Jeff Randell are Competent Persons as defined by the JORC Code 2012, having at least five years’ experience that is relevant to the style of mineralisation and type of deposit described in this report. Sue Border is a Fellow of the Australasian Institute of Mining and Metallurgy (AusIMM). Jeff Randell is a Member of the Australian Institute of Geoscientists (AIG). Greg Curnow is a Member of the Australasian Institute of Mining and Metallurgy (AusIMM).

Sue Border is the Competent Person for this project and takes full responsibility for the comments and conclusions reached in this report.

## 1.4 STATEMENT OF INDEPENDENCE

Geos Mining is independent of all parties involved with the project activities described in this report. Geos Mining will receive a professional fee based on standard rates plus reimbursement of out-of-pocket expenses for the preparation of this report. The payment of these fees is not contingent upon the success or otherwise of any associated fundraising or transactions. There are no pecuniary or other interests that could be reasonably regarded as being capable of affecting the independence of Geos Mining or the authors of this report.

Geos Mining is not aware of any appointments over the past two years by any stakeholders or other relevant parties involved in the Subject project that may be perceived as able to affect the independence of Geos Mining. Geos Mining, the authors, and members of the authors’ families, have no interest in, or entitlement to, any of the project areas the subject of this report.

## 1.5 LIMITATIONS AND CONSENT

With respect to this report and its use by Canning Coal Pty Ltd and its advisers, Canning Coal Pty Ltd agrees to indemnify and hold harmless Geos Mining, its shareholders, directors, officers and associates against any and all losses, claims, damages, liabilities or actions to which they or any of them may become subject under any securities act, statute or common law, except in respect to fraudulent conduct, negligence or wilful misconduct, and will reimburse them on a current basis for any legal or other expenses incurred by them in connection with investigating any claims or defending any actions, except where they or any of them are found liable for, or guilty of fraudulent conduct, negligence or wilful misconduct.

This report is provided to Canning Coal Pty Ltd solely for the purpose of assisting the directors of Canning Coal Pty Ltd and other interested parties in assessing the geological and technical issues associated with the Kerrigan Kaolin project. This report does not constitute a full technical audit, but rather it seeks to provide an independent overview and technical appreciation of the project's mineralisation. Any comments with regards to mining and processing of the mineralisation are general in nature and should not be relied upon in considering the economic viability of the project.

This report may be reproduced only in its entirety and then only with Geos Mining's prior written consent.

## 2. Sources of Information

### 2.1 DATA PROVIDED BY CLIENT

Geos Mining retained all historical drilling data used in the 2011 MRE and copies of all historical technical reports. We also supervised the 2019 drilling program and have all drilling data relating to that program in addition to recent assay and testwork data.

Geos Mining is satisfied that all technical data has been made available.

### 2.2 SITE INSPECTION

Jeff Randell was onsite during the 2019 drilling program (27/11/2019 to 10/12/2019) and again in 2020 (27/01/2020 to 31/01/2020).

### 2.3 GRID DATUM

Historical drilling collar data were recorded in the AGD66 Datum and have been transformed to GDA94 Datum.

The Canning Coal 2019 drill collars were measured using both a handheld GPS unit and a Differential GPS unit with data recorded in the GDA94 datum, annotated as MGA94 Zone 50 coordinates.

### 3. Project Description

#### 3.1 GEOGRAPHIC LOCATION

The Kerrigan Kaolin deposit is located ~27kms south of Hyden in the Central Wheatbelt of Western Australia. The region is relatively flat lying and cropped extensively for wheat and barley/oats. Small areas of remnant vegetation are scattered throughout the region and portions of the Flat Rock and Dragon Rocks Nature Reserves are included within the tenement area (Figure 2).

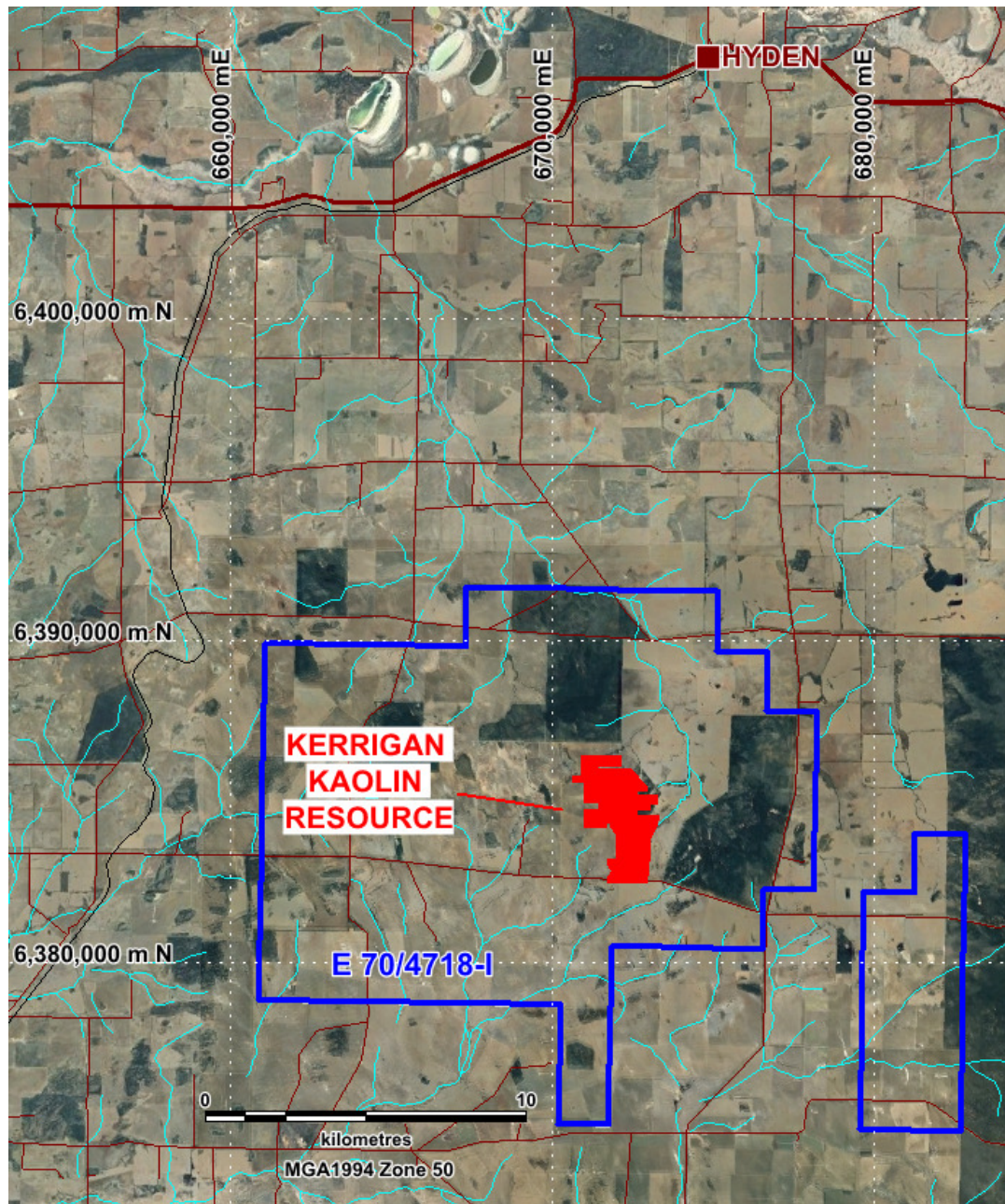


Figure 2: Kerrigan Project Location

### 3.2 CLIMATE

Hyden experiences a Mediterranean climate with cold winters, although it has a relatively low amount of rainfall. Temperatures are mostly pleasant all year round but with a hot Summer (Figure 3). Winter rains allow many wildflowers to grow during spring. In Summer (December to February), the average maximum temperature is 34°C with an average minimum temperature of 14°C. In Winter (June to August), the average maximum temperature is 14°C with an average minimum temperature of 4°C.



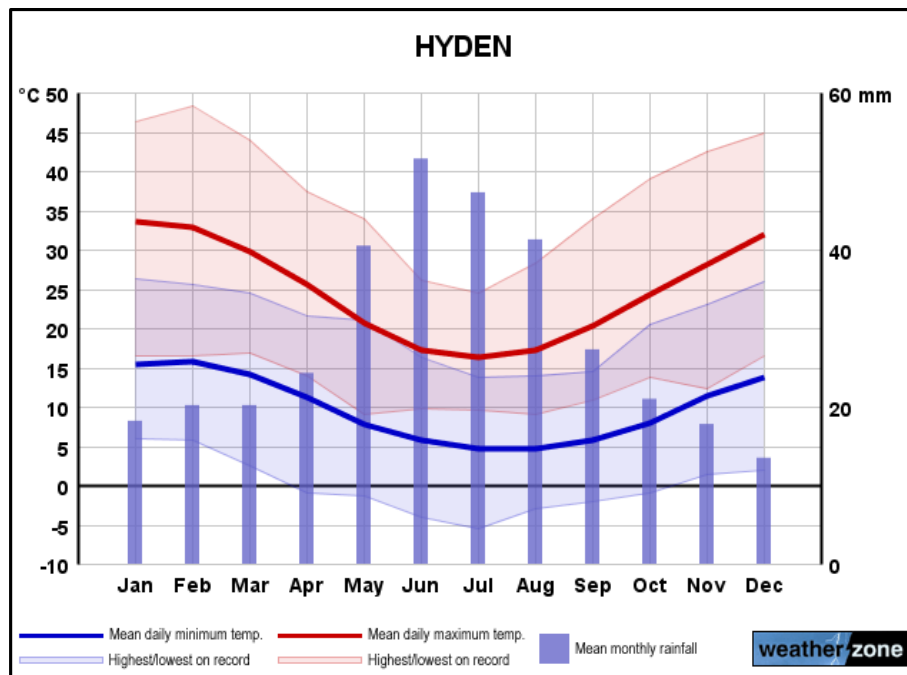


Figure 3: Weather data for Hyden

Source: (Weatherzone, 2021)

### 3.3 TERRAIN, VEGETATION & ACCESS

The region is relatively flat with low rises to 10m and some scrubby remnant vegetation (



Figure 4). However, the land has been extensively cropped since settlement with large paddocks and access along fence lines or landholder farm tracks.

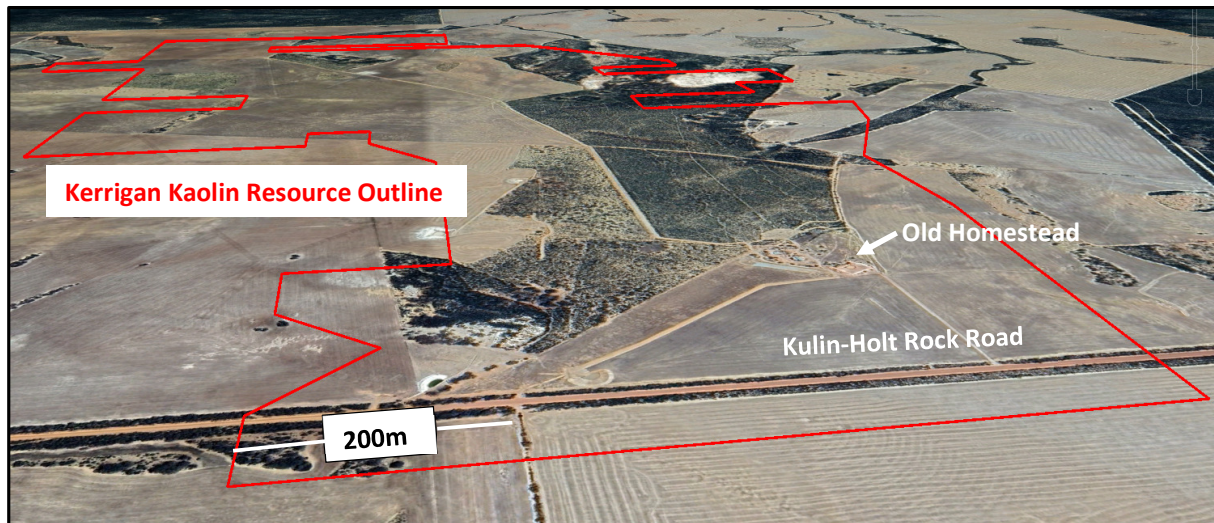


Figure 4: Kerrigan Resource outline, perspective view looking N towards Hyden, showing flat topography

### 3.4 TENEMENTS

Exploration Licence (EL) E70/4718 was granted to Canning Coal Pty Ltd on 01/12/2015 over an area of 166 blocks (~480km<sup>2</sup>). The licence was subsequently partially relinquished and now comprises an area of 76 graticular blocks (~220km<sup>2</sup>) with an expiry date of 30/11/2025 (Figure 2).

Geos Mining sighted digital copies of the EL grant and renewal documents and checked the current tenure on the DMIRS website: <https://emits.dmp.wa.gov.au/emits/enquiry/home2.xhtml> .

While the EL appears to be in good standing, we have not undertaken a full legal due diligence of the current status of the tenement. Geos Mining is not aware of any existing encumbrances, NSR royalties, interests from joint ventures or other legal impediments that could result in Canning Coal not having full rights to the tenement.

### 3.5 REGIONAL GEOLOGY

The Kerrigan region is underlain by Archaean coarse porphyritic granite and adamellite that has been deeply weathered and forming a highly leached kaolinized zone under a lateritic duricrust (Figure 5). Exposures of the leached zone are common in breakaways (Kristensen, 1994).



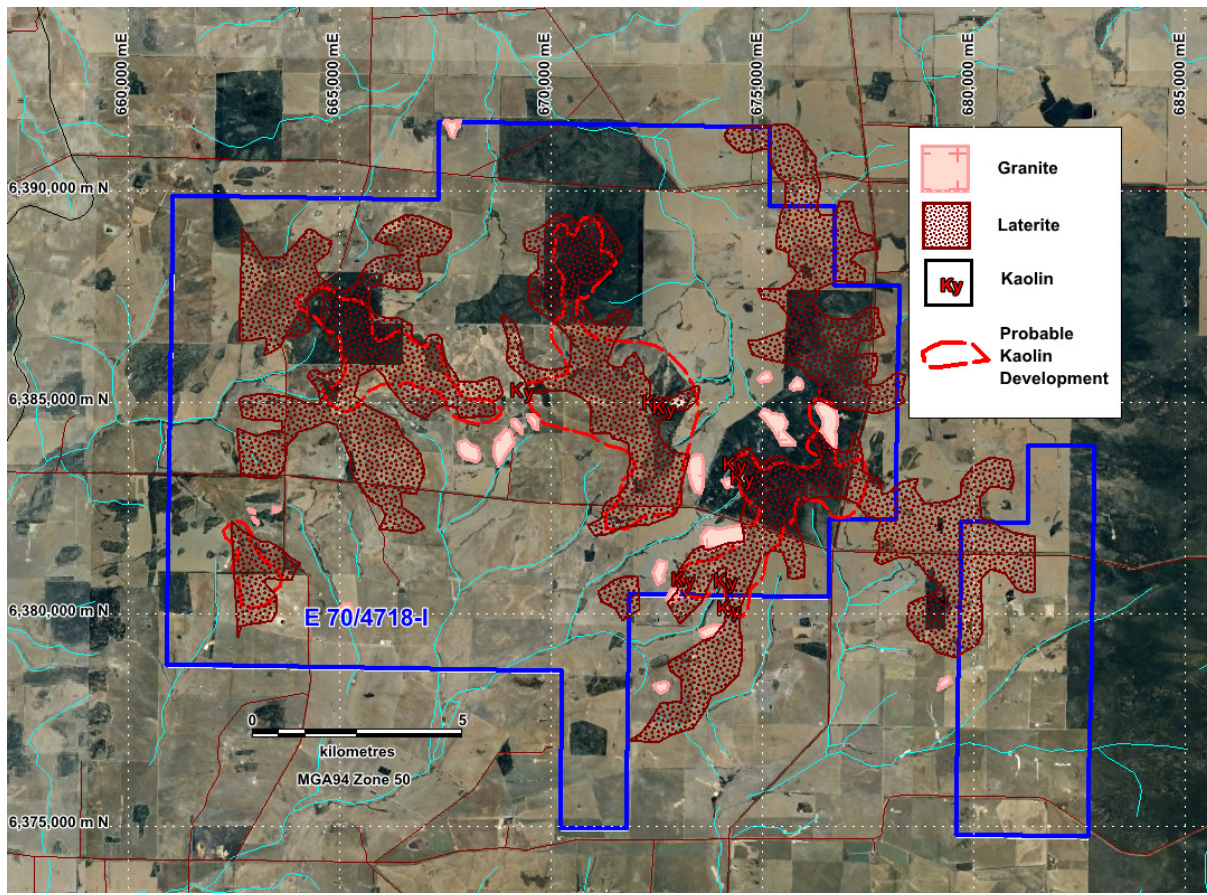


Figure 5: Kerrigan Regional Geological Interpretation

### 3.6 LOCAL GEOLOGY AND MINERALISATION

The surficial laterite typically comprises a nodular cemented irregular profile up to 2m thick and overlies a variable thickness ferruginous mottled zone. A coarse quartz 'sand' is also irregularly mixed with kaolin to form a siliceous kaolin zone below the mottled zone (Photo 1 and Photo 2). The pallid zone comprising white to cream kaolin occurs beneath this siliceous zone. Kaolin occurs as a matrix between relatively coarse quartz crystals derived from the breakdown of K-feldspar and Na-feldspar. Preserved textures of the parent rock can be seen in outcrops showing that the kaolin is of primary origin and not de-deposited (Kristensen, 1994).





Photo 1: Breakaway within the Kerrigan Resource area showing a typical profile

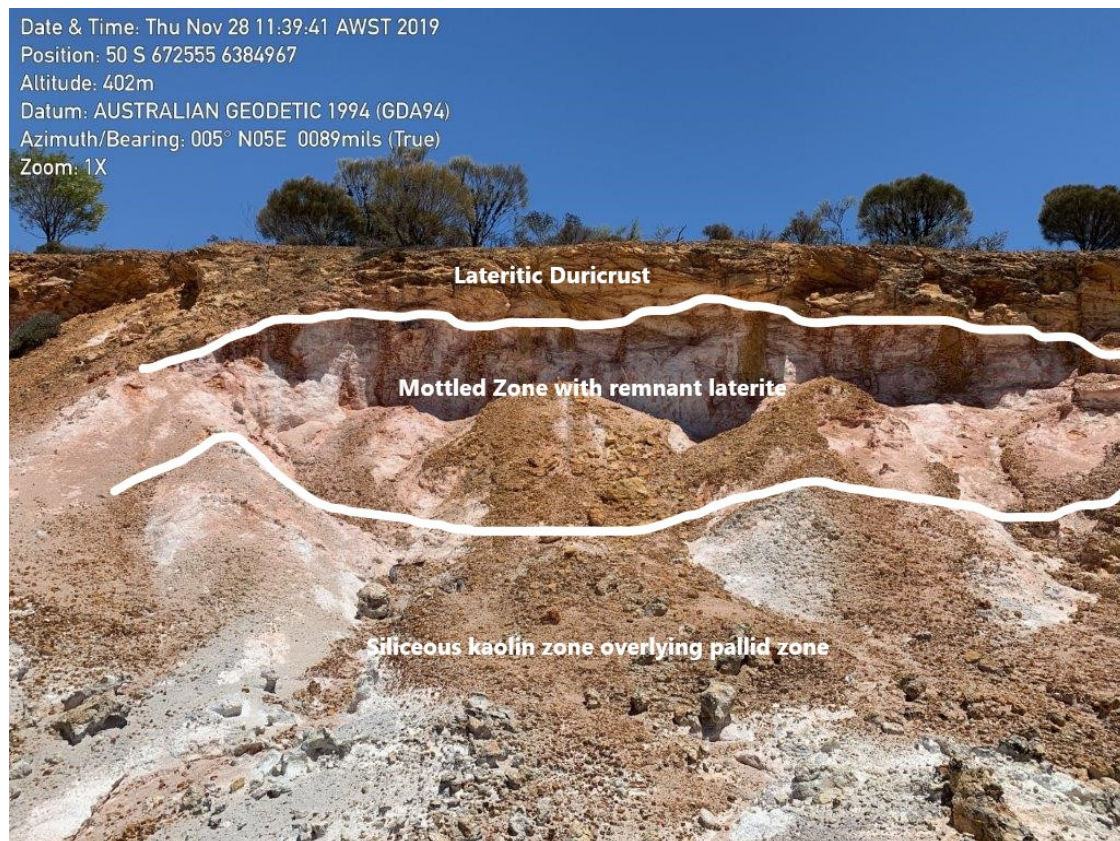


Photo 2: Detail of above indicating the irregular weathering profile



The pallid zone has a variable thickness up to 30m and includes highly leached lenses of 'high white' kaolin. Mottled clays and saprolite occur below the pallid zone and grade into weathered to fresh granite.

## 4. Historical Exploration

### 4.1 EXPLORATION SUMMARY

The main period of exploration was between 1992 and 2007, during which exploration was carried out by Graphite Holdings, CRA Exploration, Blackjade Holdings, Minerals Corporation and Austral Pigments. From 2010 to 2014, seven Exploration Licences (E70/3811, E70/4086, E70/4177, E70/4322, E70/4445, E70/4585 and E70/4669) covering the Kerrigan kaolin deposit were applied for but none were granted (reasons unknown). The current licence, E70/4718, was granted to Canning Coal in 2015.

#### 4.1.1 GRAPHITE HOLDINGS PTY LTD - E70/1248, E70/1307

References: (Kristensen, 1994)

Graphite Holdings drilled 47 aircore drillholes and analysed some samples through Comalco at Weipa. Samples were from drillholes completed in 1992 (PAC11/10: 3-8m, PAC14/10: 6-11m, PAC14/12: 17-21m, PAC26/15: 6-9m) and 1993 (PRC036: 4-22m). Samples were blunged, screened at 45µm then analysed for colour, brightness, particle size distribution, high/low shear viscosity and abrasion. All unbeneficiated samples returned brightness <80% but after leaching and magnetic separation returned up to 88.1%.

#### 4.1.2 CRA EXPLORATION - E70/1248, E70/1307

References: (Kristensen, 1994), (Williams, 1996)

Purchased tenements from Graphite Holdings in 1993.

In 1993/1994, drilled 195 aircore drillholes at 200m and 400m spacing. Samples collected at 1m intervals then blunged, sieved to -10µm. This was followed up with 17 fully cored drillholes, from which 3 x 1m samples were taken from each drillhole for testwork. Results showed that the +10µm fraction has very little kaolin. Minus 10µm has high brightness from 85.5% to 89.1%.

Regional aeromagnetic/ radiometric survey was completed in 1993 (227 line-km). The K channel in the radiometric data showed zones of depletion that correlate well with areas of known kaolinization.

#### 4.1.3 BLACKJADE HOLDINGS PTY LTD - E70/2095, E70/2112

References: (Lulofs, 2002), (Lulofs, 2003), (Lulofs, 2007), (Lulofs & Williams, 2008)

Minerals Corporation Pty Ltd entered into a joint venture agreement with Blackjade Holdings from 1999-2003. Two test pits (Bradley Central and Bradley North) were excavated and two 3-tonne samples and three 25-kilogram samples were collected from each pit. Testwork comprised:

- 25kg sample sent to Georgia USA for crude kaolin analysis
- 6 tonne sample sent to Minerals Corporation Cairns pilot plant
- 500kg sample of kaolin filler was sent to Finland for market testing for commercial paper filler qualities
- Delamination trial completed at Minerals Corporation Cairns pilot plant in July 2002

Application to excavate a large 5000 tonne bulk sample at Bradley Central was approved. The pit was planned to have dimensions of ~40m by 34m to a depth of 6m-12m. Following dry screening to remove coarse quartz, a 1500 tonne sample was to be shipped to Mineral Corporation's Skardon River plant for processing. This bulk sample was never mined due to a lengthy legal dispute between Blackjade Holdings and Rio Tinto.

In late 2006, Valmin LLC and Mineral Assets LLC entered into a joint venture with Blackjade Holdings and formed Austral Pigments Pty Ltd to develop the Kerrigan kaolin deposit. A further 150kg sample was taken from the Bradley Central Pit and process studies investigated the preparation of both hydrous and calcined kaolin products. Results from the hydrous kaolin testwork indicated significantly higher brightness (91.5%) than other 'currently available producers in USA and Brazil'. In addition, 'the physical property data for the Bradley calcined sample compared well with the world quality grade but .....was much superior in brightness (95.8%) and whiteness.' (Lulofs & Williams, 2008).

Austral Pigments planned to produce hydrous kaolin, meta-kaolin and fully calcined kaolin and the company commenced planning for a pilot plant and laboratory was made. However, no further reports have been located to determine if any additional work was carried out.

#### 4.1.4 AUSTRALIA MINERALS & MINING GROUP PTY LTD - E70/4177

References: (Border, 2011)

While this tenement application was not granted, Geos Mining was commissioned in 2011 to 'estimate a JORC inferred resource at Kerrigan, using historic data.' Geos Mining estimated an Inferred Resource of 85Mtonnes @ ISO brightness 85.1% with the -45um fraction averaging 52% of the in situ material.

## 4.2 DRILLING

Historical drilling programs are summarised in Table 1 and collar locations are shown in Figure 6.

Company	Year	Drillhole Numbers	Aircore		Diamond	
			No. of drillholes	Metres	No. of drillholes	Metres
Graphite Holdings Pty Ltd	1992	PAC11/10, PAC14/10, PAC14/12, PAC26/14, PAC26/15; PRC001-PRC042	47	949		
CRA Exploration	1993- 1994	93PBA001-108, 94PBA109-185, 93PFA004-005, 93PHA001-008	195	5,068		
CRA Exploration	1993	PBD120530A <sup>2</sup> , PBD100530C, PBD140490A, PBD140530A, PBD160470A, PBD160470B, PBD160470C, PBD180470A, PBD200490A, PBD200490B, PBD200490C, PBD220450A, PBD220510A, PBD220510B, PBD220530A, PBD240450A, PBD240450B			17	550.6
<b>TOTALS</b>			<b>242</b>	<b>6,017</b>	<b>17</b>	<b>550.6</b>

Table 1: Historical drilling programs at Kerrigan Project  
Full drillhole details are presented in Appendix 3

### 4.3 TEST PITS

As previously mentioned in Section 4.1.1, two test pits (Bradley Central and Bradley North) were excavated and two 3-tonne samples and three 25-kilogram samples were collected from each pit. Details of this work are reported in Lulofs (2003) and shown below in Table 2 and Figure 6.

<sup>2</sup> CRAE named their diamond drillholes using 3 numbers from the collar coordinates Easting and Northing (AGD66 Datum) e.g. PBD120530A was collared at 671200mE, 6385300mN

Test Pit	MGA94_N	MGA94_E	RL (m)	Sample Depth	Corres - ponding DDH	DDH Sample Depth	Corres- ponding AC Hole	Colour Visual	ISO Brightness (%)	Viscosity (mPa.s) 100rpm	Viscosity (mPa.s) Solids	Abrasion (mg loss)	PSD (%) <2um	Yield (% of ROM)
<b>Bradley Central</b>	6384847	671740	402	6-7m	PBD 160-470	5.2-6.0m	93PBA45	Off White	88.5	310	69%	10	68	33
<b>Bradley North</b>	6385447	671540	397	5.5-6.5m	PBD 140-530	5.8-7.0m	93PBA40	Off White	87.7	265	71%	5.8	73	38
<b>Average</b>									87.5	256.7	71%	14.9	69	42

Table 2: Test Pit Locations and Sample Qualities  
NB: Product Quality Measurements are from -10um fraction

## 5. Canning Coal Exploration

Canning Coal has explored the Kerrigan deposit since the grant of E70/4718-I in December 2015.

Exploration carried out has included:

- 2016 (Carew-Reid, 2017)
  - Scoping Study to investigate feasibility as feedstock for HPA production and DSO
- 2017 (Carew-Reid, 2018)
  - Scoping Study to investigate feasibility as feedstock for HPA production and DSO
  - Environmental impact assessment
  - Marketing business plan
  - Mining lease application planning
- 2018 (Carew-Reid, 2019)
  - Continuation of Scoping Study
- 2019
  - Aircore drilling (27 drillholes for 770m)
- 2020 (Fazey, 2021)
  - Follow up from 2019 aircore drilling to transport samples for testwork and check rehabilitation
- 2021 (not formally reported)
  - Oxide and trace element analysis of 325 drill samples from 2019 program
  - XRD and SEM analysis on 6 samples for presence of halloysite
  - LiDAR survey over the main Kerrigan deposit

### 5.1 DRILLING

A program of 27 aircore drillholes (KEAC001 to KEAC027) was completed in late 2019 to replicate previous Graphite Holdings/ CRA Exploration results from the 1992-1994 aircore drilling campaigns. Details of this program are shown in Table 3 and Figure 6.

Company	Year	Drillhole Numbers	Aircore	
			No. of drillholes	Metres
Canning Coal Pty Ltd	2019	KEAC001-KEA027	27	765

Table 3: Canning Coal Aircore Drilling  
Full drillhole details are presented in Appendix 3

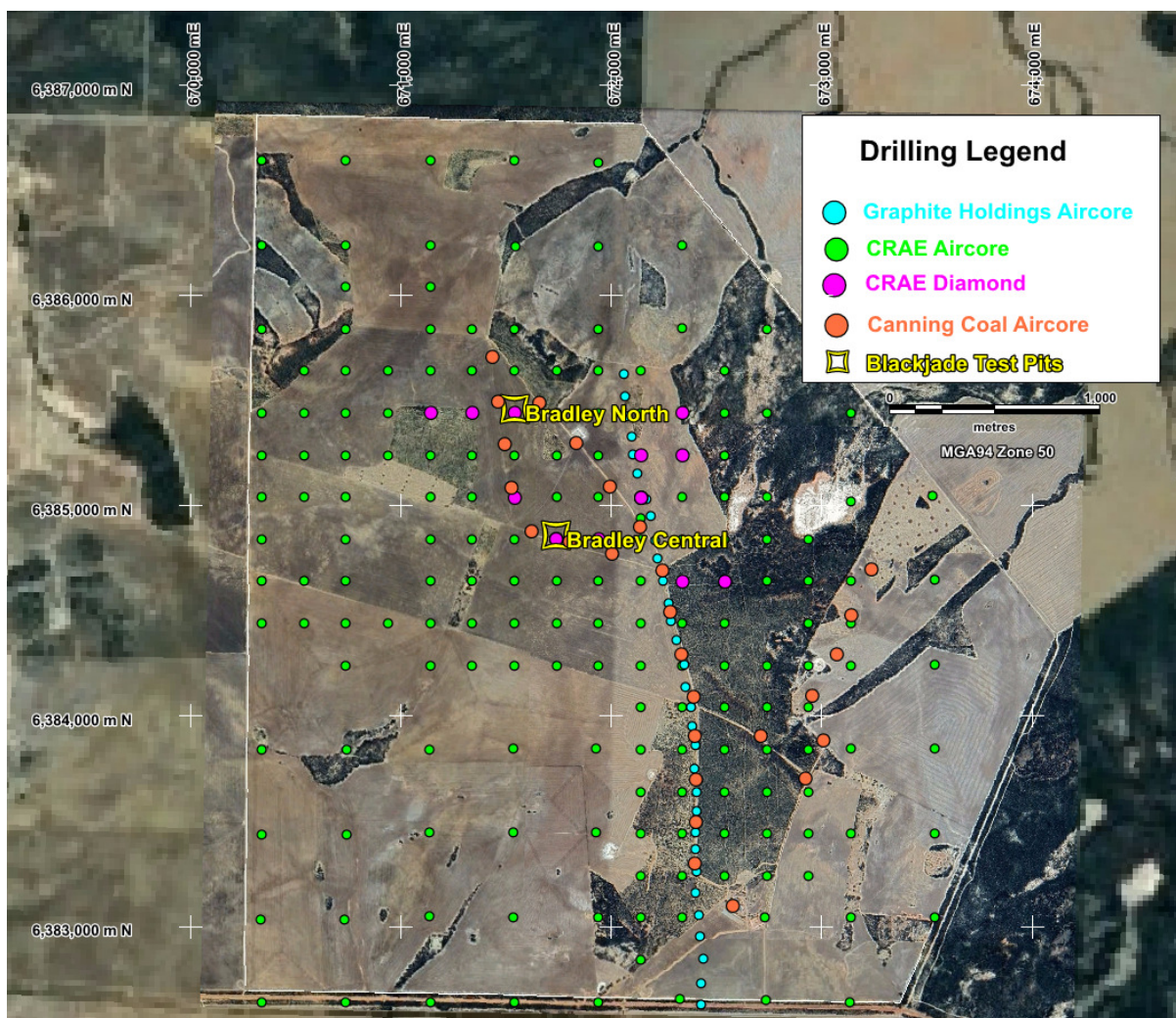


Figure 6: Kerrigan Drilling and Test Pit Locations

## 6. Data Verification and Validation

### 6.1 HISTORICAL DATA

All historical drilling data has been obtained from respective company annual technical reports that have been downloaded from the WAMEX<sup>3</sup> database

(<https://geoview.dmp.wa.gov.au/GeoView/?Viewer=GeoVIEW&layerTheme=WAMEX&Module=WAMEX>).

Available data were copied or transcribed from digital pdf files, initially into Excel spreadsheets and includes:

- Drillhole collar data, transformed from AGD66 Datum to GDA94 Datum using Mapinfo GIS software
  - Graphite Holdings (PAC11/10, 14/10, 14/12, 26/14, 26/15; PRC001-042) (Appendix 1, Kristensen (1994))
  - CRA Exploration (93PBA001-108, 94PBA109-185, 93PFA004-005, 93PHA001-008) (Appendix 4, Kristensen (1994))

<sup>3</sup> Western Australian Mineral Exploration Reports – publicly available ‘open-file’ technical exploration reports



- CRA Exploration (PBD120530A, PBD100530C, PBD140490A, PBD140530A, PBD160470A, PBD160470B, PBD160470C, PBD180470A, PBD200490A, PBD200490B, PBD200490C, PBD220450A, PBD220510A, PBD220510B, PBD220530A, PBD240450A, PBD240450B) (Appendix 5, Kristensen (1994))
- Drillhole geological logs
  - Graphite Holdings (PAC11/10, 14/10, 14/12, 26/14, 26/15; PRC001-042) logging intervals grouped by lithology and colour (Appendix 1, Kristensen (1994))
  - CRA Exploration (93PBA001-108, 94PBA109-185, 93PFA004-005, 93PHA001-008) logging intervals group by lithology, colour and percentage quartz (Appendix 4, Kristensen (1994), Appendix 2, Williams (1996))
  - CRA Exploration (PBD120530A, PBD100530C, PBD140490A, PBD140530A, PBD160470A, PBD160470B, PBD160470C, PBD180470A, PBD200490A, PBD200490B, PBD200490C, PBD220450A, PBD220510A, PBD220510B, PBD220530A, PBD240450A, PBD240450B) logging intervals group by major lithology, colour, quartz content or other geological observation. Core loss was noted (Appendix 5, Kristensen (1994))
- Drillhole sample data
  - Graphite Holdings (PAC11/10 – 1 sample, PAC14/10 – 1 sample, PAC14/12 – 1 sample, PAC26/15 – 1 sample, PRC036 – 18 samples) particle size distribution, brightness, chemical analysis, mineralogy (Appendix 3, Kristensen (1994))
  - CRA Exploration (108 drillholes, renumbered to DD coordinate format) 2 samples per drillhole from surface (some composited over 4m) and at end-of-hole (1m sample) multi-element analysis including Fe, Mg, Co, Cr, Al, Ba, Ca, Mg, Ni, Ti, V, W, Zr, Cu, Pb, Zn, Ag, As, Bi, Mo, Sb, Pt, Pd, Au (Appendix 11, Kristensen (1994))
  - CRA Exploration (93PBA070-082, 93PHA006), 1m samples sizing analysis, brightness, water (Appendix 3, Williams (1996))
  - CRA Exploration (PBD100530C, PBD140490A, PBD140530A, PBD160470C, PBD180470A, PBD200490C, PBD220450A, PBD220510B, PBD220530A, PBD240450B), three x 1m samples from 10 selected drillholes only, sizing analysis, -10µm PSD and brightness, total oxide analysis (Appendix 8, Kristensen (1994))
- Test Pit data
  - In 2000, two small pits at Bradley Central and Bradley North were constructed where previous aircore and diamond drilling had been previously carried out (Lulofs, 2002). Pit dimensions were not documented but the Bradley Central pit has not been rehabilitated and its dimension are ~30m x ~7m. Pit depths were reported as 6.5m to 7m. A much larger pit to collect a 5,000 tonne sample was planned in 2002 but wasn't completed. Pit size was estimated at 40m x 34m with depth from 6m to 12m. A ramp and battered sides would have been incorporated.
  - In 2003, a proposal to excavate a 5000 tonne sample to produce a 500 tonne sample of high brightness paper filler kaolin was approved by the WA Government but was never implemented by Blackjade due to legal processings faced by the company.

## 6.2 DATA LOCATIONS

The Graphite Holdings aircore / RC collars were recorded on a location plan, but no actual coordinates given (Kristensen, 1994). However, coordinates were later provided (AGD66 Datum) in Williams (1996a). Details included 'Date Completed' recorded as MMM-YY, together with drilling contractor, rig type and drillhole size.

CRA Exploration aircore collar coordinates were provided and annotated 'East', 'North' and 'RL' with 'Date'. The Datum is assumed to be AGD66, based on diamond drilling logs. Diamond drillhole collar coordinates were provided as 'Australian Map Grid' and annotated 'Easting', 'Northing' and 'Collar\_Elev' with 'Date Commenced' and 'Date Completed'. We note that "drillhole locations were determined by differential GPS with precision levels +/-1m". Other details included drilling contractor, rig type and drillhole size (Williams, 1996).

The Canning Coal aircore drillholes were drilled vertically using 3.25" (~83mm) tungsten carbide blade bits. Collar coordinates were measured at the time of drilling using a hand-held GPS but a Differential GPS unit was later used to obtain horizontal accuracy of  $\pm 5$ cms and vertical accuracy of  $\pm 10$ cms (Randell, 2019).

### 6.3 DOWNHOLE SURVEYS

Downhole surveys were not completed on any drillholes as all are collared vertically and are short length.

### 6.4 SAMPLING PROTOCOLS

#### 6.4.1 AIRCORE/ RC SAMPLING

A total of 23 samples from the Graphite Holdings RC drillholes PAC11/10, PAC14/10, PAC14/12, PAC26/15 and PRC036 were chosen to be tested at Comalco's Weipa operations. Samples were collected over variable intervals from 1m to 6m for the PAC drillholes, but samples from PRC036 were continuous 1-metre intervals from 4m to 22m. No details of sampling procedures were given (Kristensen, 1994).

The CRA Exploration aircore drillholes were sampled at 1 metre intervals directly from a cyclone fitted with a PVC standpipe to avoid loss of fines. Cleaning of the cyclone was carried out regularly, especially after drilling through the lateritic/ pallid clay zone (Kristensen, 1994).

The Canning Coal aircore samples were collected at one-metre intervals down each drillhole in 900mm x 600mm and 350mm x 250mm green plastic bags laid out in rows at each drill site. Sample material was collected via a cyclone and nominal 75:25<sup>4</sup> cone splitter fitted to the drilling rig. The larger sample was collected for analysis and testwork while the smaller sample was collected as a retained representative sample of each metre drilled. Non-kaolin material collected in the larger bags was poured back down the drillhole or removed from site and taken to the local rubbish tip. In total, 325 samples were retained as kaolin samples for possible testwork and analysis. Chip tray samples were also collected for each metre drilled and photographed (Randell, 2019).

#### 6.4.2 DIAMOND CORE SAMPLING

For the diamond drilling, CRA Exploration used PQ3 triple tube wireline barrels with tungsten set bits rather than diamond bits and used "air flushing because of the propensity of the kaolin to disperse readily in water" (Kristensen, 1994). Three 1-metre sub-samples were collected from each of the 10 cored drillholes; one from the high white zone and one from above and below the off white/ creamy kaolin.

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<sup>4</sup> This did not produce accurate splits



### 6.4.3 TEST PIT SAMPLING

In 2000, one 3-tonne sample and three 25-kilogram samples were collected from each pit, but the method of collection was not reported (Lulofs, 2002).

In 2007, a 150kg sample of high white kaolin was collected from Bradley Central pit but again, the method of sample collection was not reported (Lulofs & Williams, 2008).

## 6.5 ASSAY METHODS AND RESULTS

Kristensen (1994) reported that 13 outcrop samples were collected to determine the free quartz content of the -10µm fraction by XRF analysis and to determine the blunging<sup>5</sup> conditions required for maximum liberation of the kaolin. The main conclusions were:

- Average yield of the -10µm material was 50.8%
- The 10-45µm fraction contained between 3.5% and 12.5% quartz but the average quartz content of the -10µm fraction was only 0.6%
- 'more severe' blunging increased the yield significantly from 50.8% to 63.4%.

The Graphite Holdings samples were blunged and screened at -45µm then the undersize analysed for brightness and colour, particle size distribution, high and low shear viscosity and abrasion. Brightness was measured before and after leaching and magnetic separation, producing brightness increases in PRC036 samples from 88.4% before to 91.5% after treatment.

CRA Exploration used the preliminary results from the kaolin outcrop samples to determine the assay method for their Aircore samples. The -10µm fraction was obtained by blunging and screening, while the particle size distribution was determined using the pipette method<sup>6</sup> (AS 1372:1975).

Brightness was measured using an Elrepho 2000 reflectometer, using TAPPI procedure T6460m-86. We note that CRA Exploration reported that the Analabs reflectometer was faulty and that they 'had not succeeded in obtaining consistent brightness results'. No further mention was made as to whether satisfactory results were subsequently obtained (Kristensen, 1994).

CRA Exploration also carried out multi-element analysis on each aircore drillhole; two samples from each drillhole, a composite grab sample from the top 4 metres and a grab sample of bedrock from the bottom-of-hole sample.

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<sup>5</sup> Blunging refers to the disaggregation of raw kaolin by agitation with Calgon solution (a dispersing agent to determine grain size distribution) for a specified time and speed of rotation of a turbine propellor

<sup>6</sup> In the pipette method, a sample is pipetted at different times and different depths of the suspension of the sample in a measuring cylinder. The pipetted suspension is condensed and dried and weighing determines the mass ratio of the pipetted fraction. This method is being replaced by laser diffraction whereby the angular variation in intensity of light scattered as a laser beam passing through a dispersed particulate sample is measured. Large particles scatter light at small angles relative to the laser beam and small particles scatter light at large angles.

Samples were assayed at ALS for:

- Fe, Mn, Co, Cu, Al, Ba, Ca, Mg, Ni, Ti, V, W, Zr (multi-acid digest, ICP-AES)
- Cu, Pb, Zn, Ag, As, Bi, Mo, Sb (acid digest with solvent extraction, ICP-AES)
- Pt, Pd, Au (fire assay, ICPMS)

No anomalous results were reported and CRA Exploration also concluded that there is no correlation between kaolin brightness and bottom-of-hole chemistry (Kristensen, 1994).

Sample results from the CRA Exploration cored drillholes showed that:

- The +10µm fraction contains only a small amount of kaolin
- The -10µm fraction contains between 27.5% and 57.7% of the total sample mass, has a high pigment brightness from 85.5% to 89.1% and has a low impurity content

Testwork on the pit samples showed that:

- 25kg raw sample – sent to Georgia, USA in 2001, 87.5% ISO brightness. Also, particle size distribution and Brookfield viscosity<sup>7</sup> tests were carried out.
- 6 tonnes raw kaolin – sent to Minerals Corporation pilot plant in Cairns, 500kg filler sample produced
- 500kg kaolin filler sample – sent to Finland in 2000, 'KCL laboratory filler tests and paper printing tests were carried out with excellent results' (Lulofs, 2002)

In 2002, testwork was completed to examine the possibility of upgrading the kaolin by dry screening to reduce the cost of transporting raw clay to a wet process plant. This was done using delamination beads added to the blunging cycle but results were mixed depending upon sample size (Lulofs, 2003).

In 2007, a 150kg sample was sent to Georgia USA to carry out process studies for the preparation of both hydrous and calcined kaolin products. Hydrous kaolin was reported 'to be of excellent quality.... superior for colour and whiteness' when compared with other commercial products. The calcined product was tested in the two main industrial applications; paper and paint. Preliminary comments on small samples supplied for paper qualities were positive. Similarly, paint qualities were encouraging and considered by the test company 'to be an excellent pigment for paint applications' (Lulofs & Williams, 2008).

All 1 metre Canning Coal Aircore samples were weighed, dried and moisture calculated then split into two portions. One portion ('A') was retained while testwork was carried out on the second split 'B'. Each split B was wet screened at 300µm and the -300µm recovery recorded (Table 4). The results show a modest but consistent increase in average kaolin recoveries (and standard deviation of the population) as the observed whiteness increases.

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<sup>7</sup> Measured by rotating a disc or cylinder in a fluid sample and measuring the torque needed to overcome the viscous resistance to the induced movement.

Logged Colour	Sample Nos.	Min	Max	Mean	Std Dev
HWH	33	44	87	71	11
OWH	129	30	89	67	12
OWC	89	18	92	66	13
CRM	37	28	86	63	15
CMPK	16	23	87	60	20

Table 4: Recovery % - kaolin samples screened to -300 µm

A total of 331 samples with -300 µm recovery >15% were then pulverised using ring mills to 80% passing -75 µm and chemically analysed by XRF (fusion) with lithium borate flux, except for B, U, Th where analyses were done by peroxide fusion and ICP. Loss on Ignition was analysed at 1000°C in a LECO furnace.

Chemical analyses included Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, Fe<sub>2</sub>O<sub>3</sub>, TiO<sub>2</sub>, MnO, P<sub>2</sub>O<sub>5</sub>, SO<sub>3</sub>, MgO, CaO, K<sub>2</sub>O, Na<sub>2</sub>O, V<sub>2</sub>O<sub>5</sub>, Cr<sub>2</sub>O<sub>3</sub>, CoO, NiO, CuO, ZnO, As<sub>2</sub>O<sub>3</sub>, PbO, BaO, SrO, ZrO<sub>2</sub>, Sb<sub>2</sub>O<sub>3</sub>, LOI<sub>1000</sub>, Li, B, La, Ce, Th, U, CeO<sub>2</sub>. Selected oxides/elements are shown in Table 5 with a basic statistical analysis indicating the range and average of values.

The most deleterious impurities in kaolin are iron minerals that impart colour to the white kaolin. Iron exists as oxides, hydroxides, oxy hydroxides, sulphides and carbonates along with iron-stained quartz/ anatase and mica in kaolin. Other oxides of concern can be TiO<sub>2</sub> (influences shrinkage and fired colour) and CaO while high LOI values can be attributed to the presence of carbonaceous matter or decomposable minerals resulting in weight loss on heating.

InterGroup Mining (2021) notes that theoretical composition of kaolin is 39.5% Al<sub>2</sub>O<sub>3</sub>, 46.5% SiO<sub>2</sub> and 14.0% H<sub>2</sub>O with no K<sub>2</sub>O, Fe<sub>2</sub>O<sub>3</sub> or TiO<sub>2</sub>. Commercial application for kaolin includes China clay where Kunwar (2015) considers that typical specifications are Al<sub>2</sub>O<sub>3</sub> >37%, SiO<sub>2</sub> <46%, TiO<sub>2</sub> <1.0%, CaO <0.3%, Na<sub>2</sub>O <0.05%, LOI <15%.

Bloodworth, et al. (1993) have noted that the typical composition for ceramic grade kaolins is 37-38% Al<sub>2</sub>O<sub>3</sub>, 47-48% SiO<sub>2</sub>, 0.39-1.00% Fe<sub>2</sub>O<sub>3</sub>, 0.02-0.05% TiO<sub>2</sub>, 0.06-0.10% CaO, 0.22-0.30% MgO, 0.10-0.15% Na<sub>2</sub>O, 0.8-2.0% K<sub>2</sub>O and 12.1-13.0% LOI

We note that the Kerrigan kaolins (-300um fraction) (Table 5) show the following significant chemical characteristics:

- Al<sub>2</sub>O<sub>3</sub> averages ~30%, even for HWH kaolin
- SiO<sub>2</sub> averages ~56% with a moderately high standard deviation
- Fe<sub>2</sub>O<sub>3</sub> averages ~0.5% for HWH, OWH and OWC kaolin
- Other oxides (CaO, MgO, Na<sub>2</sub>O, K<sub>2</sub>O) and LOI are generally low although some K<sub>2</sub>O and LOI samples are anomalously high and low, respectively

Oxide/ Element (%)	All Kaolin				HWH Kaolin				OWH/OWC Kaolin			
	Min	Max	Mean	Std Dev	Min	Max	Mean	Std Dev	Min	Max	Mean	Std Dev
Al <sub>2</sub> O <sub>3</sub>	18.4	36.4	30.2	3.7	19.4	36.4	30.9	3.9	19.8	36.3	30.6	3.4
SiO <sub>2</sub>	49.5	70.1	56.6	4.1	49.6	70.1	56.4	4.9	49.9	67.1	56.3	3.9
Fe <sub>2</sub> O <sub>3</sub>	0.11	3.25	0.62	0.36	0.11	1.13	0.48	0.24	0.12	1.41	0.54	0.28
TiO <sub>2</sub>	0.05	1.13	0.42	0.19	0.13	1.05	0.45	0.20	0.05	1.13	0.43	0.19
Na <sub>2</sub> O	0.01	4.12	0.19	0.50	0.02	0.23	0.06	0.04	0.02	2.19	0.10	0.22
K <sub>2</sub> O	0.04	8.40	1.69	2.15	0.04	4.40	0.75	1.16	0.05	8.40	1.58	2.13
CaO	0.00	1.18	0.05	0.11	0.01	0.06	0.03	0.01	0	0.42	0.03	0.03
MgO	0.02	1.01	0.09	0.10	0.04	0.26	0.07	0.05	0.02	0.61	0.07	0.05
LOI	2.9	13.0	10.0	2.2	5.3	12.8	10.7	1.7	3.8	12.7	10.2	1.9

Table 5: Oxide Assays - kaolin samples screened to -300um

### 6.5.1 PARTICLE SIZE DISTRIBUTION

According to Bloodworth, et al. (1993), particle size distribution (PSD) is critical in assessing economic potential, in particular the percentages of <2µm, <10µm and >53µm. Kristensen (1994) reported that the Kerrigan deposit has a continuous grain size distribution with 15% of the -45µm kaolin being in the 10-45µm range. A PSD test of five aircore samples from the Graphite Holdings drilling program showed that 64% to 91% of the -45µm kaolin is <5µm. CRA Exploration tested 10 core samples and results indicate that 45% of the kaolin is contained in the -10µm fraction and 71% to 95% of the -10µm fraction is <5µm.

## 6.6 QUALITY ASSURANCE/ QUALITY CONTROL

### 6.6.1 QA/QC PROCEDURES

There were no QA/QC procedures documented for either the Graphite Holdings or CRA Exploration drilling and the 2011 Mineral Resource report (Border, 2011) made no mention of any protocols used for the data.

### 6.6.2 BLANKS

No blanks were reported as used in any of the drilling programs.

### 6.6.1 STANDARDS

No standards were used in the historical drilling programs and standards were not available for use in the 2019 program. It is recommended that appropriate standards be developed from the Meckering Deposit as a measure of the testwork precision and repeatability for all future drilling programs.

### 6.6.2 DUPLICATES

For the 2019 drilling program, field duplicate samples were taken at a variable rate of 1:20 to 1:25, depending upon the volume of kaolin sample recovered (Randell, 2019). Duplicate samples were obtained by re-splitting the metre sample through a 50:50 cone splitter. This was only partially successful as duplicate weights ranged from 50% to 135% of the original split sample. Field duplicate samples have not been screened or assayed.

Screening or chemical analysis of the smaller cone split samples (see Section 6.4.1) also has not been carried out.

### 6.6.3 QA/QC CONCLUSIONS

There has been insufficient consideration of Quality Control protocols in any of the drilling programs and it is recommended that these be formally addressed in any future drilling to enable a higher degree of confidence in the precision of the test results. Similarly, there has been no external Quality Assurance testwork on the drill samples, apart from the internal laboratory protocols and results.

There has, however, been considerable bulk sample testwork completed historically and the results of this work can be used for Quality Assurance purposes in those specific areas where bulk sampling has been carried out.

## 6.7 GEOLOGICAL LOGGING

Geological logging of the Graphite Holdings/ CRA Exploration aircore drillholes was carried out on one metre intervals with rock type, brief colour/ texture description and estimated quartz content. CRA Exploration diamond drillholes were logged according to major rock type and kaolin colour (visual assessment) (Kristensen, 1994). CRA Exploration later developed a standard legend for rock types and colour codes.

For the Canning Coal 2019 drilling program (Randell, 2019), geological logging was carried out on each one metre drilling interval from the larger sample collected through the cyclone. Logging codes used were those adopted by CRA Exploration. Lithology codes were limited to a simple list of 9 choices while colour codes used comprised 22 descriptive terms. Kaolin colours were limited generally to HWH (high white), OWH (Off White), OWC (Off White Cream) and CRM (cream) and used as a proxy for visual brightness for each sample. This is a very subjective process and it is recommended that the appropriate Munsell Chart be obtained to quantify these colours. We note that Bloodworth, et al. (1993) recommend the use of a Munsell Soil Colour Chart to ensure a more objective way of visual logging. This author considers that kaolin generally has variable hue from 5YR (yellow-red) to 5Y (yellow), values >8 and variable chroma from 0 to 4.

The grittiness of each kaolin sample was also visually estimated in a qualitative manner and results should be viewed with this in mind.

## 6.8 BULK DENSITY MEASUREMENTS

CRA Exploration estimated tonnages and grade for the Kerrigan deposit in 1994 but no details have been located regarding the bulk density values used.

Border (2011) used a value of 1.6t/m<sup>3</sup> “based on typical values for similar deposits” when estimating mineral resources for AMMG Limited.

In the 2019 Canning Coal aircore drilling program (Randell, 2019), sample weights were measured for the kaolin samples using a household electronic set of scales. Volumes were calculated on the basis of the nominal drillhole diameter (82mm), but results indicated two probable sources of error: non uniform drillhole diameter due to blow outs from compressed air and variable weights returned through the cyclone. Due to this weight variability, bulk density values for kaolin vary from a low of 0.68 to a high of 3.10 with an average value of 1.46 from 325 samples (Figure 7).

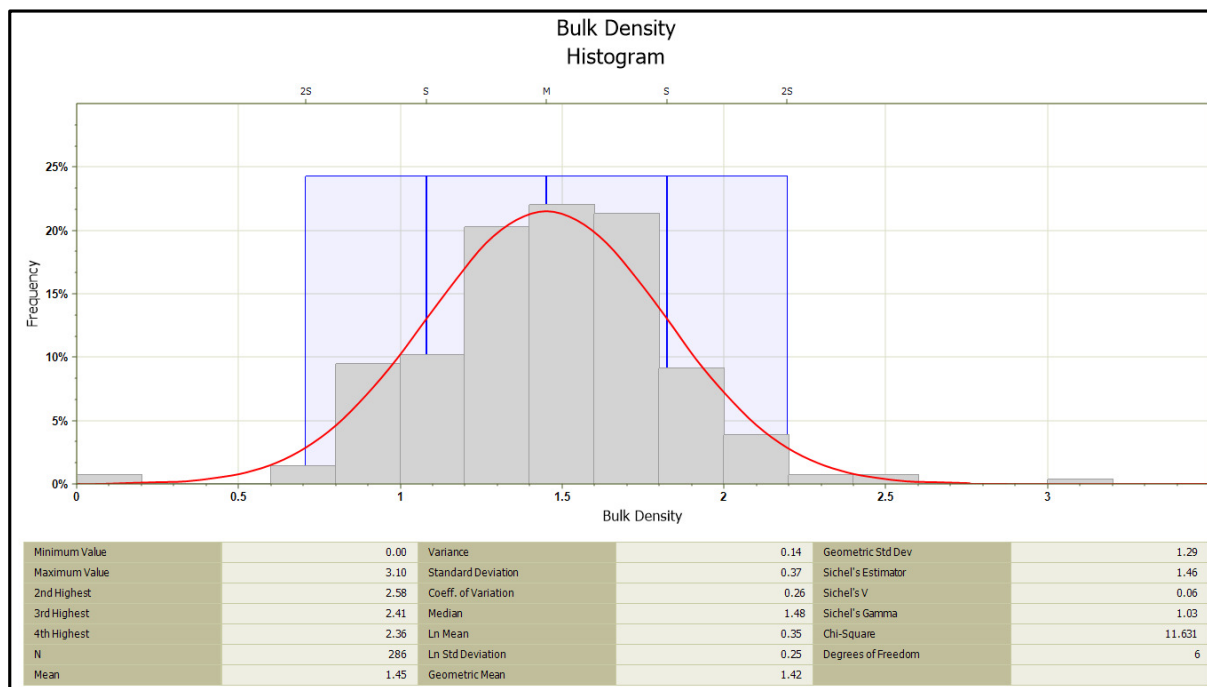


Figure 7: Histogram Plot of Calculated Bulk Density Values

## 6.9 GEOS MINING COMMENTARY AND RECOMMENDATIONS

Geos Mining plotted drillhole collars and traces, lithologies and kaolin colours for both the Canning Coal and historical drilling data. It is noted that, in some cases where the Canning Coal drilling has ‘twinned’ the historical drillholes, expected kaolin thicknesses were not intersected. Table 6 shows expected kaolin

thicknesses based on a visual examination of drillholes in the vicinity of each planned drillhole compared with actual thicknesses drilled. The reasons for this variability have not been determined although it is possible that local physico-chemical changes in the regolith have contributed significantly.

Drillhole	Expect Thickness (m)	Actual Drilled Thickness (m)	Drillhole	Expect Thickness (m)	Actual Drilled Thickness (m)
KEAC001	16-18	25	KEAC015	17-27	12
KEAC002	12-20	15	KEAC016	17-22	13
KEAC003	6-20	6	KEAC017	23	19
KEAC004	6-12	7	KEAC018	13	17
KEAC005	14-18	15	KEAC019	20	17
KEAC006	12-19	12	KEAC020	20	0
KEAC007	20	0	KEAC021	10	22
KEAC008	8-16	15	KEAC022	16	0
KEAC009	14-22	23	KEAC023	4	9
KEAC010	25	8	KEAC024	11	14
KEAC011	26	11	KEAC025	10-12	10
KEAC012	13	7	KEAC026	22	13
KEAC013	8-17	27	KEAC027	8	2
KEAC014	15-19	9			

Table 6: Expected Kaolin Thickness in Drilling

Several recommendations are suggested for future drilling programs:

1. Additional brightness tests and additional chemistry should be carried out from the 2019 drill samples and for all future drilling programs.
2. Field duplicates should be submitted for analysis/ testwork to check for sampling variability. Standards from Meckering should also be included in any analysis/ testwork and umpire analysis should be carried out at another accredited laboratory.
3. Some hole twinning should be carried out to verify previous drilling programs
4. A differential GPS unit should be used to accurately measure collar positions due to the variable collar positions recorded by handheld GPS.
5. The variable kaolin thicknesses observed indicates that future modelling must take into account the undulatory nature of the pallid zone to avoid over-estimation of kaolin volumes.
6. Rigorous bulk density measurements are recommended for any future drilling programs. These can be done in the laboratory or field, provided samples are sealed and have accurate in situ volumes.
7. Aircore drilling should be replaced or supplemented by sonic drilling in future programs where the objective of the drilling is for resource estimation purposes. Sonic drilling relies on high frequency vibration to retrieve in-situ samples from which better visual logging and more accurate bulk density measurements can be made.
8. Kaolin logging should include a less subjective description of brightness by use of the appropriate Munsell chart colours and nomenclature.

## 7. Geological Model

### 7.1 DATA USED IN MODEL

Drillholes used in the geological model is summarised in Table 7 while Appendix 3 – Drillhole Collar Details shows further drilling details.

Drillhole Series	Company	Drilling Type	Year
93PBA001-108	CRAE	Aircore	1993
PRC016-042	Graphite Holdings	Reverse Circulation	1993
PBD100530C, 120530A, 140490A, 140530A, 160470A-C, 180470A, 200490A-C, 220450A, 220510A-B, 220530A, 240450B	CRAE	Diamond Core	1994
94PBA109-185	CRAE	Aircore	1994
KEAC001-027	Canning Coal	Aircore	2019

Table 7: Kerrigan Drilling used in MRE

### 7.2 TOPOGRAPHIC CONTROL

Digital elevation data was initially downloaded from ICSM (2021) and drillhole collars adjusted to this elevation data.

In November 2021, Canning Coal contracted MINELiDAR Pty Ltd to carry out a 25cm accurate LiDAR survey over the immediate Kerrigan resource area and produce a digital elevation model for the area, as well as producing high resolution aerial photography of the corresponding area.

The LIDAR dataset was supplied to Geos Mining, imported into Micromine software and used to develop a one metre digital elevation model (DEM). The updated DEM was then used to adjust the elevation data for the Kerrigan drillholes. This data has been incorporated into the geological model.

### 7.3 LITHOLOGICAL UNITS

A total of 5 lithological units were identified and used in the geological model, based on the one metre geological logging data reported by CRAE, Graphite Holdings and Canning Coal. From surface to End-of-Hole the units are (Figure 8):

- Cover – comprises soil, sand and lateritic gravel up to 6m thick but generally <2m thick
- Kaolin – average 2m thick but up to 17m with colour variations from High White (HWH) to Off White (OWH) to Cream (CRM). The Kaolin unit contains a variable percentage of coarse quartz grains from 5% to 20%, as visually estimated.
- Clay – clayey material that is typically non-white in colour from mottled cream to orange to pink to brown.



- Saprolite – highly weathered material with some remnant granitic texture
- Igneous Rock – granite has been intersected from surface to 55m depth but with an average depth of 25m.

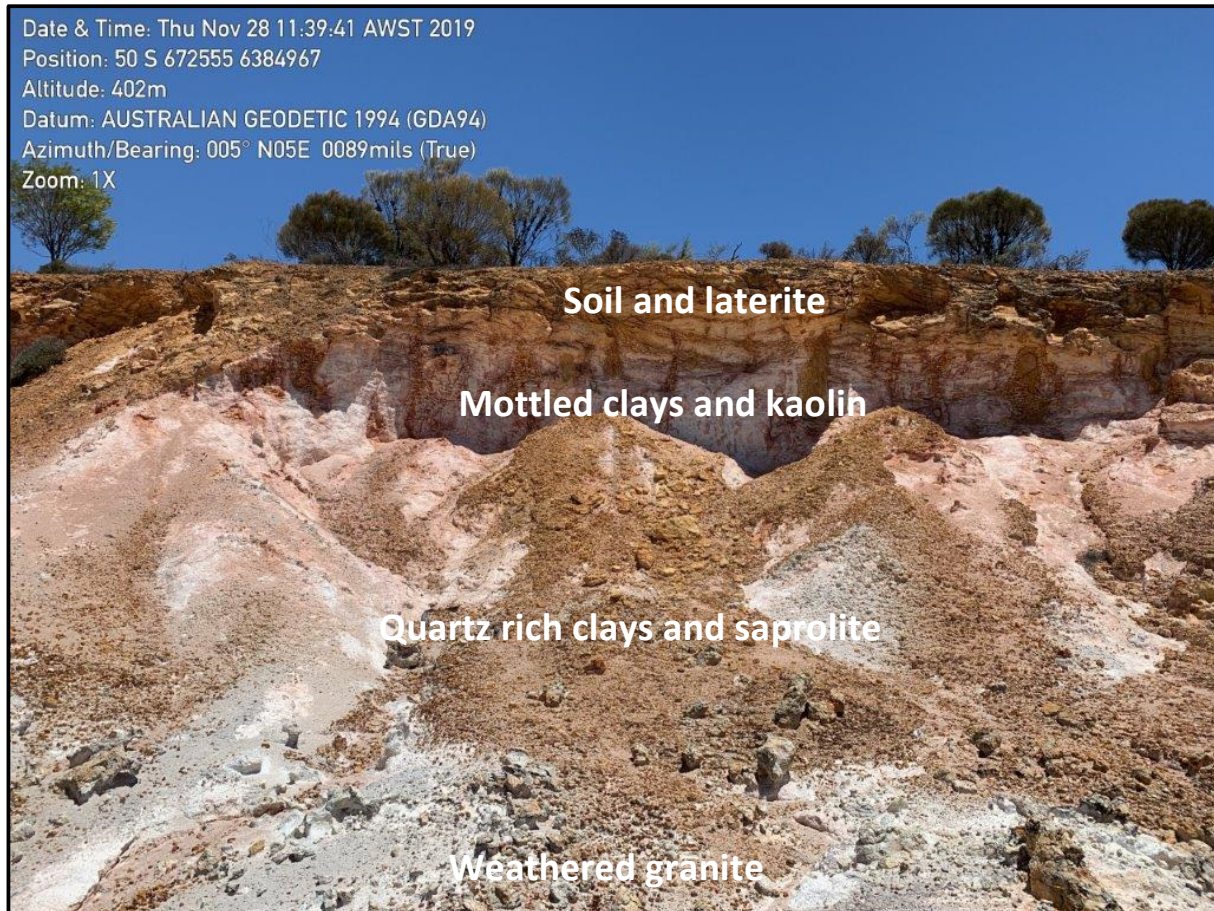


Figure 8: Weathering Profile at Kerrigan

Thin soil cover overlying orange-brown laterite, pink mottled clay with kaolin, quartz rich grey clays and weathered granite

## 7.4 RESOURCE MODEL

The resource model has been constrained by the distribution of drilling and presence of kaolin as geologically logged in the drillholes. Drillhole spacing is predominantly on 200m and 400m centres and the resource boundary has been selected as the halfway distance between a kaolin-bearing drillhole and a barren drillhole. In some cases, a barren zone gives way to a separate kaolin zone (e.g., on the western side of the resource) and, in these cases, we have elected not to include this kaolin area in the resource due to the lack of brightness and chemical data (Figure 9).

The resource model has also been constrained at depth using 3 criteria:

- Kaolin colour – only kaolin with logged colour HWH (high white), OWH (off white) and CRM (cream) has been included. Kaolin logged as MCM (Mottled Cream) is considered likely to have brightness values too low to be economically exploited and was excluded.



- Potash – only kaolin samples with <3% K<sub>2</sub>O were included on the assumption that values greater than 3-4% are indicative of low yield, less weathered and difficult to mine areas
- Loss on Ignition (LOI) – LOI values predominantly represent the hydroxyl component in the clay minerals with kaolin typically containing 14% LOI. LOI value of 3% represents ~20% kaolin which is marginal in terms of mining and therefore the small number of LOI values <3% have been excluded from the resource.

An example of these restrictions is shown in Figure 10. Here, kaolin with high K<sub>2</sub>O values and Mottled Cream colour has been excluded from the resource.

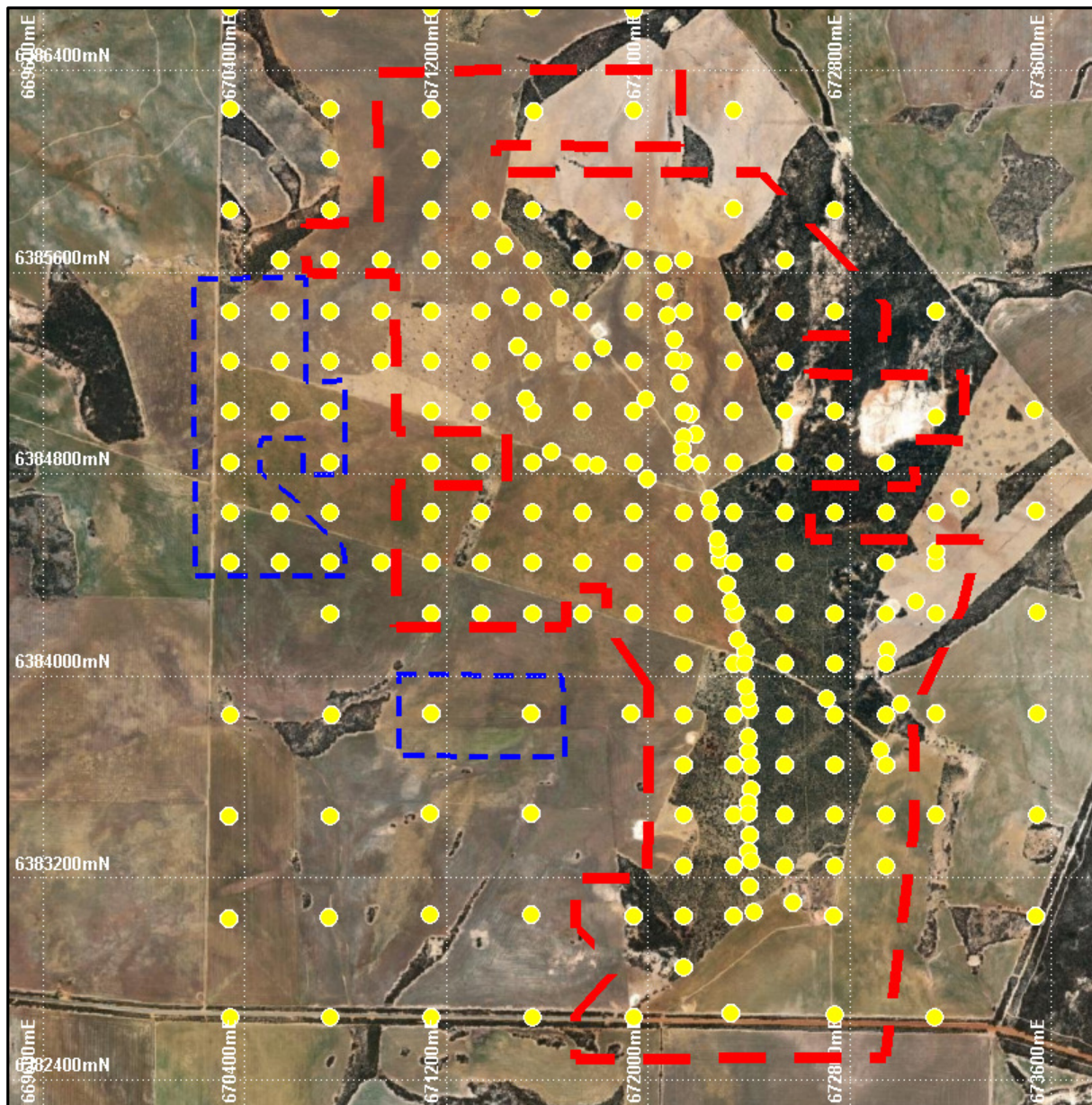


Figure 9: Resource Boundary (red), Drillholes (yellow) and Kaolin areas not included in Resource (blue)

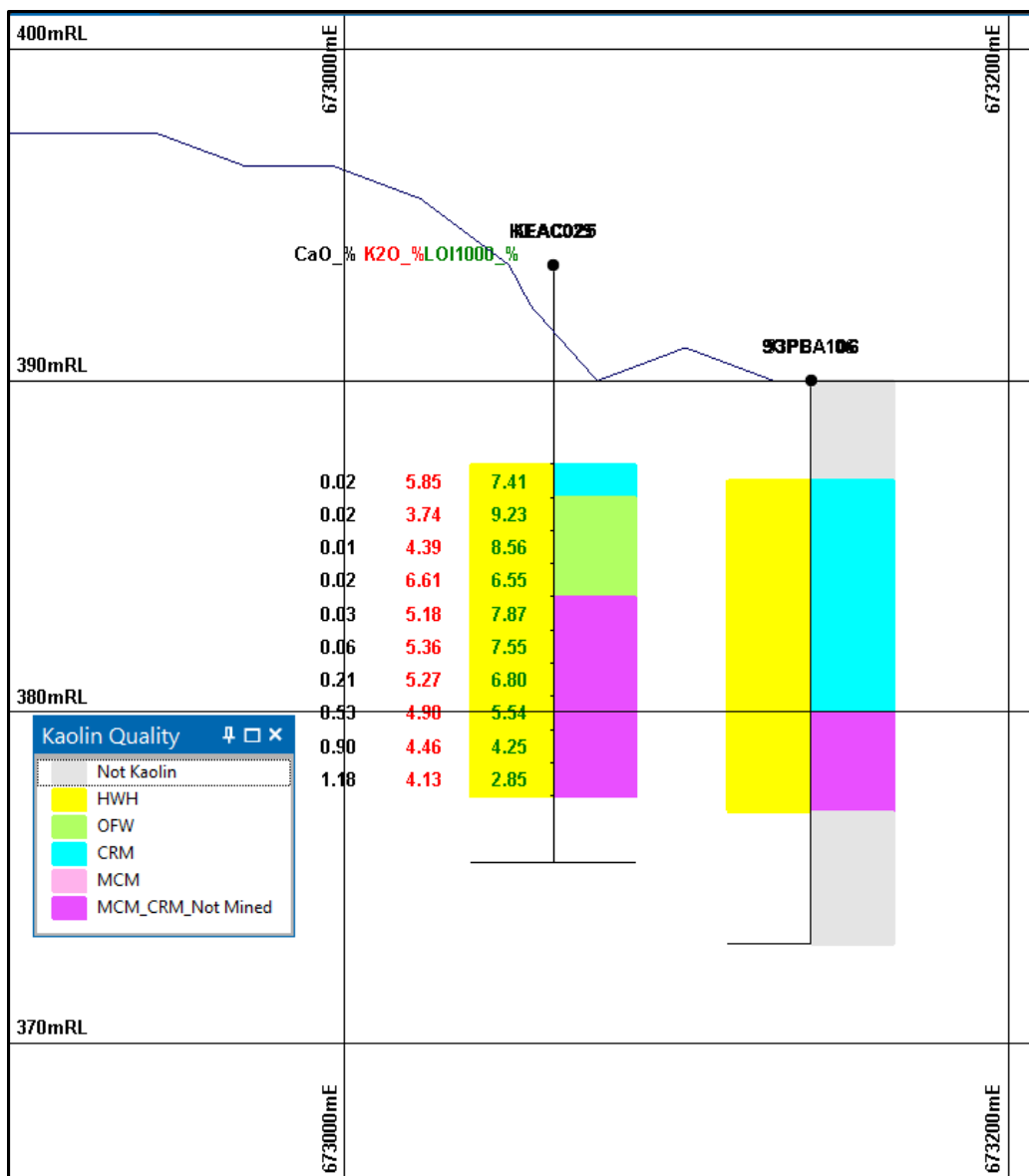


Figure 10: Logged Kaolin (yellow LHS) with Logged colour (RHS) and Oxide Analyses

## 7.5 LEAPFROG GEOLOGICAL MODELLING

The Kerrigan drillhole dataset and the DEM were imported into Leapfrog Geo, a geological modelling software, and a 3D geological model of the cover, kaolin and bedrock lithological units constructed.

## 8. Statistical Analysis

### 8.1 SAMPLE STATISTICS

A total of 263 samples were submitted for Brightness tests by CRAE. Results range from 54.3% to 90.9% with an arithmetic mean of 83.5% and Standard Deviation 6.9 (Table 8). The Cumulative Frequency Plot (Figure 11) shows inflexion points at 80% and 90% indicating natural population cut-off Brightness values.

	% Brightness Assays
<b>Count</b>	263
<b>Max</b>	90.9
<b>Min</b>	54.3
<b>Mean</b>	83.5
<b>Median</b>	86.1
<b>Std Dev</b>	6.95
<b>Variance</b>	48.26

Table 8: Resource Model Sample Statistics

### 8.1 DRILLHOLE DATA COMPOSITING

As only six of the 263 Brightness samples are not 1 metre in length, it was determined that the data was homogenous enough not to warrant compositing of the sample intervals.

### 8.2 TOP-CUT ANALYSIS

Since the distribution of the Brightness samples is centred around the mean (only 5% of the samples are greater than 1 standard deviation above the mean), no top cut was applied to the Brightness samples (Figure 12 and Table 9).

Low	High	No. of Assays	Frequency %	Cumulative Number	Cumulative Frequency %
50	55	2	0.76	2	0.76
55	60	1	0.38	3	1.14
60	65	2	0.76	5	1.90
65	70	10	3.80	15	5.70
70	75	22	8.37	37	14.07
75	80	18	6.84	55	20.91
80	85	55	20.91	110	41.83
85	90	140	53.23	250	95.06
90	95	13	4.94	263	100

Table 9: Percentage Brightness Raw Assay Frequency Distribution

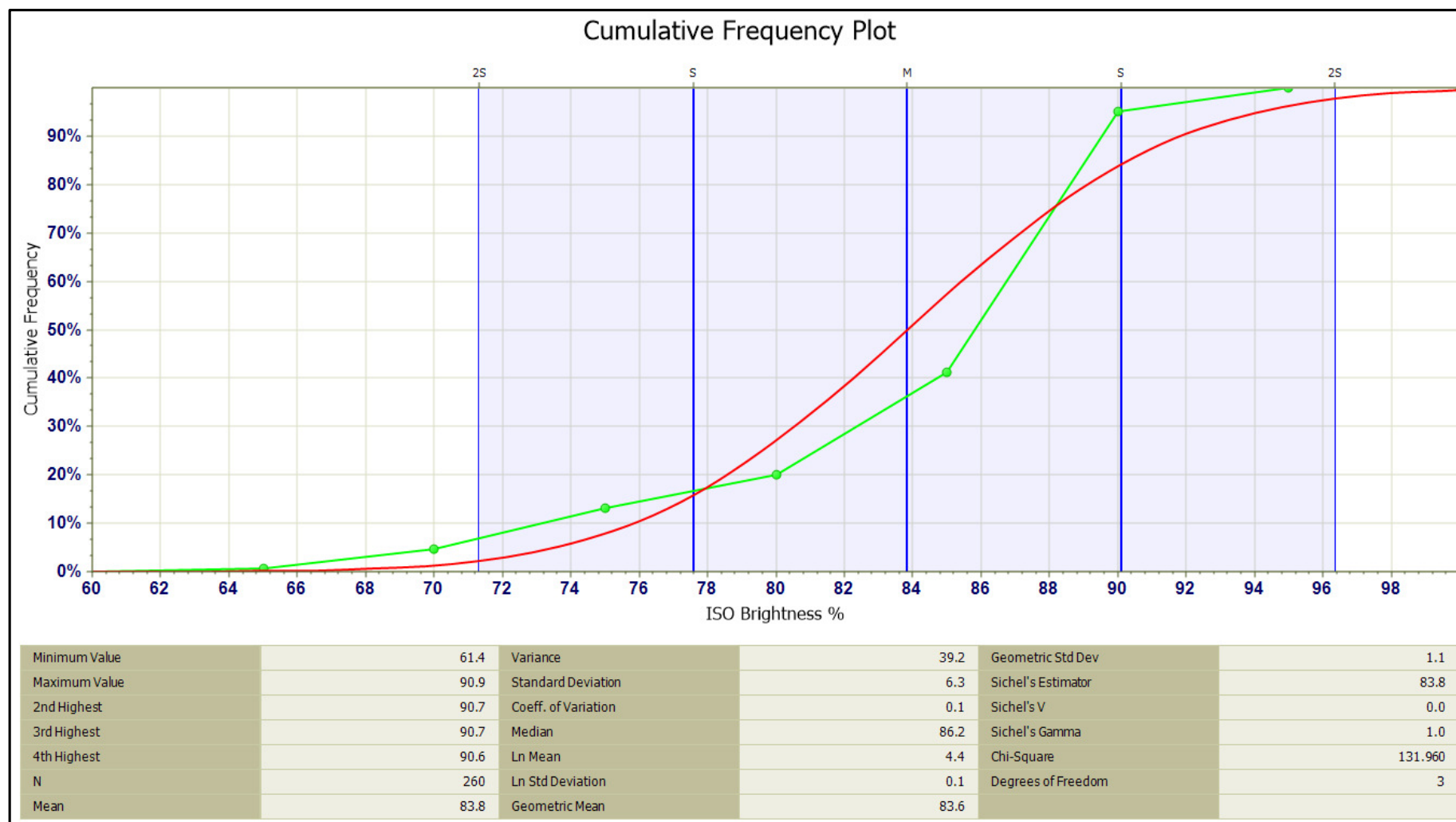


Figure 11: Cumulative Frequency Plot - ISO Brightness

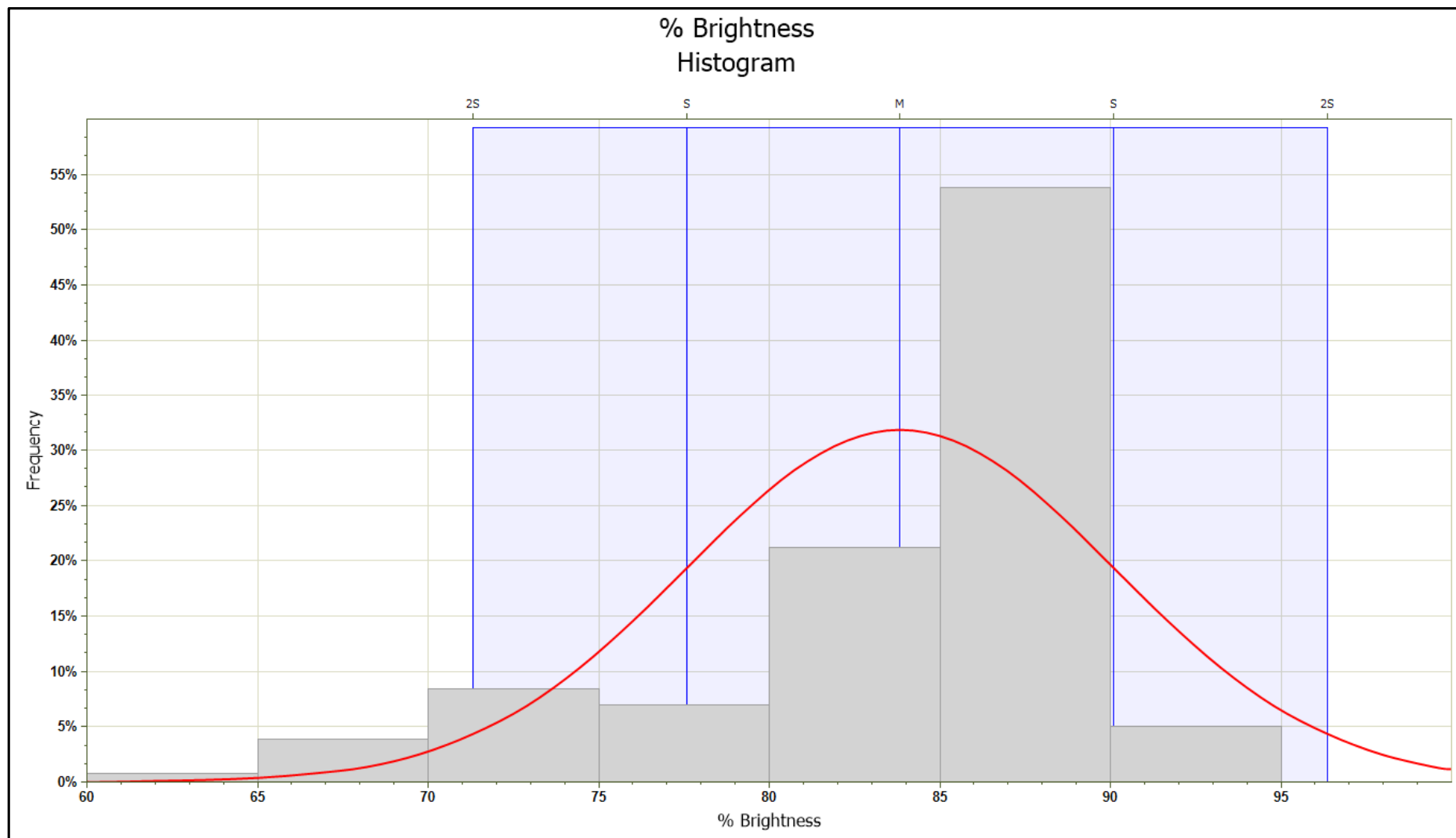


Figure 12: ISO Brightness Histogram

### 8.3 VARIOGRAPHY

Due to the limited assay and brightness data available with no indication of spatially correlated distance or directional bias, the interpolation method chosen was IDW (Inverse Distance Weighting). Accordingly, variography was not required to be carried out.

## 9. Mineral Resource Estimation

### 9.1 BLOCK MODEL

The Leapfrog derived geological model was imported into Micromine 2018 and a blank block model (BM) was developed to encompass the Kaolin solid that was generated in Leapfrog. The BM was created using block dimensions 20m x 20m x 1m (x, y, z), sub-blocked to 5m x 5m x 0.5m and constrained by the resource boundary model. Block dimensions were determined by considering likely SMU (Selective Mining Unit) size, data density and downhole sample interval.

### 9.2 GRADE ESTIMATION PROCESS

Block grades were interpolated from the 1m % Brightness sample data using Micromine software, assuming the modelling parameters listed in Table 10 and Figure 13.

Parameter	Quantity		Comment
Method	Inverse Distance Squared		
Search Passes	First	Second	Two search passes were used to populate all blocks
Ellipsoid Radius	1,100m	1,100m	
Sectors	Four	Four	
Min number of drillholes	2	No limit	
Min points per drillholes	1	No limit	
Maximum points per drillholes	3	No limit	
Ellipsoid orientation	Spherical		

Table 10: Modelling parameters

Interpolated grades were written to the trimmed block model and exported into an Excel spreadsheet for estimation of volumes and tonnages. A universal Bulk Density value of 1.6 was used for tonnage calculations.



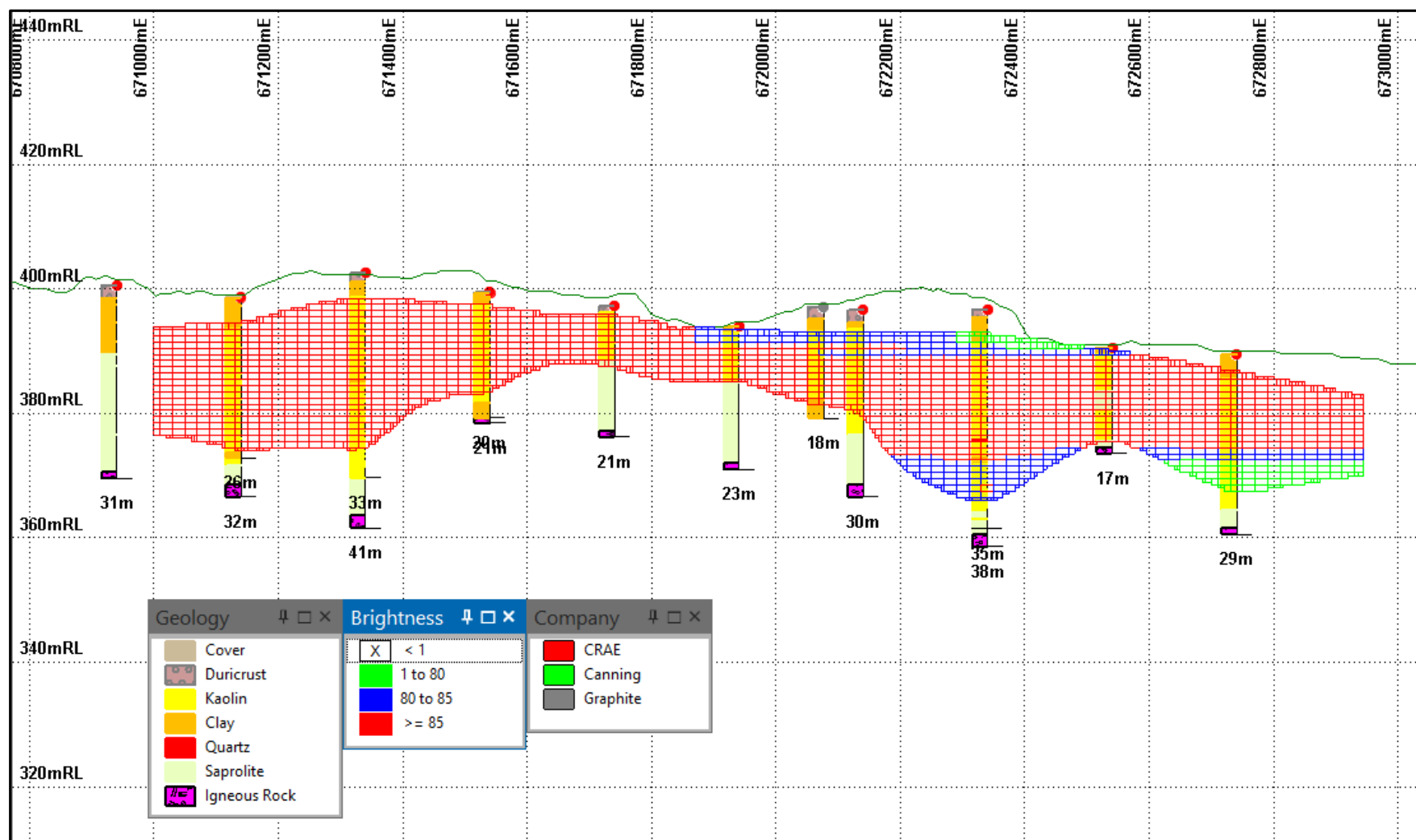


Figure 13: Kerrigan E-W Section at 6385400mN showing brightness colour-coded resource blocks  
(Note vertical exaggeration)



## 10. Resource Classification

The kaolin volume and tonnage were calculated from the block model with Brightness assigned from the interpolation process. Table 11 shows the reported parameters.

Brightness Range (%)	Volume (m <sup>3</sup> )	Bulk Density	Tonnes	Brightness (%)
80-85	35,140,113	1.6	56,224,180	83.3
85-90	43,281,263	1.6	69,250,020	86.8
		<b>TOTAL</b>	<b>125,474,200</b>	<b>85.23</b>

Table 11: Kerrigan Resource

In accordance with the classification of Mineral Resources as specified in The JORC Code (2012), Geos Mining considers that the Kerrigan Resource is classified as an Inferred Resource<sup>8</sup>.

**Kerrigan Inferred Resource: 125 million tonnes with estimated ISO brightness of 85% and average yield of 43.9% (as measured on the minus 10 micron fraction).**

Note that the brightness values were measured on the -10um fraction of the samples.

### 10.1 RECONCILIATION WITH 2011 MRE

The 2011 MRE (Border, 2011) reported an Inferred Resource of 85 million tonnes at an ISO brightness of 85.1%. The revised current estimate reports an increase in tonnage of ~47% with almost identical average brightness value.

Geos Mining considers that the reasons for the increased tonnage are:

- Additional drilling data that has given confidence in the previous results (notwithstanding the poor individual repeat hole correlations) and has confirmed the overall global resource
- Although the additional drilling did not extend the resource boundaries laterally due to the location of the holes within the resource, some barren or low grade areas were able to be modified
- The revised geological interpretation indicates additional continuity of mineralisation.

<sup>8</sup> Clause 21 "An Inferred 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."

## 11. Mining & Processing Scenario

### 11.1 MINING

During the 2015-2016 financial year, a Bankable Feasibility Study was produced for the Meckering kaolin deposit by Altech Chemicals Limited (parent company of Canning Coal). Altech referred to the Kerrigan deposit as an alternative source of high purity alumina to supplement the Meckering deposit.

Geos Mining has not sighted this document and is not aware of any documentation relating to the planned mining of the Kerrigan deposit.

### 11.2 PROCESSING TESTWORK

As presented in Section 4, CRAE carried out considerable testwork in the 1990's. Altech Chemicals also did some testwork as part of their BFS for the Meckering Project.

Geos Mining is not aware of any more recent testwork being completed.

## 12. Kaolin Product Markets

Lulofs & Williams (2008) refer to encouraging testwork that indicated "initial target industries to be the paper industry, paint producers and the manufacturers of plastics and rubber materials". Initial work by Altech Chemicals implied that the Kerrigan deposit could supply valuable feedstock for the production of High Purity Alumina (Carew-Reid, 2017).

More recently, Canning Coal carried out limited Scanning Electron Microprobe (SEM) and XRD work on several of the drill samples from the 2019 Aircore program. Several samples clearly contained halloysite, a form of kaolin that occurs as nanotubes and is used in a range of industrial applications including as a catalyst and to produce carbon nano-structures for the battery industry.

The Kerrigan deposit has a number of potential high value uses:

- High quality filler in paper, paint and plastics markets (a small fraction of the as mined material is expected from the existing testwork to be suitable for paper coating but yield of coating kaolin is expected to be low).
- Feedstock for production of high purity alumina, as indicated by Altech's testwork.
- Kerrigan material may also be suitable to produce a halloysite or mixed kaolin/halloysite product, although additional work will be required to confirm this.

## 13. Reasonable Prospects for Eventual Economic Extraction

Clause 20 of the JORC Code 2012 states:

*“A ‘Mineral Resource’ is 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.”*

Factors in favour of the development of the Kerrigan kaolin deposit include:

- Large near surface resource of high quality (brightness) kaolin
- Testwork indicates good potential for a variety of industrial uses
- Good road infrastructure for transport of material

There is limited water locally available for traditional kaolin processing, and this has inhibited the economic development of the Kerrigan deposit in the past (Minerals Corporation Limited internal assessments), as transport of bulk ore to a location with plentiful high quality water for kaolin processing was too costly to be economically competitive with other deposits. Two recent developments have changed this assessment:

- 1) There are a number of third party processors in Asia who will take bulk as-mined kaolin, or dry coarsely screened kaolin, and will pay a price that can be expected to cover mining and transport costs (for example, see announcements by Andromeda Resources in 2019/2020 where this option is being considered for their South Australian kaolin).
- 2) Kerrigan kaolin could be dry screened at 300 micron for use as feedstock for an HPA plant, an option examined by Altech Chemicals for kaolin from both Meckering and Kerrigan.

In Geos Mining’s opinion, the project has reasonable prospects for eventual economic extraction in the short term (3-5 years).

If further infill drilling can be carried out with additional testwork and sample analysis, then it is likely that the Resource classification can be upgraded and a preliminary mine plan and scoping study completed.

## 14. Exploration Potential

There has been insufficient drilling within Exploration Licence E70/4718 to define the limits of the Kerrigan kaolin deposit. Historical aircore drilling indicates good thicknesses of kaolin to the west with no boundary identified. Broad spaced drilling in the immediate south-west of the Kerrigan deposit suggests there may be little kaolin development.

A review of previous exploration indicates four areas where additional kaolin may be expected (Figure 14):

- To the north of the current deposit
- A separate body to the west of the current deposit where historical drilling has intersected kaolin up to 17m thick
- A separate body to the south-east of the current deposit where previous drilling has identified kaolin

- Within the eastern tenement block where historical drilling has intersected up to 33m kaolin.

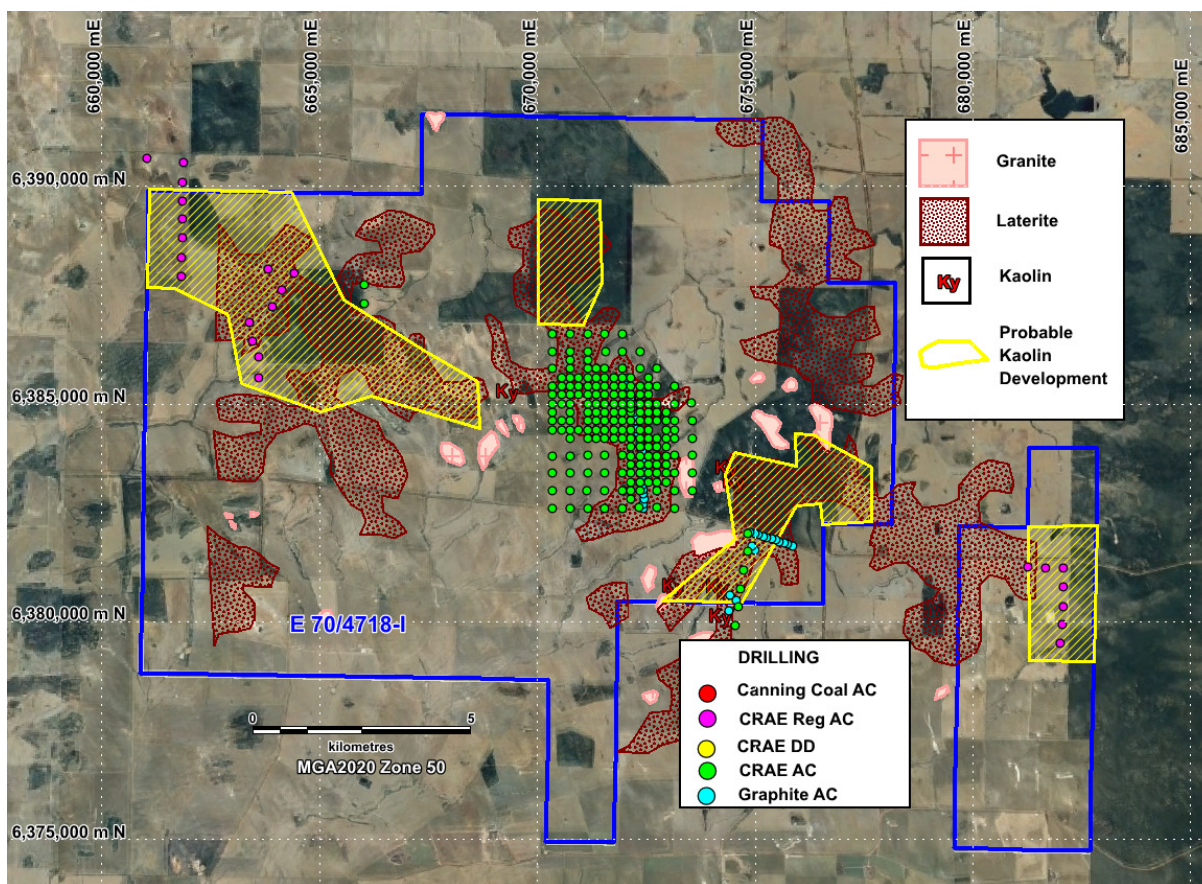


Figure 14: Possible Additional Kaolin Resource Areas

## 15. Conclusions and Recommendations

The 2021 Mineral Resource Estimate for Kerrigan has been based upon 242 aircore/ reverse circulation drillholes and 17 short diamond drillholes for 6,568m. Sampling protocols were variably described for historical drilling. In some cases where the Canning Coal drilling has 'twinned' the historical drillholes, expected kaolin thicknesses were not intersected. The reason for this has not been ascertained but future drilling programs should be considered with this quality assurance method in mind.

There has been insufficient consideration of Quality Assurance protocols in any of the drilling programs and it is recommended that these be formally addressed in any future drilling to enable a higher degree of confidence in the precision of the test results. Similarly, there has been no external Quality Control testwork on the drill samples, apart from the internal laboratory protocols and results.

Testwork carried out by CRAE on trial pit samples produced favourable results with high pigment brightness and low impurity content.

Geological logging of samples has been consistently carried out albeit using visually subjective estimates of colour. Munsell chart comparisons are recommended for future drilling programs.

A number of recommendations are suggested for future drilling programs:

1. Additional brightness tests and additional chemistry should be carried out from the 2019 drill samples and for all future drilling programs.
2. Field duplicates should be submitted for analysis/ testwork to check for sampling variability. Standards from Meckering should also be included in any analysis/ testwork and umpire analysis should be carried out at another accredited laboratory.
3. Some hole twinning should be carried out to verify previous drilling programs
4. A differential GPS unit should be used to accurately measure collar positions due to the variable collar positions recorded by handheld GPS.
5. The variable kaolin thicknesses observed indicates that future modelling must take into account the undulatory nature of the pallid zone to avoid over-estimation of kaolin volumes.
6. Rigorous bulk density measurements are recommended for any future drilling programs. These can be done in the laboratory or field, provided samples are sealed and have accurate in situ volumes.
7. Aircore drilling should be replaced or supplemented by sonic drilling in future programs where the objective of the drilling is for resource estimation purposes. Sonic drilling relies on high frequency vibration to retrieve in-situ samples from which better visual logging and more accurate bulk density measurements can be made.
8. Kaolin logging should include a less subjective description of brightness by use of the appropriate Munsell chart colours and nomenclature.

In accordance with the classification of Mineral Resources as specified in The JORC Code (2012), Geos Mining considers that the Kerrigan Resource is classified as an Inferred Resource.

**Kerrigan Inferred Resource: 125 million tonnes with estimated ISO brightness of 85% and average yield of 43.9% (as measured on the minus 10 micron fraction).**

In Geos Mining's opinion, the project has reasonable prospects for eventual economic extraction in the short term (3-5 years).

There has been insufficient drilling within Exploration Licence E70/4718 to define the limits of the Kerrigan kaolin deposit.

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## 17. Appendix 1 - Terms and Definitions

*Terms not included in this glossary are used in accordance with their definitions in the Australian Concise English Dictionary.*

Term	Explanation
<b>Aeromagnetic data</b>	Geophysical data indicating the variation in magnetic intensity captured from an aircraft.
<b>Alluvium/ Alluvial</b>	Sediment deposited by a stream or river.
<b>Azimuth</b>	Angular measurement in a spherical coordinate system. When used in measurements of rock strata, it is the direction (between 0°-360°) towards which the strata dips
<b>Beneficiation</b>	Variety of process whereby extracted ore from mining is reduced to particles that can be separated into mineral and waste, the former suitable for further processing or direct use
<b>Breccia</b>	A rock consisting of angular broken rock fragments held together by a fine-grained matrix
<b>Bulk Density</b>	A measure of the relative weight of a geological material as it is found in the ground before excavation, expressed in tonnes per cubic metre (t/m <sup>3</sup> ).
<b>Channel sample</b>	Rock sampling technique whereby a channel is cut across a rock face to ensure equal representation of the material being sampled
<b>CRM</b>	Certified Reference Material – also known as “standards”, a sample of rock that has been prepared so that it contains a known content of metals within a narrow range. Used in QA/QC procedures to ensure that laboratory results are being reported accurately.
<b>Cut-off grade</b>	The lowest grade, or quality, of mineralised material that qualifies as economically mineable and available in a given deposit.
<b>Deposit</b>	A mineral occurrence of sufficient size and grade that it might, under favourable circumstances, be considered to have economic potential
<b>Diamond drilling</b>	A drilling technique in which a cylindrical core of rock is extracted by cutting with an annular drilling bit encrusted with industrial diamonds
<b>Dip</b>	The angle (between 0°-90°) at which rock strata are inclined from the horizontal.
<b>Disseminated</b>	Said of a mineral deposit in which the desired minerals occur as scattered particles in the rock.
<b>Fault</b>	A geological fracture along which rocks on one side of the fault are dislocated relative to those on the other side.
<b>Feasibility Study</b>	A comprehensive technical and financial study of the economic viability of a mineral project that includes appropriate detailed assessments of applicable Modifying Factors together with any other relevant operational factors and detailed financial analysis that are necessary to demonstrate at the time of reporting that extraction is reasonably justified (economically mineable). The confidence level of the study will be higher than that of a Pre-Feasibility Study.
<b>Georeference</b>	A procedure to determine the spatial position of a map by selecting three or more points that have known positions in the relevant coordinate system.
<b>GPS</b>	Global Positioning System – a satellite-based radionavigation system that provides geolocation and time information to a GPS receiver anywhere on or near the Earth where there is an unobstructed line of sight to four or more GPS satellites.
<b>Grade</b>	Average quantity of ore or metal in a specified quantity of rock.
<b>Granite/Granitic</b>	Coarse-grained felsic intrusive igneous rock that is granular in texture containing quartz (20%-60% by volume) and feldspar (of which at least 35% is alkali feldspar).
<b>Granodiorite</b>	Coarse-grained felsic intrusive igneous rock that is granular in texture containing quartz (20%-60% by volume) and feldspar (of which at least 65% is plagioclase feldspar).



Term	Explanation
<b>Head Grade</b>	The grade of the ore as delivered to the metallurgical plant
<b>In Situ</b>	In its original position, said of rock or soil when it has not moved from whence it was deposited and or lithified.
<b>Indicated Resource</b>	That part of a Mineral Resource for which tonnage, densities, shape, physical characteristics, grade and mineral content can be estimated with a reasonable level of confidence. It is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes. The locations are too widely or inappropriately spaced to confirm geological and/or grade continuity but are spaced closely enough for continuity to be assumed.
<b>Inferred Resource</b>	That part of a Mineral Resource for which tonnage, grade and mineral content can be estimated with a low level of confidence. It is inferred from geological evidence and assumed but not verified geological and/or grade continuity. It is based on information gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drillholes which may be limited or of uncertain quality and reliability.
<b>JORC Code</b>	A code prepared by the Joint Ore Reserves Committee, which sets out minimum standards, recommendations and guidelines for public reporting in Australasia of exploration results, mineral resources and ore reserves.
<b>Lode</b>	A deposit of valuable ore occurring within definite boundaries separating it from surrounding rocks
<b>Mineral Resource</b>	The part of a deposit for which there is a reasonable prospect for eventual economic extraction, as defined in the JORC Code. Not all of a resource may be economically minable.
<b>Mineralisation</b>	Any single mineral or combination of minerals occurring in a mass or deposit of economic interest.
<b>Modifying Factors</b>	Considerations used to convert Mineral Resources to Ore reserves, including, but not restricted to, mining, processing, metallurgical, infrastructure, economic, marketing, legal, environmental, social and governmental factors.
<b>Ma</b>	Million years ago
<b>Open pit mining</b>	A surface mining technique of extracting rock or minerals from the earth by their removal from an open pit. Open-pit mines are used when deposits of commercially useful ore or rocks are found near the surface.
<b>Ore Reserves</b>	The economically mineable part of Measured or Indicated Resources at the time of reporting, as defined in the JORC Code.
<b>PFS / Pre-Feasibility Study</b>	A comprehensive study of a range of options for the technical and economic viability of a mineral project that has advanced to a stage where a preferred mining method is established and an effective method of mineral processing is determined. It includes a financial analysis based on reasonable assumptions on the Modifying Factors and the evaluation of any other relevant factors to determine if all or part of the Mineral Resources may be converted to an Ore reserve at the time of reporting.
<b>QA/QC</b>	Quality Assurance / Quality Control - the combination of quality assurance (the set of processes used to ensure the quality of data, in terms of accuracy and precision), and quality control (the process of ensuring the quality of data is maintained as the process is ongoing).
<b>RD</b>	Relative Density – the average weight of a unit volume of rock, usually expressed as tonnes per cubic metre (c.f. SG)
<b>Rock chip sample</b>	A rock sampling technique whereby random chips of material are taken from a rock face for assaying to determine an approximate value of the rock contents
<b>Scoping study</b>	A technical and economic study of the potential viability of Mineral resources. It includes appropriate assessments of realistically assumed Modifying Factors together with any other relevant operational factors that are necessary to demonstrate at the time of reporting that progress to a Pre-Feasibility Study can be reasonably justified.
<b>SG</b>	Specific Gravity – the ratio of the density of a mineral to the density of a reference substance, usually water at 1 atmosphere and 4°C.

Term	Explanation
<b>Stockwork Veins</b>	Three dimensional network of irregular veinlets
<b>Strata</b>	Layers of sedimentary rock, visually separable from other layers above and below.
<b>Stratigraphy</b>	The science of rock strata, concerned with all characteristics and attributes of rocks as strata, and their interpretation in terms of mode of origin and geologic history.
<b>Stripping ratio</b>	The ratio between the tonnage or volume of waste that needs to be extracted in an open pit mine in order to extract a unit tonnage of ore.
<b>Surficial</b>	Pertaining to or occurring on or near the earth's surface
<b>Tenement</b>	An area granted for exploration or mining purposes.
<b>UTM</b>	Universal Transverse Mercator - a system for assigning coordinates to locations on the surface of the Earth, divided into 60 zones, each spanning 6° of longitude. Like the traditional method of latitude and longitude, it is a horizontal position representation, which means it ignores altitude and treats the earth as a perfect ellipsoid.
<b>VALMIN Code</b>	Code for the Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports. A code prepared to assist those involved in the preparation of public Independent Expert Reports that are required for the assessment and/or valuation of mineral and petroleum assets and securities so that the resulting reports will be reliable, thorough, understandable and include all the material information required by investors and their advisers when making investment decisions.
<b>Variogram</b>	A graph of the function of the spatial dependence of variance
<b>Vein</b>	A fracture in rock which has been filled with mineral, often quartz.
<b>XRF / X-ray fluorescence</b>	An analytical technique whereby a sample is bombarded by high-energy X-rays and the emission of characteristic "secondary" (or fluorescent) X-rays are recorded to determine metal contents.

## 18. Appendix 2 – JORC Code, 2012 Edition – Table 1

### Section 1 - Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	Commentary
<i>Sampling techniques</i>	<p><b>Historical Exploration</b> A total of 23 samples from the Graphite Holdings RC drillholes were chosen to be tested at Comalco's Weipa operations. Samples were collected over variable intervals from 1m to 6m. No details of sampling procedures were given. The CRA Exploration aircore drillholes were sampled at 1 metre intervals directly from a cyclone fitted with a PVC standpipe to avoid loss of fines. Cleaning of the cyclone was carried out regularly, especially after drilling through the lateritic/ pallid clay zone.</p> <p><b>Canning Coal</b> The Canning Coal aircore samples were collected at one-metre intervals down each drillhole in 900mm x 600mm and 350mm x 250mm green plastic bags laid out in rows at each drill site. Sample material was collected via a cyclone and nominal 75:25 cone splitter fitted to the drilling rig. The larger sample was collected for analysis and testwork while the smaller sample was collected as a retained representative sample of each metre drilled. Non-kaolin material collected in the larger bags was poured back down the drillhole or removed from site and taken to the local rubbish tip. In total, 325 samples were retained as kaolin samples for possible testwork and analysis. Chip tray samples were also collected for each metre drilled and photographed.</p>
<i>Drilling techniques</i>	<p><b>Historical Exploration</b> Graphite Holdings drilled 47 aircore/ RC drillholes while CRAE completed 195 aircore drillholes in 1993-1994 followed up with 17 fully cored drillholes. CRA Exploration used PQ3 triple tube wireline barrels with tungsten set bits rather than diamond bits and used "air flushing because of the propensity of the kaolin to disperse readily in water" (Kristensen, 1994).</p> <p><b>Canning Coal</b> A program of 27 aircore drillholes (82mm drillhole diameter) was completed in late 2019 by Canning Coal.</p>

Criteria	Commentary
<i>Drill sample recovery</i>	<p><b>Historical Exploration</b> Recoveries not reported</p> <p><b>Canning Coal</b> All samples weighed, some evidence of caving</p>
<i>Logging</i>	<p><b>Historical Exploration</b> Samples logged at 1m intervals with lithotype, colour, quartz content</p> <p><b>Canning Coal</b> Samples logged at 1m intervals with lithotype, colour, quartz content</p>
<i>Sub-sampling techniques and sample preparation</i>	<p><b>Historical Exploration</b> No sub sampling completed for aircore drillholes. Three 1-metre sub-samples were collected from each of the 10 cored drillholes; one from the high white zone and one from above and below the off white/ creamy kaolin</p> <p><b>Canning Coal</b> No sub sampling completed for aircore drillholes. Samples collected via cyclone, splitter then into green plastic bags</p>
<i>Quality of assay data and laboratory tests</i>	<p><b>Historical Exploration</b> Brightness tests carried out to standards acceptable at the time. Brightness was measured using an Elrepho 2000 reflectometer, using TAPPI procedure T6460m-86.</p> <p><b>Canning Coal</b> A total of 331 samples with -300µm recovery &gt;15% were pulverised using ring mills to 80% passing -75 µm and chemically analysed by XRF (fusion) with lithium borate flux, except for B, U, Th where analyses were done by peroxide fusion and ICP. Loss on Ignition was analysed at 1000°C in a LECO furnace. Chemical analyses included Al<sub>2</sub>O<sub>3</sub>, SiO<sub>2</sub>, Fe<sub>2</sub>O<sub>3</sub>, TiO<sub>2</sub>, MnO, P<sub>2</sub>O<sub>5</sub>, SO<sub>3</sub>, MgO, CaO, K<sub>2</sub>O, Na<sub>2</sub>O, V<sub>2</sub>O<sub>5</sub>, Cr<sub>2</sub>O<sub>3</sub>, CoO, NiO, CuO, ZnO, As<sub>2</sub>O<sub>3</sub>, PbO, BaO, SrO, ZrO<sub>2</sub>, Sb<sub>2</sub>O<sub>3</sub>, LOI<sub>1000</sub>, Li, B, La, Ce, Th, U, CeO<sub>2</sub>.</p>

Criteria	Commentary
<i>Verification of sampling and assaying</i>	The Canning Coal drilling attempted to 'twin' some earlier CRAE drillholes but was limited by access to farm tracks. Some drillholes recorded different thicknesses of kaolin from the related twin drillholes.
<i>Location of data points</i>	<p><b>Historical Exploration</b> Drillhole collars located using GPS instrument</p> <p><b>Canning Coal</b> Drillhole collars located using handheld GPS instrument, later measured using a Differential GPS system</p>
<i>Data spacing and distribution</i>	<p><b>Historical Exploration</b> Typically, drillholes were spaced at 200m and 400m intervals on grid basis</p> <p><b>Canning Coal</b> Drillholes nominally spaced at 200m intervals along pre-existing tracks</p>
<i>Orientation of data in relation to geological structure</i>	All drillholes drilled vertically at right angles to flat lying kaolin horizon
<i>Sample security</i>	<p><b>Historical Exploration</b> Sample integrity and security not reported</p> <p><b>Canning Coal</b> Samples stored on landowner property in shed</p>
<i>Audits or reviews</i>	No independent audits have been carried out on drilling procedures

## Section 2 - Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	Commentary
<i>Mineral tenement and land tenure status</i>	WA government website checked for tenure status, details of reserves or other exploration constraints. Title searches of land ownership have been completed.
<i>Exploration done by other parties</i>	Historical exploration reports have been downloaded and reviewed.
<i>Geology</i>	Regional setting and mineralisation have been reviewed from public sources and confirmed during site visit.
<i>Drill hole Information</i>	All drilling data has been reviewed from original sources and validated as a database using Micromine software. Collar information is not available on site as all drillholes have been totally rehabilitated and ground has been cropped for many years.
<i>Data aggregation methods</i>	No data aggregation has been carried out.
<i>Relationship between mineralisation widths and intercept lengths</i>	Mineralisation is orthogonal to drilling attitude
<i>Diagrams</i>	Appropriate diagrams have been created using GIS software.
<i>Balanced reporting</i>	Representative reporting has been carried out
<i>Other substantive exploration data</i>	All relevant exploration data has been reported.
<i>Further work</i>	Additional procedures have been recommended and scope for further development of kaolin investigated.



## Section 3 - Estimation and Reporting of Mineral Resources

(Criteria listed in section 1, and where relevant in section 2, also apply to this section.)

Criteria	Commentary
<i>Database integrity</i>	All drilling data has been validated to ensure correct representation in GIS and modelling software. Checks of data from original sources has been carried out.
<i>Site visits</i>	Jeff Randell has visited site on two occasions and supervised one drilling program.
<i>Geological interpretation</i>	Geological logging has been relied upon in many cases to determine the limit of the kaolin deposit down hole. A visual assessment of brightness has been used extensively.
<i>Dimensions</i>	The boundary of the kaolin resource has been visually interpreted from a detailed section-by-section review of drilling and results.
<i>Estimation and modelling techniques</i>	The IDW squared algorithm has been used to interpolate brightness within the block model. This is considered appropriate given the lack of any spatial correlation evident between brightness values in adjacent drillholes. A 2011 resource assessment identified similar brightness results from the kaolin deposit and classified the resource as Inferred.
<i>Moisture</i>	
<i>Cut-off parameters</i>	A brightness cut-off of 80% has been used where testwork has been carried out
<i>Mining factors or assumptions</i>	The kaolin deposit is located within 30m of surface and is expected to be mined by open cut methods only.
<i>Metallurgical factors or assumptions</i>	The MRE is reported on the basis of testwork on -75micron material. Raw kaolin would be dry or wet screened on or off site.
<i>Environmental factors or assumptions</i>	Quartz rich waste will be returned to the pit. Process waste will be water borne with little or no chemical contaminants.
<i>Bulk density</i>	Bulk density values have been assumed based on typical kaolin deposits elsewhere in the region. Calculations from aircore drilling were very variable as a result of drillhole caving and have not been relied upon.

Criteria	Commentary
<i>Classification</i>	The kaolin deposit has been classified as Inferred on the basis of insufficient brightness and assay results, assumed bulk density, variability of kaolin thicknesses in adjacent drillholes and broad drillhole spacing.
<i>Audits or reviews</i>	A previous MRE in 2011 returned similar brightness global value although tonnage was less than the current estimate.
<i>Discussion of relative accuracy/ confidence</i>	The classification of the MRE as Inferred is considered appropriate for the quality of data available.

## 19. Appendix 3 – Drillhole Collar Details

Hole ID <sup>9</sup>	East (MGA94)	North (MGA94)	RL (GPS) <sup>10</sup>	RL (Elvis) <sup>11</sup>	RL (LiDar)	Total Depth (m)	Company	Drilling Type	Year
93PBA001	670340	6384448	388.2	391.6	388.3	27	CRAE	Aircore	1993
93PBA002	670340	6384648	395.0	398.1	395.2	35	CRAE	Aircore	1993
93PBA003	670340	6384848	402.3	407.0	402.4	15	CRAE	Aircore	1993
93PBA004	670340	6385048	406.2	410.0	406.2	26	CRAE	Aircore	1993
93PBA005	670340	6385248	405.2	410.3	405.2	25	CRAE	Aircore	1993
93PBA006	670340	6385448	404.4	408.2	404.4	16	CRAE	Aircore	1993
93PBA007	670740	6384448	389.4	394.0	389.4	32	CRAE	Aircore	1993
93PBA008	670740	6384648	395.7	399.3	395.7	9	CRAE	Aircore	1993
93PBA009	670740	6384848	400.3	404.1	400.3	28	CRAE	Aircore	1993
93PBA010	670740	6385048	402.9	407.8	402.9	9	CRAE	Aircore	1993
93PBA011	670740	6385248	400.9	405.8	400.9	15	CRAE	Aircore	1993
93PBA012	670740	6385448	397.2	401.0	397.1	26	CRAE	Aircore	1993
93PBA013	670740	6385648	395.8	399.7	396.0	33	CRAE	Aircore	1993
93PBA014	670740	6385848	397.0	402.2	397.1	17	CRAE	Aircore	1993
93PBA015	670740	6386048	395.2	401.7	395.2	17	CRAE	Aircore	1993
93PBA016	671140	6384448	388.5	391.5	388.4	28	CRAE	Aircore	1993
93PBA017	671140	6384648	394.0	397.3	393.9	10	CRAE	Aircore	1993
93PBA018	671140	6384848	399.5	404.1	399.5	21	CRAE	Aircore	1993
93PBA019	671140	6385048	401.8	405.6	401.8	27	CRAE	Aircore	1993
93PBA020	671140	6385248	399.2	403.8	399.2	33	CRAE	Aircore	1993
93PBA021	671140	6385448	395.2	398.6	395.2	32	CRAE	Aircore	1993
93PBA022	671140	6385648	391.0	396.2	391.0	30	CRAE	Aircore	1993
93PBA023	671140	6385848	385.9	390.4	386.0	27	CRAE	Aircore	1993
93PBA024	671140	6386048	383.4	385.0	383.5	37	CRAE	Aircore	1993
93PBA025	671140	6386248	383.7	389.5	383.8	33	CRAE	Aircore	1993
93PBA026	671340	6384248	388.6	391.8	388.7	37	CRAE	Aircore	1993
93PBA027	671340	6384448	390.5	392.9	390.5	36	CRAE	Aircore	1993
93PBA028	671340	6384648	393.0	398.8	393.1	16	CRAE	Aircore	1993
93PBA029	671340	6384848	398.1	403.1	398.1	11	CRAE	Aircore	1993
93PBA030	671340	6385048	402.7	407.2	402.7	35	CRAE	Aircore	1993
93PBA031	671340	6385248	401.2	405.1	401.2	21	CRAE	Aircore	1993
93PBA032	671340	6385448	397.5	402.6	397.5	41	CRAE	Aircore	1993
93PBA033	671340	6385648	392.6	398.7	392.7	40	CRAE	Aircore	1993

<sup>9</sup> All drillholes were drilled vertically

<sup>10</sup> RL (GPS) refers to RLs measured using a GPS instrument, some handheld, others Differential system

<sup>11</sup> RL (Elvis) refers to digital elevation data obtained from Geoscience Australia (ICSM, 2021)

Hole ID <sup>9</sup>	East (MGA94)	North (MGA94)	RL (GPS) <sup>10</sup>	RL (Elvis) <sup>11</sup>	RL (LiDar)	Total Depth (m)	Company	Drilling Type	Year
93PBA034	671540	6384248	393.3	397.6	393.3	33	CRAE	Aircore	1993
93PBA035	671540	6384448	395.4	399.0	395.5	33	CRAE	Aircore	1993
93PBA036	671540	6384648	397.6	401.2	397.6	17	CRAE	Aircore	1993
93PBA037	671540	6384848	399.3	403.2	399.4	26	CRAE	Aircore	1993
93PBA038	671540	6385048	401.3	404.4	401.3	27	CRAE	Aircore	1993
93PBA039	671540	6385248	399.6	404.0	399.7	27	CRAE	Aircore	1993
93PBA040	671540	6385448	396.7	399.4	396.7	21	CRAE	Aircore	1993
93PBA041	671540	6385648	392.7	398.0	392.6	30	CRAE	Aircore	1993
93PBA042	671740	6384248	394.8	398.9	394.8	49	CRAE	Aircore	1993
93PBA043	671740	6384448	398.4	404.5	398.4	42	CRAE	Aircore	1993
93PBA044	671740	6384648	401.4	406.0	401.5	21	CRAE	Aircore	1993
93PBA045	671740	6384848	402.0	406.7	402.1	33	CRAE	Aircore	1993
93PBA046	671740	6385048	400.0	405.2	400.1	19	CRAE	Aircore	1993
93PBA047	671740	6385248	395.0	400.0	395.0	22	CRAE	Aircore	1993
93PBA048	671740	6385448	391.4	397.3	391.4	21	CRAE	Aircore	1993
93PBA049	671940	6384248	395.7	398.6	395.6	39	CRAE	Aircore	1993
93PBA050	671940	6384448	401.1	405.2	401.0	56	CRAE	Aircore	1993
93PBA051	671940	6384648	406.4	409.0	404.2	17	CRAE	Aircore	1993
93PBA052	671940	6384848	404.8	408.2	404.8	25	CRAE	Aircore	1993
93PBA053	671940	6385048	401.3	405.0	401.3	10	CRAE	Aircore	1993
93PBA054	671940	6385248	394.5	399.4	394.5	39	CRAE	Aircore	1993
93PBA055	672140	6382848	384.0	386.0	384.1	31	CRAE	Aircore	1993
93PBA056	672140	6383048	387.6	391.9	387.6	30	CRAE	Aircore	1993
93PBA057	672140	6383248	386.2	388.9	386.3	36	CRAE	Aircore	1993
93PBA058	672140	6383448	385.2	389.8	385.2	22	CRAE	Aircore	1993
93PBA059	672140	6383648	386.8	391.6	386.7	30	CRAE	Aircore	1993
93PBA060	672140	6383848	390.9	393.7	390.9	30	CRAE	Aircore	1993
93PBA061	672140	6384048	394.6	397.8	394.6	47	CRAE	Aircore	1993
93PBA062	672140	6384248	398.8	404.4	398.7	42	CRAE	Aircore	1993
93PBA063	672140	6384448	403.3	407.1	403.3	48	CRAE	Aircore	1993
93PBA064	672140	6384648	406.4	411.0	406.4	34	CRAE	Aircore	1993
93PBA065	672140	6384848	406.9	410.9	406.9	41	CRAE	Aircore	1993
93PBA066	672140	6384948	405.5	410.0	405.5	48	CRAE	Aircore	1993
93PBA067	672140	6385048	403.8	409.0	403.8	35	CRAE	Aircore	1993
93PBA068	672140	6385248	398.8	402.3	398.8	38	CRAE	Aircore	1993
93PBA069	672140	6385448	393.4	396.6	393.4	30	CRAE	Aircore	1993
93PBA070	672340	6383048	392.7	396.3	392.8	39	CRAE	Aircore	1993
93PBA071	672340	6383248	394.5	398.7	394.4	32	CRAE	Aircore	1993
93PBA072	672340	6383448	393.3	398.0	393.4	27	CRAE	Aircore	1993

Hole ID <sup>9</sup>	East (MGA94)	North (MGA94)	RL (GPS) <sup>10</sup>	RL (Elvis) <sup>11</sup>	RL (LiDar)	Total Depth (m)	Company	Drilling Type	Year
93PBA073	672340	6383648	394.9	396.5	394.8	20	CRAE	Aircore	1993
93PBA074	672340	6383848	396.1	400.5	396.2	26	CRAE	Aircore	1993
93PBA075	672340	6384048	399.0	400.9	399.0	27	CRAE	Aircore	1993
93PBA076	672340	6384248	402.3	406.1	402.2	39	CRAE	Aircore	1993
93PBA077	672340	6384448	405.1	410.2	405.2	37	CRAE	Aircore	1993
93PBA078	672340	6384648	408.3	412.0	408.3	39	CRAE	Aircore	1993
93PBA079	672340	6384848	407.8	411.3	407.8	49	CRAE	Aircore	1993
93PBA080	672340	6385048	404.9	409.6	404.9	37	CRAE	Aircore	1993
93PBA081	672340	6385248	399.6	403.9	399.6	34	CRAE	Aircore	1993
93PBA082	672340	6385448	394.6	396.6	394.4	38	CRAE	Aircore	1993
93PBA083	672540	6383248	399.7	402.9	399.6	10	CRAE	Aircore	1993
93PBA084	672540	6383448	399.0	402.2	399.0	22	CRAE	Aircore	1993
93PBA085	672540	6383648	401.2	405.0	401.2	25	CRAE	Aircore	1993
93PBA086	672540	6383848	402.0	406.8	402.0	30	CRAE	Aircore	1993
93PBA087	672540	6384048	403.0	407.1	402.9	25	CRAE	Aircore	1993
93PBA088	672540	6384248	404.2	408.9	404.3	22	CRAE	Aircore	1993
93PBA089	672540	6384448	405.6	408.6	405.6	29	CRAE	Aircore	1993
93PBA090	672540	6384648	407.9	412.0	407.8	36	CRAE	Aircore	1993
93PBA091	672540	6384848	408.9	413.4	408.8	42	CRAE	Aircore	1993
93PBA092	672740	6383248	398.3	401.6	397.9	23	CRAE	Aircore	1993
93PBA093	672740	6383448	401.0	404.5	401.0	23	CRAE	Aircore	1993
93PBA094	672740	6383648	403.2	407.0	403.3	37	CRAE	Aircore	1993
93PBA095	672740	6383848	401.9	407.0	401.8	51	CRAE	Aircore	1993
93PBA096	672740	6384048	402.2	405.3	402.0	28	CRAE	Aircore	1993
93PBA097	672740	6384248	398.4	406.4	398.3	14	CRAE	Aircore	1993
93PBA098	672740	6384648	403.8	410.0	403.8	27	CRAE	Aircore	1993
93PBA099	672740	6384848	403.8	414.0	407.6	42	CRAE	Aircore	1993
93PBA100	672940	6383848	400.7	403.4	400.8	11	CRAE	Aircore	1993
93PBA101	672940	6384048	392.0	397.1	392.9	42	CRAE	Aircore	1993
93PBA102	672940	6384248	390.5	396.2	390.5	21	CRAE	Aircore	1993
93PBA103	672940	6384448	393.4	399.0	393.5	33	CRAE	Aircore	1993
93PBA104	672940	6384648	397.8	403.1	397.9	30	CRAE	Aircore	1993
93PBA105	672940	6384848	400.4	404.9	400.4	21	CRAE	Aircore	1993
93PBA106	673140	6384248	384.8	390.0	384.8	17	CRAE	Aircore	1993
93PBA107	673140	6384448	386.0	389.4	386.1	25	CRAE	Aircore	1993
93PBA108	673140	6384648	390.9	391.3	390.9	16	CRAE	Aircore	1993
93PFA004	666007	6387770	404.6	389.9	389.9	24	CRAE	Aircore	1993
93PFA005	666001	6387345	398.6	387.2	387.2	20	CRAE	Aircore	1993
93PHA001	674811	6382060	469.8	410.6	410.6	19	CRAE	Aircore	1993



Hole ID <sup>9</sup>	East (MGA94)	North (MGA94)	RL (GPS) <sup>10</sup>	RL (Elvis) <sup>11</sup>	RL (LiDar)	Total Depth (m)	Company	Drilling Type	Year
93PHA002	674808	6381665	466.7	413.2	413.2	14	CRAE	Aircore	1993
93PHA003	674718	6381221	460.0	403.0	403.0	23	CRAE	Aircore	1993
93PHA004	674646	6380784	448.3	396.7	396.7	33	CRAE	Aircore	1993
93PHA005	674593	6380386	442.3	388.2	388.2	28	CRAE	Aircore	1993
93PHA006	674533	6379947	433.4	379.8	379.8	30	CRAE	Aircore	1993
93PHA007	674482	6379549	431.0	377.0	377.0	32	CRAE	Aircore	1993
93PHA008	674460	6379393	431.6	376.9	376.9	27	CRAE	Aircore	1993
94PBA109	670340	6382648	350.0	364.9	360.8	30	CRAE	Aircore	1994
94PBA110	670336	6383039	365.3	369.0	365.6	25	CRAE	Aircore	1994
94PBA111	670339	6383444	371.0	374.8	371.4	20	CRAE	Aircore	1994
94PBA112	670340	6383848	374.8	381.0	375.1	25	CRAE	Aircore	1994
94PBA114	670340	6385848	393.8	397.5	393.8	11	CRAE	Aircore	1994
94PBA115	670340	6386248	386.5	390.9	386.5	14	CRAE	Aircore	1994
94PBA116	670340	6386648	390.8	397.2	390.8	29	CRAE	Aircore	1994
94PBA117	670540	6384448	387.8	392.3	388.0	6	CRAE	Aircore	1994
94PBA118	670540	6384648	393.9	397.8	393.7	41	CRAE	Aircore	1994
94PBA119	670540	6385048	404.5	407.9	404.6	12	CRAE	Aircore	1994
94PBA120	670540	6385248	402.4	407.1	402.5	27	CRAE	Aircore	1994
94PBA121	670540	6385448	401.3	405.6	401.3	24	CRAE	Aircore	1994
94PBA122	670540	6385648	402.3	407.0	402.2	18	CRAE	Aircore	1994
94PBA123	670740	6382648	353.0	357.7	352.3	15	CRAE	Aircore	1994
94PBA124	670732	6383041	355.8	361.2	356.4	15	CRAE	Aircore	1994
94PBA125	670741	6383442	362.0	369.1	362.5	15	CRAE	Aircore	1994
94PBA126	670743	6383847	370.5	375.7	369.7	15	CRAE	Aircore	1994
94PBA127	670739	6384248	383.4	387.9	383.4	20	CRAE	Aircore	1994
94PBA128	670740	6386248	395.2	398.9	395.3	23	CRAE	Aircore	1994
94PBA129	670740	6386648	395.0	397.5	395.1	31	CRAE	Aircore	1994
94PBA130	670940	6384448	391.8	393.0	389.0	11	CRAE	Aircore	1994
94PBA131	670940	6385248	399.4	405.6	399.4	9	CRAE	Aircore	1994
94PBA132	670940	6385448	395.2	400.6	395.5	31	CRAE	Aircore	1994
94PBA133	670940	6385648	391.0	395.0	391.1	28	CRAE	Aircore	1994
94PBA134	671140	6382648	355.0	361.7	355.5	22	CRAE	Aircore	1994
94PBA135	671135	6383056	358.4	364.2	358.8	11	CRAE	Aircore	1994
94PBA136	671136	6383455	367.7	372.8	368.1	12	CRAE	Aircore	1994
94PBA137	671139	6383850	378.3	380.5	378.4	22	CRAE	Aircore	1994
94PBA138	671140	6384247	383.6	387.0	383.7	17	CRAE	Aircore	1994
94PBA139	671140	6386648	387.4	390.5	387.4	46	CRAE	Aircore	1994
94PBA140	671340	6385848	387.6	394.4	387.7	27	CRAE	Aircore	1994
94PBA141	671540	6382648	360.0	370.2	365.1	27	CRAE	Aircore	1994

Hole ID <sup>9</sup>	East (MGA94)	North (MGA94)	RL (GPS) <sup>10</sup>	RL (Elvis) <sup>11</sup>	RL (LiDar)	Total Depth (m)	Company	Drilling Type	Year
94PBA142	671534	6383053	363.3	368.5	363.4	27	CRAE	Aircore	1994
94PBA143	671534	6383454	367.5	371.5	367.8	18	CRAE	Aircore	1994
94PBA144	671535	6383853	381.1	386.5	381.1	34	CRAE	Aircore	1994
94PBA145	671540	6385848	383.8	389.3	384.0	39	CRAE	Aircore	1994
94PBA146	671545	6386239	373.1	377.9	373.4	12	CRAE	Aircore	1994
94PBA147	671540	6386648	373.0	377.9	373.0	21	CRAE	Aircore	1994
94PBA148	671740	6385648	388.8	396.0	388.8	24	CRAE	Aircore	1994
94PBA149	671940	6382648	370.0	382.8	377.9	36	CRAE	Aircore	1994
94PBA150	671940	6383048	375.5	383.5	377.0	26	CRAE	Aircore	1994
94PBA151	671929	6383452	376.2	382.1	376.2	23	CRAE	Aircore	1994
94PBA152	671930	6383851	383.8	385.6	383.9	23	CRAE	Aircore	1994
94PBA153	671940	6385448	398.6	394.0	389.5	23	CRAE	Aircore	1994
94PBA154	671940	6385648	383.2	389.3	383.2	38	CRAE	Aircore	1994
94PBA155	671940	6385848	377.5	382.3	377.6	29	CRAE	Aircore	1994
94PBA156	671940	6386240	368.4	372.5	368.7	21	CRAE	Aircore	1994
94PBA157	671940	6386638	365.1	368.6	365.2	9	CRAE	Aircore	1994
94PBA158	672140	6385648	386.9	391.0	386.9	36	CRAE	Aircore	1994
94PBA159	672329	6382662	380.0	383.1	380.1	50	CRAE	Aircore	1994
94PBA160	672340	6385850	377.6	381.0	377.7	23	CRAE	Aircore	1994
94PBA161	672337	6386244	367.3	370.1	367.5	6	CRAE	Aircore	1994
94PBA162	672540	6385048	400.9	405.9	400.9	26	CRAE	Aircore	1994
94PBA163	672540	6385248	392.8	397.3	392.6	18	CRAE	Aircore	1994
94PBA164	672540	6385448	385.8	390.6	385.8	17	CRAE	Aircore	1994
94PBA165	672540	6385648	379.9	386.0	379.9	26	CRAE	Aircore	1994
94PBA166	672737	6382657	383.8	387.1	383.8	45	CRAE	Aircore	1994
94PBA167	672733	6383048	394.6	398.1	394.5	28	CRAE	Aircore	1994
94PBA168	672740	6385048	397.6	402.5	397.6	37	CRAE	Aircore	1994
94PBA169	672740	6385448	384.6	389.6	384.6	29	CRAE	Aircore	1994
94PBA170	672740	6385848	377.0	378.4	374.6	10	CRAE	Aircore	1994
94PBA171	672940	6383248	398.0	399.9	395.8	20	CRAE	Aircore	1994
94PBA172	672940	6383448	401.0	402.5	397.8	14	CRAE	Aircore	1994
94PBA173	672940	6383648	403.2	406.8	400.9	26	CRAE	Aircore	1994
94PBA174	673136	6382649	383.8	386.2	383.9	8	CRAE	Aircore	1994
94PBA175	673142	6383048	387.6	393.0	387.6	3	CRAE	Aircore	1994
94PBA176	673140	6383448	396.5	399.4	396.7	14	CRAE	Aircore	1994
94PBA177	673140	6383851	392.6	396.1	392.6	6	CRAE	Aircore	1994
94PBA178	673140	6385026	392.0	394.4	392.0	30	CRAE	Aircore	1994
94PBA179	673140	6385448	380.6	385.0	380.6	18	CRAE	Aircore	1994
94PBA180	673537	6383049	385.4	390.9	385.5	27	CRAE	Aircore	1994

Hole ID <sup>9</sup>	East (MGA94)	North (MGA94)	RL (GPS) <sup>10</sup>	RL (Elvis) <sup>11</sup>	RL (LiDar)	Total Depth (m)	Company	Drilling Type	Year
94PBA181	673540	6383448	395.8	401.0	396.0	39	CRAE	Aircore	1994
94PBA182	673540	6383852	387.3	391.8	387.3	20	CRAE	Aircore	1994
94PBA183	673540	6384254	380.1	383.5	380.2	15	CRAE	Aircore	1994
94PBA184	673538	6384655	376.9	383.4	377.0	23	CRAE	Aircore	1994
94PBA185	673529	6385055	382.0	387.1	382.1	16	CRAE	Aircore	1994
KEAC001	672572	6383100	397.2	401.1	397.0	32	Canning	Aircore	2019
KEAC002	672395	6383304	397.7	401.0	395.8	31	Canning	Aircore	2019
KEAC003	672396	6383499	396.2	399.4	395.2	17	Canning	Aircore	2019
KEAC004	672396	6383700	400.2	399.3	396.8	21	Canning	Aircore	2019
KEAC005	672398	6383910	399.8	401.9	398.3	24	Canning	Aircore	2019
KEAC006	672386	6384100	400.7	403.1	400.7	31	Canning	Aircore	2019
KEAC007	672277	6384504	406.6	409.3	405.7	39	Canning	Aircore	2019
KEAC008	672240	6384701	407.8	411.8	407.7	34	Canning	Aircore	2019
KEAC009	672134	6384902	406.4	410.6	406.0	40	Canning	Aircore	2019
KEAC010	671992	6385096	402.1	404.2	400.7	18	Canning	Aircore	2019
KEAC011	671819	6385303	394.2	396.6	392.6	25	Canning	Aircore	2019
KEAC012	671650	6385501	395.7	399.2	394.7	19	Canning	Aircore	2019
KEAC013	671430	6385710	392.2	395.0	391.2	40	Canning	Aircore	2019
KEAC014	671458	6385505	397.9	399.8	395.9	30	Canning	Aircore	2019
KEAC015	671485	6385304	400.6	401.7	399.5	31	Canning	Aircore	2019
KEAC016	671512	6385098	402.3	405.2	401.6	26	Canning	Aircore	2019
KEAC017	671616	6384889	401.8	405.0	400.8	28	Canning	Aircore	2019
KEAC018	671796	6384838	403.5	407.9	403.0	30	Canning	Aircore	2019
KEAC019	671997	6384781	406.5	409.6	405.7	31	Canning	Aircore	2019
KEAC020	672330	6384297	405.2	407.0	402.7	34	Canning	Aircore	2019
KEAC021	672705	6383911	403.3	407.0	402.5	28	Canning	Aircore	2019
KEAC022	672919	6383709	402.1	406.8	400.3	40	Canning	Aircore	2019
KEAC023	673003	6383891	396.1	400.7	395.4	24	Canning	Aircore	2019
KEAC024	672951	6384105	394.5	394.8	391.4	34	Canning	Aircore	2019
KEAC025	673063	6384297	388.7	393.5	388.1	18	Canning	Aircore	2019
KEAC026	673139	6384492	388.7	389.6	387.3	23	Canning	Aircore	2019
KEAC027	673236	6384705	391.2	391.0	389.4	16	Canning	Aircore	2019
PAC11/10	674396	6380275	432.4	390.0	390.0	19	Graphite	Aircore	1992
PAC14/10	674550	6380516	441.7	392.1	392.1	19	Graphite	Aircore	1992
PAC14/12	674401	6380655	436.6	397.6	397.6	23	Graphite	Aircore	1992
PAC26/14	674983	6381688	466.0	411.0	411.0	17	Graphite	Aircore	1992
PAC26/15	674914	6381775	466.0	413.1	413.1	21	Graphite	Aircore	1992
PBD100530C	671140	6385447	395.2	398.6	395.2	25.8	CRAE	Diamond	1994
PBD120530A	671340	6385447	397.5	402.6	397.6	33	CRAE	Diamond	1994

Hole ID <sup>9</sup>	East (MGA94)	North (MGA94)	RL (GPS) <sup>10</sup>	RL (Elvis) <sup>11</sup>	RL (LiDar)	Total Depth (m)	Company	Drilling Type	Year
PBD140490A	671540	6385047	401.3	404.4	401.3	22.7	CRAE	Diamond	1994
PBD140530A	671540	6385447	396.7	399.5	396.7	20.2	CRAE	Diamond	1994
PBD160470A	671740	6384847	402.0	406.6	402.1	14.1	CRAE	Diamond	1994
PBD160470B	671740	6384847	402.0	406.6	402.1	24.2	CRAE	Diamond	1994
PBD160470C	671740	6384847	402.0	406.6	402.1	27.3	CRAE	Diamond	1994
PBD180470A	671940	6384847	404.8	408.3	404.8	24.2	CRAE	Diamond	1994
PBD200490A	672140	6385047	403.8	409.0	403.8	14.65	CRAE	Diamond	1994
PBD200490B	672140	6385047	403.8	409.0	403.8	28.45	CRAE	Diamond	1994
PBD200490C	672140	6385047	403.8	409.0	403.8	28.15	CRAE	Diamond	1994
PBD220450A	672340	6384647	408.3	412.0	408.4	35.2	CRAE	Diamond	1994
PBD220510A	672340	6385247	399.6	404.0	399.7	31.95	CRAE	Diamond	1994
PBD220510B	672140	6385247	399.6	402.4	398.8	33.45	CRAE	Diamond	1994
PBD220530A	672340	6385447	394.2	396.7	394.5	35.2	CRAE	Diamond	1994
PBD240450A	672540	6384647	407.9	412.0	407.8	35.2	CRAE	Diamond	1994
PBD240450B	672540	6384647	407.9	412.0	407.8	116.82	CRAE	Diamond	1994
PRC001	675843	6381776	470.0	405.4	405.4	12	Graphite	RC	1993
PRC002	675741	6381814	470.0	407.5	407.5	30	Graphite	RC	1993
PRC003	675648	6381844	470.0	410.0	410.0	18	Graphite	RC	1993
PRC004	675549	6381876	470.0	410.0	410.0	12	Graphite	RC	1993
PRC005	675459	6381906	470.0	410.6	410.6	13	Graphite	RC	1993
PRC006	675362	6381939	470.0	412.6	412.6	16	Graphite	RC	1993
PRC007	675259	6381966	470.0	411.7	411.7	24	Graphite	RC	1993
PRC008	675169	6381994	470.0	414.0	414.0	18	Graphite	RC	1993
PRC009	675068	6382029	470.0	416.0	416.0	21	Graphite	RC	1993
PRC010	674977	6382056	470.0	417.8	417.8	2	Graphite	RC	1993
PRC011	674873	6382077	470.0	412.6	412.6	4	Graphite	RC	1993
PRC012	672428	6382634	381.3	383.6	379.6	5	Graphite	RC	1993
PRC013	672430	6382736	383.4	384.8	383.7	16	Graphite	RC	1993
PRC014	672440	6382852	387.3	391.8	387.3	7	Graphite	RC	1993
PRC015	672421	6382962	390.7	394.3	391.0	15	Graphite	RC	1993
PRC016	672418	6383063	393.6	399.0	394.4	30	Graphite	RC	1993
PRC017	672404	6383166	395.4	400.2	396.0	23	Graphite	RC	1993
PRC018	672407	6383270	396.1	401.0	396.2	30	Graphite	RC	1993
PRC019	672402	6383372	395.5	399.6	395.6	21	Graphite	RC	1993
PRC020	672400	6383453	395.0	399.6	395.2	19	Graphite	RC	1993
PRC021	672406	6383554	396.2	398.8	395.9	25	Graphite	RC	1993
PRC022	672407	6383645	397.0	399.7	397.0	20	Graphite	RC	1993
PRC023	672395	6383758	397.2	400.0	397.0	30	Graphite	RC	1993
PRC024	672404	6383868	398.1	401.1	398.1	27	Graphite	RC	1993

Hole ID <sup>9</sup>	East (MGA94)	North (MGA94)	RL (GPS) <sup>10</sup>	RL (Elvis) <sup>11</sup>	RL (LiDar)	Total Depth (m)	Company	Drilling Type	Year
PRC025	672386	6383960	398.6	402.4	398.8	24	Graphite	RC	1993
PRC026	672383	6384048	399.8	403.6	399.9	27	Graphite	RC	1993
PRC027	672354	6384147	400.8	404.0	400.9	18	Graphite	RC	1993
PRC028	672347	6384252	402.4	406.6	402.4	18	Graphite	RC	1993
PRC029	672310	6384366	403.5	407.8	403.4	30	Graphite	RC	1993
PRC030	672285	6384460	404.8	408.1	404.9	18	Graphite	RC	1993
PRC031	672272	6384543	406.0	410.4	406.4	21	Graphite	RC	1993
PRC032	672248	6384650	407.4	412.0	407.1	27	Graphite	RC	1993
PRC033	672219	6384754	407.0	412.5	407.7	15	Graphite	RC	1993
PRC034	672210	6384840	407.2	411.0	407.3	30	Graphite	RC	1993
PRC035	672188	6384958	405.5	409.0	405.5	30	Graphite	RC	1993
PRC036	672169	6385037	404.1	408.2	404.0	26	Graphite	RC	1993
PRC037	672125	6385160	400.7	404.4	400.9	27	Graphite	RC	1993
PRC038	672105	6385252	397.8	403.0	398.0	26	Graphite	RC	1993
PRC039	672101	6385335	395.5	399.3	396.1	27	Graphite	RC	1993
PRC040	672077	6385430	394.7	397.2	393.4	18	Graphite	RC	1993
PRC041	672065	6385525	392.7	394.0	390.2	15	Graphite	RC	1993
PRC042	672060	6385632	386.5	390.6	385.8	15	Graphite	RC	1993